2023 ANNUAL GROUNDWATER QUALITY REPORT

FOR THE

FLOYD-MITCHELL-CHICKASAW COUNTIES SANITARY LANDFILL

66-SDP-1-73P
ELMA, IOWA

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

January, 2024

6028-23A.320

Table of Contents

Certification
Section 1.0 Background Information
Monitoring Well Maintenance Performance Reevaluation
Section 2.0 Reporting Period Activities
Section 3.0 Data Evaluation and Summary
Quality Assurance/Quality Control
Background data Validation
Site Specific GWPS
Statistically Significant Increases/Exceedances of Prediction Limits
Assessment Monitoring
Statistically Significant Levels
Delineation & Assessment of Corrective Measures
Section 4.0 Leachate Collection System Performance Reevaluation
Section 5.0 Gas Monitoring Evaluation
Section 6.0 Recommendations

Figures
Figure 1 – Entire Site Plan
Figure 2 – Site Plan & Gas Monitoring Locations
Figure 3 – Water Table Contour Map
Figure 4 – Methane Monitoring Points Map

Tables in IDNR Format
Table 1 – Monitoring Program Summary
Table 2 – Monitoring Program Implementation Schedule
Table 2A – Summary of Monitoring to Date
Table 3 – Monitoring Well Maintenance Performance Reevaluation Schedule
Table 4 – Monitoring Well Maintenance Performance Reevaluation Summary
Table 4A – Historic Water Elevation Monitoring Summary
Table 5 – Background and GWPS Summary
Table 6 – Summary of Detections
Table 7 – Summary of Ongoing and Newly Identified SSI
Table 8 - Summary of Ongoing and Newly Identified SSL ***- Not Required***
Table 9 – Analytical Data Summary
Table 10 – Historic SSI and SSL ***- Not Required***
Table 11 – Corrective Action Trend Analysis ***- Not Required***
Table 12 – Leachate Thickness Summary
Table 13 – Gas Monitoring Summary
Appendices
Appendix A - Field Sampling Forms
Appendix B - Statistical Reports
Appendix C - Laboratory Reports for Report Period
Appendix D – Turbidity
Appendix E – Prediction Limit Exceedances
Appendix F - Assessment Monitoring Results
Appendix G – Leachate Collection System

Certification

Prepared by: _____ Date: 1-25-2024

Printed: Todd Whipple, CPG

Section 1.0 Background Information

1.1 Report Format

Table 1 through Table 13 are attached to this report and satisfy the IDNR requirement to provide the tables to meet the IDNR format requirements included in Special Provision 4.j. of the Revised Permit #2, dated July 6, 2023 (Doc #107141).

1.2 Report Priority

No requests are included herein for deadline extensions. Continued semi-annual detection and assessment monitoring in accordance with IAC 567, Chapter 113.10(5) and (6) is recommended for this facility.

1.3 Period of Report Coverage

Water quality data evaluation is based on a running compilation of data beginning in April, 2008. Statistical evaluations herein are based on the 2023 water quality data collected April 6, 2023 and October 10, 2023.

1.4 Current Site Map

Figure 1 and Figure 2 are attached illustrating the current site features, monitoring well locations, and subsurface gas probe locations.

1.5 Site Status and Applicable Rules

Site Location

The Floyd-Mitchell-Chickasaw (FMC) Sanitary Landfill is located in the N½ of the NE¼ and the NE¼ of the NW¼ of Section 12, T97N, R15W, Mitchell County, Iowa. The site encompasses approximately 115 acres. The facility operates under the Iowa Department of Natural Resources (IDNR) Permit Number 66-SDP-1-73P.

Landfill Layout

The site is situated in gently rolling terrain and adjacent properties are cultivated farm ground. Drainage from the site is predominantly to the southeast along the natural topographic surface.

The facility includes a closed landfill and RCRA Subtitle D Expansion Areas designated Phase 1, Phase 2, and Phase 3. Phases 1, 2, and 3 are actively receiving waste from the planning area.

Applicable Rules

Iowa Administrative Code (IAC) 567-113 is applicable to the site. The closed landfill detection monitoring is also regulated under 2007 (IAC) 567-113 in accordance with the approved variance dated August 28, 2013.

1.6 Summary of Hydrologic Monitoring System Plan (HMSP)

The HMSP includes twelve (12) monitoring wells. MW-4, MW-5, MW-9, and MW-14 are the designated background/upgradient wells for the facility. The Site Plan and the approved monitoring network are illustrated on Figure 2 The current HMSP is summarized in Table 1. The HMSP Implementation Schedule for 2024 is itemized in Table 2.

MONITORING WELL MAINTENANCE PERFORMANCE REEVALUATION

Monitoring Well Performance Reevaluation for wells in both the active site and the closed site will be performed in accordance with IAC-567 113.10(2)f rather than as required under previous rule (applicable to the Closed Landfill). Table 3 outlines the status of well performance and maintenance activities performed as required by IAC 567-113.10(2) f.

High & Low Water Levels
Current year water elevation data is included on Table 4. Historic water elevation data is included in the Table 4A. The maximum depth to water and the minimum depth to water are included in the tables. Many large variations (5.0 to 10.0 feet) are recorded within wells across the site. A Water Table Contour Map (Figure 3) dated October, 2023 is included with this report. The Water Table Contour Map illustrates the water table surface and the effects of the topography and groundwater diversion in Phases 1, 2, and 3.

Well Depth & Sedimentation
Well depth measurements were made October 10, 2023. Review of the well depth data included on Table 4 indicate that well sedimentation is estimated to be less than one (1) foot at all site monitoring wells.

Well Recharge Rates & Chemistry
The measured horizontal hydraulic conductivity testing results (2013) for each site monitoring well is included on Table 4. Horizontal hydraulic conductivities ranged between 10^{-4} cm/sec and 10^{-5} cm/sec.

Field recovery data recorded on April 13, 2022 (Table 4) indicate that water levels within each well recover to approximately 90+% in 8 hours, except at MW-9, MW-11, MW-15, and MW-16. Full recovery appears to require greater than 24 hours following purging at MW-9, MW-11, MW-15, and MW-16.

Well recovery information indicates that recharge to the individual wells remained sufficient to promote collection of representative water quality samples and the wells were functioning as intended. Monitoring well recharge reevaluation is due biennially according to 113.10(2)"f", and should be evaluated again in 2024.

Based on the apparent static condition of the water surfaces across the site, it appears that the semi-annual water elevation data is sufficient to adequately monitor the hydrologic condition of the site. Further, the wells are interpreted to be appropriately located to detect any impact, should it occur. No changes or modifications to the existing site monitoring wells are recommended.

Section 2.0 Reporting Period Monitoring Activities

A summary of the proposed 2024 sample collection events at each well is included on Table 2. A summary of the Appendix II sample collection events at each well is included on Table 2. A comprehensive summary of all sampling episodes to date are included in the Table 2A.

Field sampling information for the April 6, 2023 and October 10, 2023 sampling episodes is included on the field forms (IDNR Form 542-1322) in Appendix A.

A comprehensive summary of Analytical Data for the episodes between April 16, 2008 and October 10, 2023 is included on Table 9.

2.1 Current Detection Monitoring Activities

Background wells are MW-4, MW-5, MW-9 and MW-14. Downgradient monitoring wells for the RCRA Subtitle D Expansion Area (Phase 1, 2, and 3) are MW-11, MW-12, MW-15, and MW-16. Downgradient monitoring wells for the Closed Landfill are MW-2, MW-3, MW-6, and MW-7. There are no wells that currently remain in the detection monitoring program.

2.2 Current Assessment Monitoring Activities

Site monitoring points that are currently in Assessment Monitoring include MW-2, MW-3, MW-6, MW-7, MW-11, MW-12, MW-15, and MW-16.

Special Provision 4.g. of the Revised Permit #2, dated July 6, 2023 (Doc #107141) approves an alternate five (5) year frequency for full Appendix II sampling at assessment monitoring wells that have two (2) rounds of full Appendix II monitoring completed. The on-going supplemental sampling includes Appendix I plus all detected Appendix II compounds per 113.10(6)b.2. Bis (2-ethylhexyl)phthalate is the only compound detected to date beyond the Appendix I list of testing parameters. The upcoming full Appendix II sampling episodes (2024) are listed on Table 2.

2.3 Current Corrective Action Activities

There are no Corrective Actions in place in the RCRA Subtitle D Expansion Areas.

The Closed Landfill has been retrofitted with a leachate collection toe drain system on portions of the north, east, and south sides of the fill. Groundwater underdrain SW-1 and SW-2 have been connected to the leachate collection system in accordance with IAC 567, Chapter 113.10(2)”a”(3). The connection of SW-1 was documented in the December 4, 2018 Quality Control and Assurance Report for the Phase 3 Expansion (Doc #93888) and approved in Special Provision 3.h. of the December 10, 2018 Revised Permit (Doc # 93889). The connection of SW-2 was documented in the July 12, 2016 Construction Certification Report and approved in Special Provision 3.g. of the August 29, 2016 Permit (Doc # 87030).

Section 3.0 Data Evaluation and Summary

Statistical Evaluations are prepared by Otter Creek Environmental Services for each monitoring episode. The Groundwater Statistics Report for the FMC Sanitary Landfill, First Semi-Annual Monitoring Event in 2023, dated May, 2023 (both the Closed Area and the Operating Area) are included in Appendix B.1. The Groundwater Statistics Report for the FMC Sanitary Landfill, Second Semi-Annual Monitoring Event in 2023, dated December, 2023 for the Closed Area and for the Operating Area are included in Appendix B.2.

The Keystone Analytical Reports for the laboratory testing performed on samples collected April 6, 2023 and October 10, 2023 are included in Appendix C.

QUALITY ASSURANCE/QUALITY CONTROL

A blind duplicate sample was collected at MW-7 during the April 6, 2023 sampling episode. A blind duplicate was collected at MW-3 during the October 10, 2023 sampling episode.

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

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

a) Both the original and/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 (both April 6, 2023 and October 10, 2023) are within the limits established and indicate that the data quality is acceptable without restriction.

BACKGROUND DATA VALIDATION

On July 10, 2014 an unnumbered Permit Amendment and Memo was issued by the IDNR regarding turbidity (Doc # 80711). A TSS and Field Turbidity Evaluation Report was prepared and submitted on February 27, 2015 (Doc# 82599) and was approved by IDNR on July 7, 2015 (Doc #83838). A summary table of field measured turbidity is included in Appendix D.

The background data has been pared to include only data collected by "No Purge" methods beginning in October 14, 2014. This conforms to IDNR requirements included in the October 11, 2016 IDNR Letter (Doc #87384).

Upgradient Data, Table 1, Attachment B, to the Fall 2023 Statistical Evaluation Reports (Appendix B.2) includes a summary of the background data. Outliers are removed from the background data. The outliers are identified in Table 6, Attachment B, to the Fall 2023 Statistical Evaluation Reports (Appendix B.2). The site prediction limits established in the Fall 2023 Statistical Evaluation Reports (Appendix B.2) are based on the validated background. The calculated Prediction Limits are summarized on Table 5.

SITE SPECIFIC GWPS

Review of the inorganic Prediction Limits Table 5 indicates that the prediction limit for cadmium (currently 5.3 ug/L) and cobalt (3.5 ug/L) calculated from the background data exceeds the published IAC 567, Chapter 137 Statewide Standard (5.0 ug/L and 2.1 ug/L, respectively). The Site-Specific GWPS should not be set lower than the Site Prediction Limit calculated from the site background data. For this report, the published IAC 567, Chapter 137 Statewide Standards are used as the GWPS, except for cadmium and cobalt, where the Site Specific GWPS of 5.3 ug/L and 3.5 ug/L, respectively, are utilized. (The Site Specific GWPS for cadmium and cobalt are equivalent to the Site Prediction Limits).

STATISTICALLY SIGNIFICANT INCREASES (SSI)

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

Since the Prediction limit for VOC is set at the laboratory Method Reporting Level (MRL), any VOC detected above the MRL is recorded as an SSI. Table 6 is a summary of all compounds at site monitoring wells that have exceeded a *current* prediction limit in 2023.

The prediction limit exceedances are recorded only at wells that are included in the assessment monitoring system. Table 7 includes an on-going summary of compound detections that exceed the prediction limits (highlighted in light brown).

Exceedances of the Prediction Limit at a well that is in the Assessment Monitoring System or the Corrective Action Monitoring System is not an SSI, instead the exceedance is further evaluated by Confidence Interval Statistics.

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

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

ASSESSMENT MONITORING SUMMARY

Assessment monitoring including the full Appendix II list has been performed at each well where a historic SSI is recorded (Table 2).

Compounds detected to date at Assessment monitoring wells beyond the Appendix I list are limited to bis(2-ethylhexyl) phthalate. This additional compound will be included in the on-going semi-annual assessment monitoring at each point as appropriate to detections.

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

STATISTICALLY SIGNIFICANT LEVELS

The compounds with detections that exceed site prediction limits (see summary in Table 2) are utilized to calculate the Confidence Interval (the 95% lower confidence limits (LCL) and the 95% upper control limits (UCL)) in accordance with the 2009 Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities by US EPA. The 95% LCL values are compared to applicable GWPS. Any 95% LCL value that exceeds an applicable GWPS is recorded as an SSL. All wells with a recorded SSL require the plume of impact to be defined in the horizontal and vertical directions and required completion of an Assessment of Corrective Action (ACM).

The SSL Evaluation for 2023 is based on data collected since October, 2014. The Confidence Intervals (95% LCL and 95% UCL) are calculated during each statistical evaluation based on the most recent four (4) data points. The 95% LCL evaluation is presented in Table 7. Any 95% LCL value that exceeds a GWPS would be highlighted in yellow in Table 7.

As confirmed in Table 7, there are no SSL recorded. Monitoring wells MW-2, MW-3, MW-6, MW-7, MW-11, MW-12, MW-15, and MW-16 are designated as assessment monitoring wells and should remain in the assessment monitoring system.

DELINEATION & ASSESSMENT OF CORRECTIVE MEASURES (ACM)

Delineation is not required at this facility. Corrective Measures are not required at this facility.

Section 4.0 Leachate Collection System Performance Evaluation

Leachate accumulating in the existing leachate storage facilities on-site is recirculated on the Phase 1, Phase 2, and Phase 3 disposal areas in accordance with the SDP Permit or can be hauled to the City of Osage Publicly Owned Treatment Works (POTW) in accordance with the treatment agreement with Osage (Appendix G.1), or the City of Elma POTW in accordance with the treatment agreement with Elma (Appendix G.2), or the City of Mason City POTW in accordance with the treatment agreement with Mason City (Appendix G.3).

Leachate System Performance

Closed Original Landfill – The original landfill (Closed) is exempt from installing a leachate collection system based on the May, 1995 Risk Assessment.

Through the course of time leachate collection toe drain trenches were constructed to eliminate persistent leachate seeps. Approximately 1,150 feet of east-west trending toe drain exists along the north side of the closed landfill and was installed in 1987. Approximately 725 feet of north-south trending toe drain exists along the east side of the closed landfill and was installed in 2004. Originally, the toe drain systems drained by gravity to a common lift station, where the collected leachate was pumped through a force main to a 10,000 gallon holding tank and load-out station near the facility shop. In 2007 the lift station manhole was modified and leachate collected from the Closed Landfill now drains by gravity to the Phase 1, 2, and 3 leachate collection and storage system and is managed as part of the Phase 1, 2, and 3 system. The toe drain system is illustrated in the figure in Appendix G.4.

Visual observations indicate that the leachate toe drains are performing as designed and no modifications are recommended.

Operating Landfill – The components of the Phase 1, Phase 2, and Phase 3 RCRA Subtitle D landfill include composite FML lined landfill cells, leachate collection and drainage layer, leachate collection system piping, a 1 million gallon FML lined storage lagoon, an Apex Pitboss leachate evaporator that operates on the lagoon surface when conditions allow, a diffused air bottom-mounted aerator system that operates in the lagoon, and leachate recirculation piping. A sprinkler irrigation system is used as the primary method of leachate recirculation. A leachate transport tank (1,500 gallon) for surface application and a 4" diameter recirculation line buried in the waste mass in Phase 1 are also available for use if needed. Leachate is recirculated in the Phase 1, Phase 2, or Phase 3 disposal areas and is not applied to frozen cover.

In 2023, approximately 300,886 gallons of leachate were recirculated using the sprinkler irrigation system and approximately 10,500 gallons of leachate were recirculated using the transport tank. Daily leachate head measurements required during recirculation by the Leachate Recirculation Operation Plan are included on the Daily Leachate Recirculation Logs in Appendix G.5. Recirculation in 2023 appeared to have no impact on the landfill leachate collection system.

Pressure testing of the leachate recirculation force main, as required by Special Provision X.5.k of the SDP Permit, was completed in May 2023.

Approximately 677,870 gallons of leachate were hauled to the Osage POTW in accordance with the leachate treatment agreement. Approximately 159,710 gallons of leachate were hauled to the Mason City POTW in accordance with the leachate treatment agreement. No leachate was hauled to Elma in 2023. A total of 837,580 gallons were hauled offsite to treatment. Results of leachate testing in accordance with the treatment agreements are included in Appendix G.6.

Leachate head measurements in 2023 are summarized on Table 12. Note that leachate head monitoring points are also measured daily during leachate recirculation (see Daily Leachate Recirculation Logs in Appendix G.5.). All readings from the "Phase 1", "Phase 2", and "Phase 3" leachate head monitoring points were less than 12" during 2023. Based on the leachate head data, the leachate recirculation did not affect leachate head on the liner.

Separation of the base of solid waste and the groundwater table is evaluated through observation of groundwater elevation measurements collected from groundwater piezometers located in the Phase 1, Phase 2, and Phase 3 expansions.

Groundwater head measurements are summarized as:

Date/Location	Phase 1	Phase 2	Phase 3
4/6/2023	NR	NR	NR
10/10/2023	0"	3"	0"

The measurement of the groundwater head monitoring points was inadvertently omitted in April 2023. Semi-Annual measurements are required and will be performed as required in 2024.

Based on the groundwater head data, separation is being maintained between the base of solid waste and the groundwater surface.

Leachate Line Cleaning

The LCP lines were cleaned in November 6, 2023. As per IDNR regulations, the lines should be cleaned every 3 years (next cleaning will be tentatively scheduled for 2026).

Performance Evaluation

No modifications to the leachate collection system are recommended for next year.

Section 5.0 Gas Monitoring

Explosive gas monitoring per 113.9(2) and the approved GMSP was conducted quarterly during 2023. Monitoring points include the five (5) subsurface gas probes, the utility corridor, structures on site, the three (3) groundwater head monitoring points associated with Phase 1 and Phase 2, Phase 3, and the four (4) passive gas vents in the closed landfilling area. Explosive gas concentrations were monitored continuously during the measurement events. As a result, readings around the site perimeter in ambient air are also documented to be below regulatory action levels.

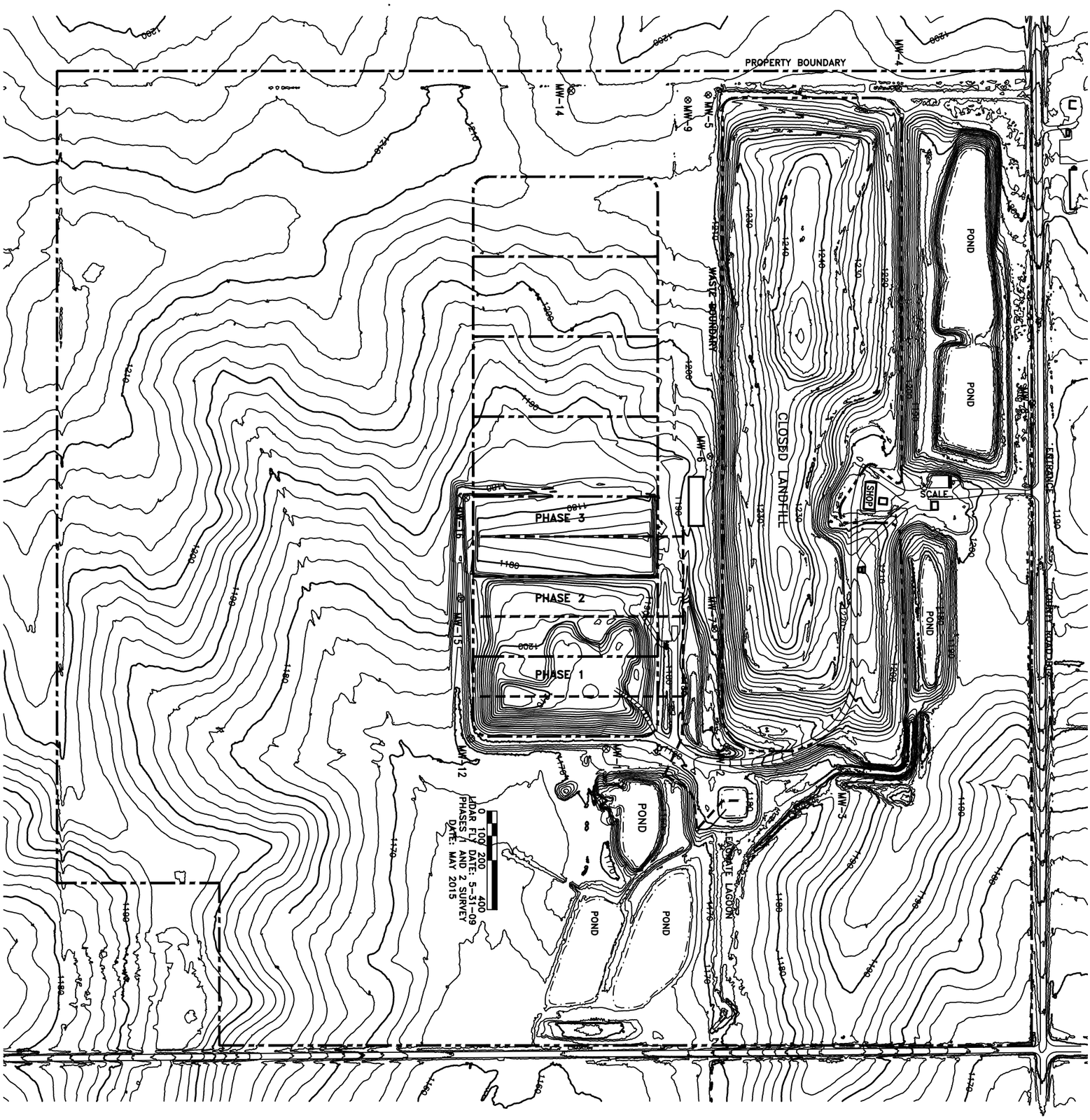
Figure 4 illustrates the locations of gas monitoring points.

Explosive gas concentrations were undetected or below regulatory action levels during the monitoring episodes. Summary tables of gas monitoring are included in Table 13.

Section 6.0 Recommendations/Requests

Continued semi-annual detection and assessment monitoring in accordance with IAC 567, Chapter 113.10(5) and (6) is recommended for this facility.

Figures



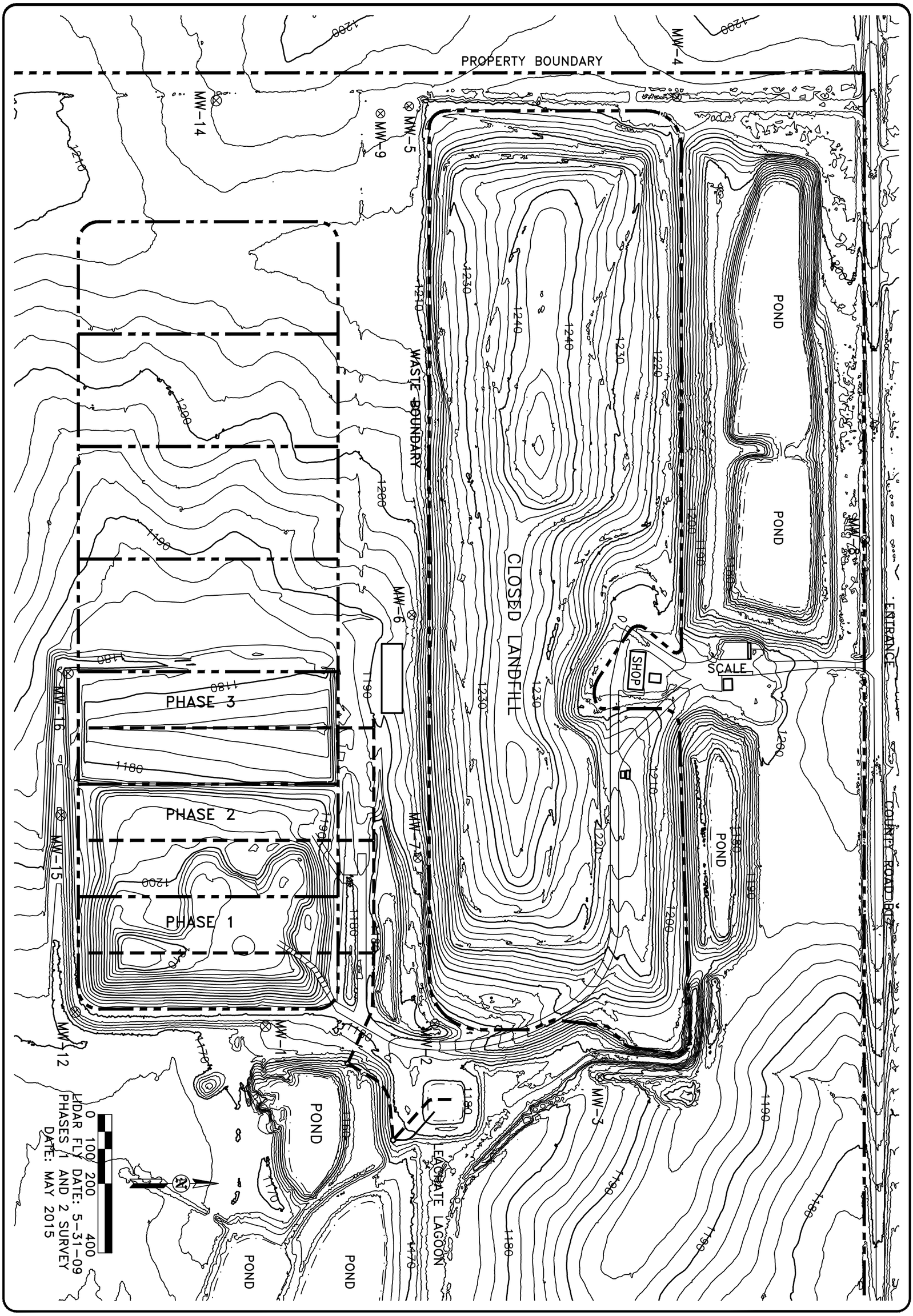
HLW Engineering Group
204 West Broad Street, P.O. Box 314
Story City, Iowa 50248
Phone: (515) 733-4144
FAX: (515) 733-4146

SITE PLAN – TOTAL PROPERTY

FLOYD–MITCHELL–CHICKASAW SANITARY LANDFILL
ELMA, IOWA

FIGURE: 1

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6028	DATE 12–7–23

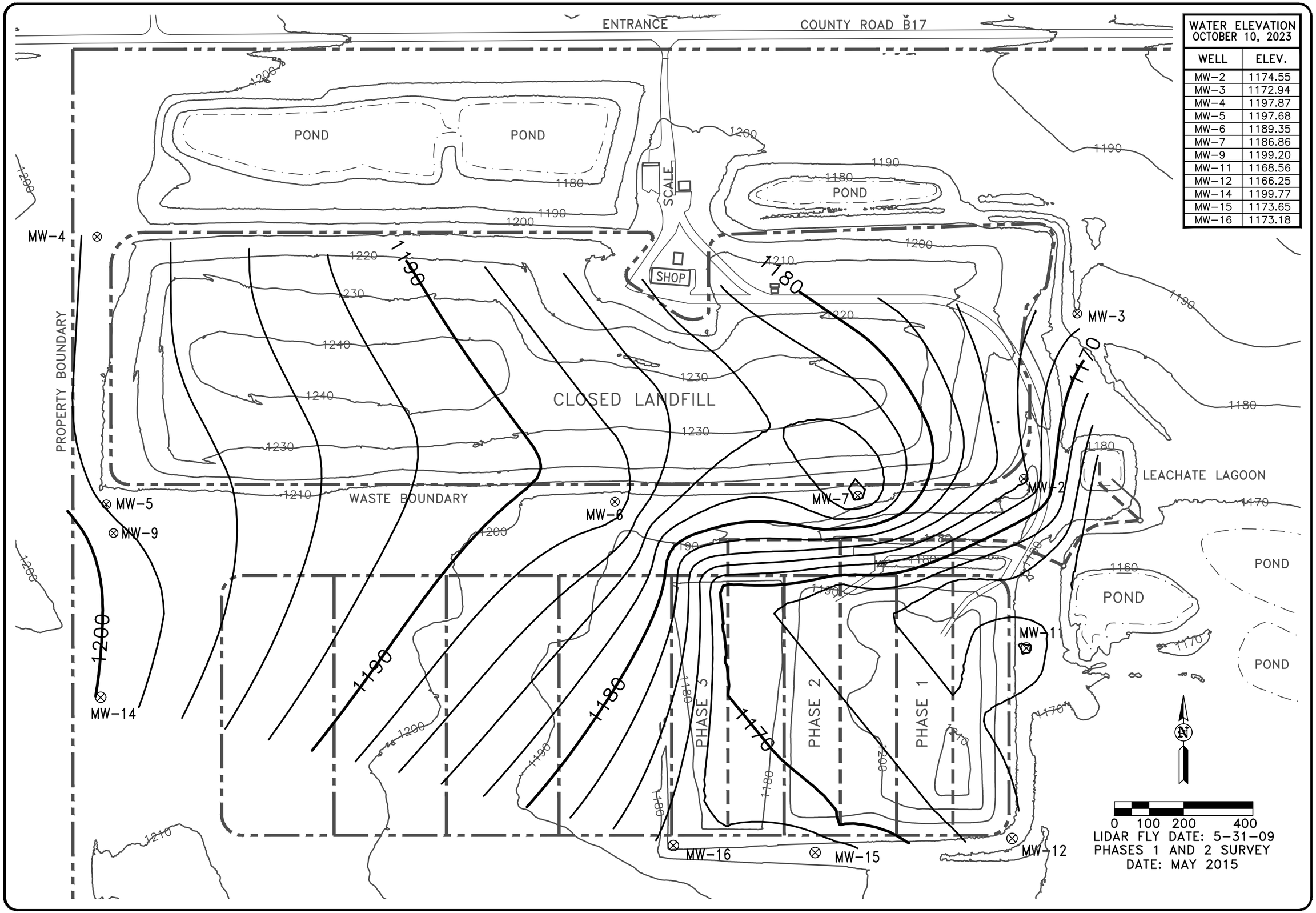


HLW Engineering Group
204 West Broad Street, P.O. Box 314
Story City, Iowa 50248
Phone: (515) 733-4144
FAX: (515) 733-4146

SITE PLAN – LANDFILL AREA

FLOYD–MITCHELL–CHICKASAW SANITARY LANDFILL
ELMA, IOWA

FIGURE:	2	
REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6028	DATE 12–7–23



WATER ELEVATION OCTOBER 10, 2023	
WELL	ELEV.
MW-2	1174.55
MW-3	1172.94
MW-4	1197.87
MW-5	1197.68
MW-6	1189.35
MW-7	1186.86
MW-9	1199.20
MW-11	1168.56
MW-12	1166.25
MW-14	1199.77
MW-15	1173.65
MW-16	1173.18

FIGURE: 3

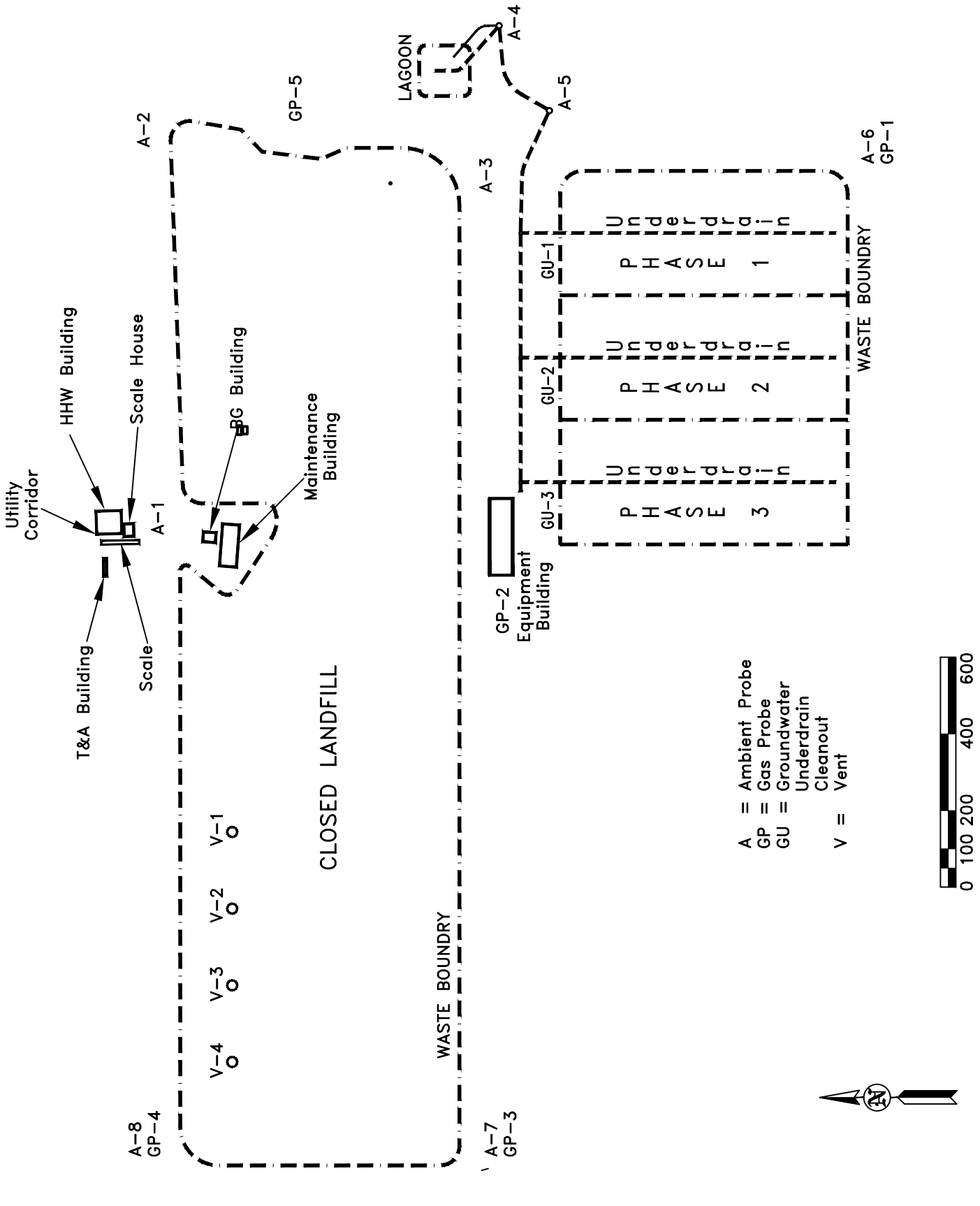
REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6028	DATE 12-7-23

GROUNDWATER CONTOURS

FLOYD-MITCHELL-CHICKASAW SANITARY LANDFILL
ELMA, 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



HLW
HLW Engineering Group

METHANE MONITORING POINTS

FLOYD-MITCHELL-CHICKASAW SANITARY LANDFILL
ELMA, IOWA

FIGURE: 4

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6028	DATE 12-7-23

Tables
(in IDNR Format)

Table Index

Table 1 – Monitoring Program Summary
Table 2 – Monitoring Program Implementation Schedule
Table 2A – Summary of Monitoring to Date
Table 3 – Monitoring Well Maintenance Performance Reevaluation Schedule
Table 4 – Monitoring Well Maintenance Performance Reevaluation Summary
Table 4A – Historic Water Elevation Monitoring Summary
Table 5 – Background and GWPS Summary
Table 6 – Summary of Detections
Table 7 – Summary of Ongoing and Newly Identified SSI
Table 8 - Summary of Ongoing and Newly Identified SSL ***- Not Required***
Table 9 – Analytical Data Summary
Table 10 – Historic SSI and SSL - ***Not Required***
Table 11 – Corrective Action Trend Analysis ***- Not Required***
Table 12 – Leachate Thickness Summary
Table 13 – Gas Monitoring Summary

Table 1 – Monitoring Program Summary

Table 1
Monitoring Program Summary
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Monitoring Well	Formation	Current Monitoring Program	Change for next sampling event	Historic - Constituents w/ SSI	Spring 2023 - Constituents w/ SSI	Fall 2023 - Constituents w/ SSI	Historic - Constituents w/ SSL	Spring 2023 - Constituents w/ SSL	Fall 2023 - Constituents w/ SSL	Total # of Samples in each monitoring program since October 14, 2014		
										Detection	Assessment	Corrective Action
MW-9 (b)	Glacial Till	Background	NC	None	None	None	None	None	None	21	0	0
MW-14 (b)	Glacial Till	Background	NC	None	None	None	None	None	None	21	0	0
MW-4 (b)	Glacial Till	Background	NC	None	None	None	None	None	None	21	0	0
MW-5 (b)	Glacial Till	Background	NC	None	None	None	None	None	None	21	0	0
MW-2	Glacial Till	Assessment	NC	**arsenic, cobalt, nickel, zinc, bis (2-ethylhexyl)phthalate**	None	None	None	None	None	0	20	0
MW-3	Glacial Till	Assessment	NC	**zinc**	None	None	None	None	None	0	20	0
MW-6	Glacial Till	Assessment	NC	**arsenic, cobalt, zinc, bis (2-ethylhexyl)phthalate**	**arsenic, bis (2-ethylhexyl)phthalate**	None	None	None	None	0	20	0
MW-7	Glacial Till	Assessment	NC	**nickel, zinc**	None	None	None	None	None	0	20	0
MW-11	Glacial Till	Assessment	NC	**zinc**	None	None	None	None	None	0	20	0
MW-12	Glacial Till	Assessment	NC	**zinc, bis (2-ethylhexyl)phthalate**	None	None	None	None	None	0	20	0
MW-15	Glacial Till	Assessment	NC	**zinc, bis (2-ethylhexyl)phthalate**	None	None	None	None	None	0	19	0
MW-16	Glacial Till	Assessment	NC	**cobalt, nickel, zinc, bis (2-ethylhexyl)phthalate**	None	None	None	None	None	0	9	0

Table 2 – Monitoring Program Implementation Schedule

Table 2
Monitoring Program Implementation Schedule
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Monitoring Well	Recent Sampling Dates and Constituents	Upcoming Sampling Dates and Constituents		Full Appendix II Sample Dates	
		April, 2024	October, 2024	Previously Collected	Next Event
MW-9 (b)		Appendix I	Appendix I	03/15/09	N/A
MW-14 (b)		Appendix I	Appendix I		N/A
MW-4 (b)		Appendix I	Appendix I	4/20/17; 4/23/18	N/A
MW-5 (b)		Appendix I	Appendix I	4/12/16; 10/11/16	N/A
MW-2		Appendix I	Appendix I	10/11/16; 10/12/17; 10/19/2022	Oct., 2027
MW-3		Appendix I	**Appendix II**	10/12/18, 10/17/19	Oct., 2024
MW-6		Appendix I	Appendix I	4/20/17; 4/23/18; 4/6/23	April, 2028
MW-7		Appendix I	Appendix I	4/20/17; 4/23/18; 4/6/23	April, 2028
MW-11	**See following pages**	**Appendix II**	Appendix I	4/8/14, 10/14/14, 4/16/19	April, 2024
MW-12		Appendix I	Appendix I	4/16/2019, 4/9/20	April, 2025
MW-15		**Appendix II**	Appendix I	10/21/13, 4/8/14, 4/16/19	April, 2024
MW-16		Appendix I	Appendix I	10/8/2020, 10/28/21	Oct., 2026

(b) background well
(1) = bis(2ethylhexyl) phthalate

Table 2A – Summary of Monitoring to Date

Table 2A -- Itemized Summary of Hydrologic Monitoring (to date)

WELL	4/16/08	6/17/08	8/8/08	10/5/08	12/3/08
MW-9 (b)	---	---	---	---	---
MW-14 (b)	---	---	---	---	---
MW-10 (b)*	---	---	---	---	---
MW-1*	---	---	---	---	---
MW-2	---	---	---	---	---
MW-3	---	---	---	---	---
MW-4	---	---	---	---	---
MW-5	---	---	---	---	---
MW-6	---	---	---	---	---
MW-7	---	---	---	---	---
MW-11	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I
MW-12	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I
MW-15	---	---	---	---	---
SW-1	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I
SW-2	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I

WELL	4/15/09	6/17/09	7/24/09	10/19/09	11/2/09
MW-9 (b)	**Appendix II**	Metals	metals	metals	Metals
MW-14 (b)	---	---	---	---	---
MW-10 (b)*	---	---	---	---	---
MW-1*	---	---	metals	metals	metals
MW-2	**Appendix II**	metals	metals	metals	metals
MW-3	**Appendix II**	metals	metals	metals	metals
MW-4	**Appendix II**	metals	metals	metals	metals
MW-5	**Appendix II**	metals	metals	metals	metals
MW-6	**Appendix II**	metals	metals	metals	metals
MW-7	**Appendix II**	metals	metals	metals	metals
MW-11	Appendix I	---	---	Appendix I	---
MW-12	Appendix I	---	---	Appendix I	---
MW-15	---	---	---	---	---
SW-1	Appendix I	---	---	Appendix I	---
SW-2	Appendix I	---	---	Appendix I	---

WELL	4/19/10	7/16/10	9/22/10	4/13/11	9/28/11
MW-9 (b)	Appendix I		Appendix I	Appendix I	Appendix I
MW-14 (b)	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I
MW-10 (b)*	---	---	---	---	---
MW-1*	metals	metals	metals	metals	metals
MW-2	metals	metals	metals	metals	metals
MW-3	metals	metals	metals	metals	metals
MW-4	metals	metals	metals	metals	metals
MW-5	metals	metals	metals	metals	metals
MW-6	metals	metals	metals	metals	metals
MW-7	metals	metals	metals	metals	metals
MW-11	Appendix I	---	Appendix I	Appendix I	Appendix I
MW-12	Appendix I	---	Appendix I	Appendix I	Appendix I
MW-15	---	---	---	---	---
SW-1	Appendix I	---	Appendix I	Appendix I	Appendix I
SW-2	Appendix I	---	Appendix I	Appendix I	Appendix I

WELL	4/23/12	9/24/12	12/4/12	4/24/13	10/21/13
MW-9 (b)	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-14 (b)	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-10 (b)*	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-1*	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-2	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-3	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-4	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-5	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-6	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-7	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-11	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-12	Appendix I	Appendix I	---	Appendix I	Appendix I
MW-15	---	---	Appendix I	Appendix I	**Appendix II**
SW-1	Appendix I	Appendix I	---	Appendix I	Appendix I
SW-2	Appendix I	Appendix I	---	Appendix I	Appendix I
Duplicate	Yes	Yes		At MW-12	At MW-14

WELL	3/5/14	4/8/14	7/17/14	10/14/14	1/12/15
MW-9 (b)	---	Appendix I	---	Appendix I	Appendix I
MW-14 (b)	---	Appendix I	---	Appendix I	Appendix I
MW-10 (b)*	---	Appendix I	---	Appendix I	Appendix I
MW-1*	As (R)	**Appendix II**	---	**Appendix II**	Zn (R)
MW-2	As (R)	Appendix I	---	Appendix I	---
MW-3	---	Appendix I	---	Appendix I	---
MW-4	---	Appendix I	---	Appendix I	Zn (R)
MW-5	---	Appendix I	---	Appendix I	---
MW-6	---	Appendix I	As + Zn (R)	Appendix I	---
MW-7	---	Appendix I	---	Appendix I	---
MW-11	---	**Appendix II**	---	**Appendix II**	---
MW-12	---	Appendix I	---	Appendix I	---
MW-15	---	**Appendix II**	---	Appendix I[(2)]	---
SW-1	---	Appendix I	---	Appendix I	---
SW-2	---	**Appendix II**	---	**Appendix II**	---
Duplicate	---	At SW-2	---	At MW-5	---

WELL	4/22/15	7/21/15	9/22/15	11/24/15
MW-9 (b)	Appendix I	Appendix I	Appendix I	---
MW-14 (b)	Appendix I	Appendix I	Appendix I	---
MW-10 (b)*	Appendix I	Appendix I	Appendix I	---
MW-1*	Appendix I	---	Appendix I	---
MW-2	Appendix I	---	Appendix I	---
MW-3	Appendix I	---	Appendix I	---
MW-4	Appendix I	---	Appendix I	---
MW-5	Appendix I	---	Appendix I	Ba (R)
MW-6	Appendix I	---	Appendix I	As (R)
MW-7	Appendix I	---	Appendix I	---
MW-11	**Appendix I[(3,4,5,7)]**	**[(3,4,5,7)]**	**Appendix I[(3,4,5,7)]**	---
MW-12	Appendix I	---	Appendix I	---
MW-15	**Appendix I[(2)]**	---	**Appendix I[(2)]**	---
SW-1	Appendix I	---	Appendix I	---
SW-2	**Appendix I[(5,6)]**	---	**Dry**	**Plugged**
Duplicate	At MW-12	---	At MW-15	---

WELL	4/12/16	6/14/16	10/11/16	1/17/17
MW-9 (b)	Appendix I	---	Appendix I	---
MW-14 (b)	Appendix I	---	Appendix I	---
MW-2	Appendix I	As (R)	**Appendix II**	---
MW-3	Appendix I	---	Appendix I	---
MW-4	Appendix I	---	Appendix I	Zn (R)
MW-5	**Appendix II**	---	**Appendix II**	---
MW-6	Appendix I	---	Appendix I	Co (R)
MW-7	Appendix I	---	Appendix I	Ni (R)
MW-11	**Appendix I(3,4,5,7)**	---	**Appendix I(3,4,5,7)**	---
MW-12	Appendix I	---	Appendix I	---
MW-15	**Appendix I(2)**	---	**Appendix I(2)**	---
SW-1	Appendix I	---	Appendix I	Co + Ni (R)
Duplicate	At MW-5	---	At MW-15	---

(R) = Resample
(b) background well
(1) = Appendix I plus no detected Appendix II compounds performed in accordance with 113.10(6)B.2.
(2) = bis(2ethylhexyl) phthalate
(3) = diethyl phthalate
(4) = methyl parathion
(5) = phorate
(6) = sulfide.
(7) = thionazin

WELL	4/20/17	10/12/17	4/23/18	7/5/18	10/12/18
MW-9 (b)	Appendix I	Appendix I	Appendix I		Appendix I
MW-14 (b)	Appendix I	Appendix I	Appendix I		Appendix I
MW-2	Appendix I(1)	**Appendix II**	Appendix I (2)		Appendix I (2)
MW-3	Appendix I	Appendix I	Appendix I	Zn (R)	**Appendix II**
MW-4	**Appendix II**	Appendix I	**Appendix II**	bis(2ethylhexyl) phthalate	Appendix I (2)
MW-5	Appendix I(1)	Appendix I(1)	Appendix I		Appendix I
MW-6	**Appendix II**	Appendix I	**Appendix II**	bis(2ethylhexyl) phthalate	Appendix I (2)
MW-7	**Appendix II**	Appendix I	**Appendix II**		Appendix I
MW-11	Appendix I	Appendix I	Appendix I		Appendix I
MW-12	Appendix I	Appendix I	Appendix I		Appendix I
MW-15	Appendix I (2)	Appendix I (2)	Appendix I (2)		Appendix I (2)
SW-1	Appendix I	---	---		Appendix I
Duplicate	At MW-5	At MW-2	At MW-14		At MW-9

(R) = Resample
(b) background well
(1) = Appendix I plus no detected Appendix II compounds performed in accordance with 113.10(6)B.2.
(2) = bis(2ethylhexyl) phthalate

WELL	4/16/19	10/17/19	4/9/2020	10/8/2020	12/9/2020
MW-9 (b)	Appendix I	Appendix I	Appendix I	Appendix I	---
MW-14 (b)	Appendix I	Appendix I	Appendix I	Appendix I	---
MW-2	Appendix I (2)	Appendix I (2)	Appendix I (2)	Appendix I (2)	---
MW-3	Appendix I(1)	**Appendix II**	Appendix I(1)	Appendix I(1)	---
MW-4	Appendix I (2)	Appendix I (2)	Appendix I (2)	Appendix I (2)	---
MW-5	Appendix I(1)	Appendix I(1)	Appendix I(1)	Appendix I(1)	---
MW-6	Appendix I (2)	Appendix I (2)	Appendix I (2)	Appendix I (2)	---
MW-7	Appendix I(1)	Appendix I(1)	Appendix I(1)	Appendix I(1)	---
MW-11	**Appendix II**	Appendix I(1)	Appendix I(1)	Appendix I(1)	---
MW-12	**Appendix II**	Appendix I (2)	**Appendix II**	Appendix I (2)	---
MW-15	**Appendix II**	Appendix I (2)	Appendix I (2)	Appendix I (2)	---
MW-16	---	Appendix I	Appendix I	**Appendix II**	(R) bis(2ethylhexyl) phthalate
Duplicate	At MW-14	At MW-4	At MW-9	At MW-6	

(R) = Resample
(b) background well
(1) = Appendix I plus no detected Appendix II compounds performed in accordance with 113.10(6)B.2.
(2) = bis(2ethylhexyl) phthalate

WELL	4/15/2021	10/28/2021	4/13/2022	10/19/2022
MW-9 (b)	Appendix I	Appendix I	Appendix I	Appendix I
MW-14 (b)	Appendix I	Appendix I	Appendix I	Appendix I
MW-4 (b)	Appendix I	Appendix I	Appendix I	Appendix I
MW-5 (b)	Appendix I	Appendix I	Appendix I	Appendix I
MW-2	Appendix I (1)	Appendix I (1)	Appendix I (1)	**Appendix II**
MW-3	Appendix I	Appendix I	Appendix I	Appendix I
MW-6	Appendix I (1)	Appendix I (1)	Appendix I (1)	Appendix I
MW-7	Appendix I	Appendix I	Appendix I	Appendix I
MW-11	Appendix I	Appendix I	Appendix I	Appendix I
MW-12	Appendix I (1)	Appendix I (1)	Appendix I (1)	Appendix I
MW-15	Appendix I (1)	Appendix I (1)	Appendix I (1)	Appendix I
MW-16	Appendix I	**Appendix II**	Appendix I (1)	Appendix I (1)
Duplicate	At MW-4	At MW-3	At MW-6	At MW-9

(1) = bis(2ethylhexyl) phthalate

WELL	4/6/2023	10/10/2023
MW-9 (b)	Appendix I	Appendix I
MW-14 (b)	Appendix I	Appendix I
MW-4 (b)	Appendix I	Appendix I
MW-5 (b)	Appendix I	Appendix I
MW-2	Appendix I	Appendix I
MW-3	Appendix I	Appendix I
MW-6	**Appendix II**	Appendix I (1)
MW-7	**Appendix II**	Appendix I
MW-11	Appendix I	Appendix I
MW-12	Appendix I	Appendix I
MW-15	Appendix I	Appendix I
MW-16	Appendix I (1)	Appendix I
Duplicate	At MW-7	At MW-3

(1) = bis(2ethylhexyl) phthalate

Table 3 – Monitoring Well Maintenance Performance Reevaluation Schedule

Table 3
Monitoring Well Maintenance and Performance Revaluation Schedule
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Compliance with:	Monitoring Calendar Years									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
567 IAC 113.10(2)"f"(1) high and low water levels (bi-annual)	X	x	X	X	X	X	X	X	X	X
567 IAC 113.10(2)"f"(2) changes in the hydrologic setting and flow paths (historic = 1 per 5 years; current = bi-annual)	X	X	X	X	X	X	X	X	X	X
567 IAC 113.10(2)"f"(3) well depths (annual)	X	X	X	X	X	X	X	X	X	X
567 IAC 113.10(2)"f"(4) well recharge rates and chemistry (bi-annual)	X		X		X	X		X		X
Waste separation from ground water 113.6(2)"l"	2X	2X	2X	2X	2X	2X	2X	2X	2X	2X

Compliance with:	Monitoring Calendar Years									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
567 IAC 113.10(2)"f"(1) high and low water levels (bi-annual)	X	P	P	P	P	P	P	P	P	P
567 IAC 113.10(2)"f"(2) changes in the hydrologic setting and flow paths (historic = 1 per 5 years; current = bi-annual)		P		P		P		P		P
567 IAC 113.10(2)"f"(3) well depths (annual)	X	P	P	P	P	P	P	P	P	P
567 IAC 113.10(2)"f"(4) well recharge rates and chemistry (bi-annual)		P		P		P		P		P
Waste separation from ground water 113.6(2)"l"	1X	2P	2P	2P	2P	2P	2P	2P	2P	2P

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

Table 4 – Monitoring Well Maintenance Performance Reevaluation Summary

Table 4
Monitoring Well Maintenance and Performance Summary
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Well	Top of casing	Top of Screen	Total Depth		Date of Measurements		Maximum Depth	Hydraulic Cond.	Most Recent Recharge Rate	
					4/6/2023	10/10/2023	Discrepancy (ft)	(cm/sec)/date	**4/13/2022**	Change
MW-9 (b)	1207.51	1184.89	32.62	Groundwater Level (ft)	7.28	8.31	0.12	0.000113 2013	Full recovery in >24 hour	None percieved
				Groundwater Elevation (Ft MSL)	1200.23	1199.2				
				Measured Well Depth (ft)	32.5	32.5				
				Submerged (+) or Exposed screen (-)	15.34	14.31				
MW-14 (b)	1209.87	1196.69	23.18	Groundwater Level (ft)	6.09	10.1	0.28	0.000245 2013	Full recovery in <5 hour	None percieved
				Groundwater Elevation (Ft MSL)	1203.78	1199.77				
				Measured Well Depth (ft)	22.9	22.9				
				Submerged (+) or Exposed screen (-)	7.09	3.08				
MW-2	1180.67	1162.82	32.85	Groundwater Level (ft)	1.69	6.12	0.05	0.0000292 2013	Full recovery in <5 hour	None percieved
				Groundwater Elevation (Ft MSL)	1178.98	1174.55				
				Measured Well Depth (ft)	32.8	32.8				
				Submerged (+) or Exposed screen (-)	16.16	11.73				
MW-3	1189.79	1182.24	22.55	Groundwater Level (ft)	11.7	16.85	-0.05	0.0000332 2013	Full recovery in 8 hour	None percieved
				Groundwater Elevation (Ft MSL)	1178.09	1172.94				
				Measured Well Depth (ft)	22.6	22.6				
				Submerged (+) or Exposed screen (-)	-4.15	-9.3				
MW-4 (b)	1209.46	1192.08	32.38	Groundwater Level (ft)	2.58	11.59	-0.42	0.0000244 2013	Full recovery in 6 hours	None percieved
				Groundwater Elevation (Ft MSL)	1206.88	1197.87				
				Measured Well Depth (ft)	32.8	32.8				
				Submerged (+) or Exposed screen (-)	14.8	5.79				
MW-5 (b)	1209.87	1193.22	31.65	Groundwater Level (ft)	2.53	12.19	-0.05	0.000036 2013	Full recovery in 6 hours	None percieved
				Groundwater Elevation (Ft MSL)	1207.34	1197.68				
				Measured Well Depth (ft)	31.7	31.7				
				Submerged (+) or Exposed screen (-)	14.12	4.46				
MW-6	1201.7	1184	32.7	Groundwater Level (ft)	2.78	12.35	0.1	0.0000183 2013	Full recovery in 5 hour	None percieved
				Groundwater Elevation (Ft MSL)	1198.92	1189.35				
				Measured Well Depth (ft)	32.6	32.6				
				Submerged (+) or Exposed screen (-)	14.92	5.35				
MW-7	1197.57	1189.91	22.66	Groundwater Level (ft)	3.9	10.71	0.26	0.0000294 2013	Full recovery in 4 hour	None percieved
				Groundwater Elevation (Ft MSL)	1193.67	1186.86				
				Measured Well Depth (ft)	22.4	22.4				
				Submerged (+) or Exposed screen (-)	3.76	-3.05				
MW-11	1179.86	1152.72	37.14	Groundwater Level (ft)	12.91	11.3	0.34	0.0000549 2013	Full recovery in >24 hour	None percieved
				Groundwater Elevation (Ft MSL)	1166.95	1168.56				
				Measured Well Depth (ft)	36.8	36.8				
				Submerged (+) or Exposed screen (-)	14.23	15.84				
MW-12	1181.55	1170.04	21.51	Groundwater Level (ft)	11.68	15.3	0.31	0.0000425 2013	Full recovery in 4 hour	None percieved
				Groundwater Elevation (Ft MSL)	1169.87	1166.25				
				Measured Well Depth (ft)	21.2	21.2				
				Submerged (+) or Exposed screen (-)	-0.17	-3.79				
MW-15	1183.46	1163.26	30.2	Groundwater Level (ft)	9.15	9.81	0	0.0000456 2013	Full recovery in >24 hour	None percieved
				Groundwater Elevation (Ft MSL)	1174.31	1173.65				
				Measured Well Depth (ft)	30.2	30.2				
				Submerged (+) or Exposed screen (-)	11.05	10.39				
MW-16	1185.93	1165.93	30.43	Groundwater Level (ft)	17.3	12.75	0.03	0.00000179 2020	Full recovery in >24 hour	None percieved
				Groundwater Elevation (Ft MSL)	1168.63	1173.18				
				Measured Well Depth (ft)	30.4	30.4				
				Submerged (+) or Exposed screen (-)	2.7	7.25				

Table 4A – Historic Water Elevation Monitoring Summary

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Phase 1, 2, and 3 water-level data
TOC, top of casing.

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	DATE						
				4/16/08	**10/3/08**	**4/15/09**	**10/19/09**	**4/19/10**	**9/22/10**	**4/13/11**
MW-11	27.1	1152.7	**Depth (ft)**	12.98	10.84	13.99	11.19	14.79	11.02	13.61
1179.86	37.1	1142.7	**Elev. (ft)**	1166.88	1169.02	1165.87	1168.67	1165.07	1168.84	1166.25
MW-12	11.5	1170.0	**Depth (ft)**	13.14	14.75	14.03	14.11	13.34	14.92	13.40
1181.55	21.5	1160.0	**Elev. (ft)**	1168.41	1166.80	1167.52	1167.44	1168.21	1166.63	1168.15
MW-14	12.0	1197.9	**Depth (ft)**	---	---	---	---	---	8.67	6.61
1209.87	22.0	1187.9	**Elev. (ft)**	---	---	---	---	---	1201.20	1203.26
MW-15	18.0	1165.5	**Depth (ft)**	---	---	---	---	---	---	---
1183.46	28.0	1155.5	**Elev. (ft)**	---	---	---	---	---	---	---
MW-16	20.4	1165.5	**Depth (ft)**							
1185.93	30.4	1155.5	**Elev. (ft)**							

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Phase 1, 2, and 3 water-level data
TOC, top of casing.

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	DATE								
				9/28/11	**4/23/12**	**6/5/12**	**9/24/12**	**11/30/12**	**4/24/13**	**10/21/13**	**4/8/14**	**10/14/14**
MW-11	27.1	1152.7	**Depth (ft)**	11.09	14.55	14.65	11.91	13.28	15.85	21.70	14.77	11.70
1179.86	37.1	1142.7	**Elev. (ft)**	1168.77	1165.31	1165.21	1167.95	1166.58	1164.01	1158.16	1165.09	1168.16
MW-12	11.5	1170.0	**Depth (ft)**	15.43	12.53	15.21	16.50	16.66	11.70	12.90	11.95	14.60
1181.55	21.5	1160.0	**Elev. (ft)**	1166.12	1169.02	1166.34	1165.05	1164.89	1169.85	1168.65	1169.60	1166.95
MW-14	12.0	1197.9	**Depth (ft)**	10.25	5.10	8.34	12.05	10.23	3.70	6.50	4.04	7.30
1209.87	22.0	1187.9	**Elev. (ft)**	1199.62	1204.77	1201.53	1197.82	1199.64	1206.17	1203.37	1205.83	1202.57
MW-15	18.0	1165.5	**Depth (ft)**	---	---	---	---	28.75	20.00	9.60	14.70	9.90
1183.46	28.0	1155.5	**Elev. (ft)**	---	---	---	---	1154.71	1163.46	1173.86	1168.76	1173.56
MW-16	20.4	1165.5	**Depth (ft)**									
1185.93	30.4	1155.5	**Elev. (ft)**									

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Phase 1, 2, and 3 water-level data
TOC, top of casing.

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	DATE								
				4/13/15	**9/22/15**	**4/12/16**	**10/11/16**	**4/20/17**	**10/12/17**	**4/23/18**	**10/12/18**	**4/16/19**
MW-11	27.1	1152.7	**Depth (ft)**	13.60	23.49	15.25	12.40	11.92	11.41	13.53	13.52	12.91
1179.86	37.1	1142.7	**Elev. (ft)**	1166.26	1156.37	1164.61	1167.46	1167.94	1168.45	1166.33	1166.34	1166.95
MW-12	11.5	1170.0	**Depth (ft)**	11.55	14.70	13.73	13.72	11.36	13.10	11.66	11.62	12.52
1181.55	21.5	1160.0	**Elev. (ft)**	1170.00	1166.85	1167.82	1167.83	1170.19	1168.45	1169.89	1169.93	1169.03
MW-14	12.0	1197.9	**Depth (ft)**	4.53	9.24	5.50	6.53	3.37	6.77	3.45	4.62	6.27
1209.87	22.0	1187.9	**Elev. (ft)**	1205.34	1200.63	1204.37	1203.34	1206.50	1203.10	1206.42	1205.25	1203.60
MW-15	18.0	1165.5	**Depth (ft)**	12.96	8.93	10.66	8.34	10.67	9.70	13.13	8.94	11.79
1183.46	28.0	1155.5	**Elev. (ft)**	1170.50	1174.53	1172.80	1175.12	1172.79	1173.76	1170.33	1174.52	1171.67
MW-16	20.4	1165.5	**Depth (ft)**									
1185.93	30.4	1155.5	**Elev. (ft)**									

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Phase 1, 2, and 3 water-level data
TOC, top of casing.

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	10/17/19	4/9/20	10/8/20	4/15/21	10/28/21	4/13/22	10/19/22	4/6/23	10/10/23	Maximum	Minimum
MW-11	27.1	1152.7	**Depth (ft)**	9.85	9.88	9.93	13.26	10.35	13.65	10.19	12.91	11.30	**23.49**	**9.85**
1179.86	37.1	1142.7	**Elev. (ft)**	1170.01	1169.98	1169.93	1166.60	1169.51	1166.21	1169.67	1166.95	1168.56	**1170.01**	**1156.37**
MW-12	11.5	1170.0	**Depth (ft)**	12.10	11.47	15.03	12.02	12.00	11.06	15.24	11.68	15.30	**16.66**	**11.06**
1181.55	21.5	1160.0	**Elev. (ft)**	1169.45	1170.08	1166.52	1169.53	1169.55	1170.49	1166.31	1169.87	1166.25	**1170.19**	**1164.89**
MW-14	12.0	1197.9	**Depth (ft)**	5.89	6.23	9.56	6.76	6.93	6.04	8.55	6.09	10.10	**12.05**	**3.37**
1209.87	22.0	1187.9	**Elev. (ft)**	1203.98	1203.64	1200.31	1203.11	1202.94	1203.83	1201.32	1203.78	1199.77	**1206.50**	**1197.82**
MW-15	18.0	1165.5	**Depth (ft)**	8.92	11.22	11.74	10.57	8.89	10.72	8.84	9.15	9.81	**23.49**	**9.85**
1183.46	28.0	1155.5	**Elev. (ft)**	1174.54	1172.24	1171.72	1172.89	1174.57	1172.74	1174.62	1174.31	1173.65	**1175.12**	**1154.71**
MW-16	20.4	1165.5	**Depth (ft)**	22.03	14.92	8.73	16.85	9.68	16.64	11.58	17.30	12.75	**22.03**	**8.73**
1185.93	30.4	1155.5	**Elev. (ft)**	1163.90	1171.01	1177.20	1169.08	1176.25	1169.29	1174.35	1168.63	1173.18	**1177.20**	**1163.90**

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Water-level data, Floyd-Mitchell County Sanitary Landfill. TOC, top of casing.

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	DATE									
				6/30/93	**12/9/93**	**4/28/94**	**9/27/94**	**5/5/95**	**9/29/95**	**4/12/96**	**9/26/96**	**3/10/97**	**9/10/97**
MW-1*	87.2	1092.5	**Depth (ft)**	32.20	35.32	35.38	35.82	34.15	36.22	36.40	37.09	36.01	36.06
1179.69	92.2	1087.5	**Elev. (ft)**	1147.49	1144.37	1144.31	1143.87	1145.54	1143.47	1143.29	1142.60	1143.68	1143.63
MW-2*	7.0	1172.8?	**Depth (ft)**	5.00	7.50	5.57	7.05	5.20	6.90	4.60	8.03	3.76	6.90
1180.67	32.0?	1147.8?	**Elev. (ft)**	1175.67	1173.17	1175.10	1173.62	1175.47	1173.77	1176.07	1172.64	1176.91	1173.77
MW-3*	7.0	1182.8	**Depth (ft)**	8.20	12.40	10.06	12.03	9.35	12.45	10.80	12.87	10.13	12.38
1189.79	22.0	1167.8	**Elev. (ft)**	1181.59	1177.39	1179.73	1177.76	1180.44	1177.34	1178.99	1176.92	1179.66	1177.41
MW-4*	7.0	1200.4?	**Depth (ft)**	5.25	8.86	6.26	7.75	6.05	7.50	5.80	10.11	3.60	8.93
1209.46	32.0?	1175.4?	**Elev. (ft)**	1204.21	1200.60	1203.20	1201.71	1203.41	1201.96	1203.66	1199.35	1205.86	1200.53
MW-5*	6.0	1201.4?	**Depth (ft)**	6.12	8.35	7.61	8.04	7.50	7.91	7.00	9.85	4.30	8.28
1209.87	31.0?	1176.4?	**Elev. (ft)**	1203.75	1201.52	1202.26	1201.83	1202.37	1201.96	1202.87	1200.02	1205.57	1201.59
MW-6*	7.7	1191.4?	**Depth (ft)**	7.12	10.70	8.47	10.92	8.90	10.60	9.50	10.21	4.32	8.97
1201.70	32.7?	1166.4?	**Elev. (ft)**	1194.58	1191.00	1193.23	1190.78	1192.80	1191.10	1192.20	1191.49	1197.38	1192.73
MW-7*	7.5	1190.1	**Depth (ft)**	4.80	9.85	5.81	6.34	4.95	10.20	4.60	9.49	---	8.30
1197.57	22.5	1175.1	**Elev. (ft)**	1192.77	1187.72	1191.76	1191.23	1192.62	1187.37	1192.97	1188.08	---	1189.27
MW-9*	22.5	1185.0	**Depth (ft)**	6.86	6.70	7.92	6.16	7.90	6.10	8.05	6.86	7.55	6.15
1207.51	32.5	1175.0	**Elev. (ft)**	1200.65	1200.81	1199.59	1201.35	1199.61	1201.41	1199.46	1200.65	1199.96	1201.36
MW-10*	134.2	1072.9	**Depth (ft)**	59.10	61.70	62.23	63.71	62.00	64.05	64.50	---	---	---
1207.06	144.2	1062.9	**Elev. (ft)**	1147.96	1145.36	1144.83	1143.35	1145.06	1143.01	1142.56	---	---	---
*9/14/07 survey													
				6/30/93	**12/9/93**	**4/28/94**	**9/27/94**	**5/5/95**	**9/29/95**	**4/12/96**	**9/26/96**	**3/10/97**	**9/10/97**

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Water-level data, Floyd-Mitchell County Sani

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	DATE									
				4/14/98	**9/29/98**	**3/31/00**	**9/16/00**	**4/12/00**	**10/13/00**	**4/19/01**	**9/21/01**	**9/25/02**	**3/13/02**
MW-1*	87.2	1092.5	**Depth (ft)**	33.76	35.82	35.91	33.67	36.28	36.69	32.78	36.20	35.56	37.19
1179.69	92.2	1087.5	**Elev. (ft)**	1145.93	1143.87	1143.78	1146.02	1143.41	1143.00	1146.91	1143.49	1144.13	1142.50
MW-2*	7.0	1172.8?	**Depth (ft)**	3.69	8.04	4.24	7.05	5.31	7.34	3.15	4.92	6.44	3.91
1180.67	32.0?	1147.8?	**Elev. (ft)**	1176.98	1172.63	1176.43	1173.62	1175.36	1173.33	1177.52	1175.75	1174.23	1176.76
MW-3*	7.0	1182.8	**Depth (ft)**	7.91	13.30	9.37	11.54	11.47	13.31	7.77	12.82	12.49	12.36
1189.79	22.0	1167.8	**Elev. (ft)**	1181.88	1176.49	1180.42	1178.25	1178.32	1176.48	1182.02	1176.97	1177.30	1177.43
MW-4*	7.0	1200.4?	**Depth (ft)**	4.73	9.75	5.45	8.69	6.75	10.65	4.94	7.42	8.65	4.81
1209.46	32.0?	1175.4?	**Elev. (ft)**	1204.73	1199.71	1204.01	1200.77	1202.71	1198.81	1204.52	1202.04	1200.81	1204.65
MW-5*	6.0	1201.4?	**Depth (ft)**	4.94	10.32	6.31	9.22	7.73	10.57	4.99	9.36	9.05	6.95
1209.87	31.0?	1176.4?	**Elev. (ft)**	1204.93	1199.55	1203.56	1200.65	1202.14	1199.30	1204.88	1200.51	1200.82	1202.92
MW-6*	7.7	1191.4?	**Depth (ft)**	5.40	8.32	8.44	9.68	9.16	11.34	6.62	6.04	9.40	4.98
1201.70	32.7?	1166.4?	**Elev. (ft)**	1196.30	1193.38	1193.26	1192.02	1192.54	1190.36	1195.08	1195.66	1192.30	1196.72
MW-7*	7.5	1190.1	**Depth (ft)**	4.58	9.14	5.35	8.39	6.06	10.16	4.45	7.36	6.35	4.58
1197.57	22.5	1175.1	**Elev. (ft)**	1192.99	1188.43	1192.22	1189.18	1191.51	1187.41	1193.12	1190.21	1191.22	1192.99
MW-9*	22.5	1185.0	**Depth (ft)**	7.54	7.29	7.48	5.85	8.33	7.56	6.94	7.39	6.51	8.31
1207.51	32.5	1175.0	**Elev. (ft)**	1199.97	1200.22	1200.03	1201.66	1199.18	1199.95	1200.57	1200.12	1201.00	1199.20
MW-10*	134.2	1072.9	**Depth (ft)**	---	63.31	63.65	60.88	64.33	64.44	60.48	63.80	63.25	65.39
1207.06	144.2	1062.9	**Elev. (ft)**	---	1143.75	1143.41	1146.18	1142.73	1142.62	1146.58	1143.26	1143.81	1141.67
*9/14/07 survey													
				4/14/98	**9/29/98**	**3/31/00**	**9/16/00**	**4/12/00**	**10/13/00**	**4/19/01**	**9/21/01**	**9/25/02**	**3/13/02**

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Water-level data, Floyd-Mitchell County Sani

Monitor Well/ TOC Elev. (ft)	**Screened Interval** Depth (ft)	Elev. (ft)	**Water Level**	**DATE**									
				3/14/03	**9/18/03**	**4/2/04**	**9/21/04**	**4/15/05**	**9/21/05**	**4/13/06**	**10/4/06**	**4/19/07**	**10/4/07**
MW-1*	87.2	1092.5	**Depth (ft)**	37.49	37.15	37.98	35.08	35.75	35.06	34.07	36.82	33.82	33.91
1179.69	92.2	1087.5	**Elev. (ft)**	1142.20	1142.54	1141.71	1144.61	1143.94	1144.63	1145.62	1142.87	1145.87	1145.78
MW-2*	7.0	1172.8?	**Depth (ft)**	3.69	7.59	3.65	5.02	3.70	5.46	3.38	6.61	3.41	3.52
1180.67	32.0?	1147.8?	**Elev. (ft)**	1176.98	1173.08	1177.02	1175.65	1176.97	1175.21	1177.29	1174.06	1177.26	1177.15
MW-3*	7.0	1182.8	**Depth (ft)**	11.75	13.73	12.59	11.14	10.18	11.90	8.59	12.55	7.84	11.15
1189.79	22.0	1167.8	**Elev. (ft)**	1178.04	1176.06	1177.20	1178.65	1179.61	1177.89	1181.20	1177.24	1181.95	1178.64
MW-4*	7.0	1200.4?	**Depth (ft)**	5.00	10.65	5.00	5.85	4.82	5.35	4.58	7.02	5.05	5.40
1209.46	32.0?	1175.4?	**Elev. (ft)**	1204.46	1198.81	1204.46	1203.61	1204.64	1204.11	1204.88	1202.44	1204.41	1204.06
MW-5*	6.0	1201.4?	**Depth (ft)**	6.85	10.81	5.35	6.59	5.69	6.35	5.79	8.81	5.75	6.54
1209.87	31.0?	1176.4?	**Elev. (ft)**	1203.02	1199.06	1204.52	1203.28	1204.18	1203.52	1204.08	1201.06	1204.12	1203.33
MW-6*	7.7	1191.4?	**Depth (ft)**	5.85	9.71	6.25	8.41	6.32	8.37	6.50	8.64	7.23	8.42
1201.70	32.7?	1166.4?	**Elev. (ft)**	1195.85	1191.99	1195.45	1193.29	1195.38	1193.33	1195.20	1193.06	1194.47	1193.28
MW-7*	7.5	1190.1	**Depth (ft)**	4.39	9.91	4.35	5.33	4.31	6.84	4.23	9.04	4.72	7.64
1197.57	22.5	1175.1	**Elev. (ft)**	1193.18	1187.66	1193.22	1192.24	1193.26	1190.73	1193.34	1188.53	1192.85	1189.93
MW-9*	22.5	1185.0	**Depth (ft)**	8.94	7.46	8.64	5.94	8.01	5.73	7.63	6.91	7.13	5.55
1207.51	32.5	1175.0	**Elev. (ft)**	1198.57	1200.05	1198.87	1201.57	1199.50	1201.78	1199.88	1200.60	1200.38	1201.96
MW-10*	134.2	1072.9	**Depth (ft)**	65.80	64.88	66.45	62.96	64.10	62.86	61.98	64.67	61.49	61.78
1207.06	144.2	1062.9	**Elev. (ft)**	1141.26	1142.18	1140.61	1144.10	1142.96	1144.20	1145.08	1142.39	1145.57	1145.28
*9/14/07 survey													
				3/14/03	**9/18/03**	**4/2/04**	**9/21/04**	**4/15/05**	**9/21/05**	**4/13/06**	**10/4/06**	**4/19/07**	**10/4/07**

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Water-level data, Floyd-Mitchell County Sani

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	DATE									
				4/16/08	**10/3/08**	**4/15/09**	**10/19/09**	**4/19/10**	**9/22/10**	**4/13/11**	**9/28/11**	**4/23/12**	**9/24/12**
MW-1*	87.2	1092.5	**Depth (ft)**	---	36.02	36.49	37.04	34.10	35.54	34.31	36.69	36.75	39.40
1179.69	92.2	1087.5	**Elev. (ft)**	---	1143.67	1143.20	1142.65	1145.59	1144.15	1145.38	1143.00	1142.94	1140.29
MW-2*	7.0	1172.8?	**Depth (ft)**	2.78	6.64	4.48	5.43	3.34	5.65	3.24	6.40	2.95	7.82
1180.67	32.0?	1147.8?	**Elev. (ft)**	1177.89	1174.03	1176.19	1175.24	1177.33	1175.02	1177.43	1174.27	1177.72	1172.85
MW-3*	7.0	1182.8	**Depth (ft)**	7.59	13.40	10.18	13.47	9.16	12.35	9.20	13.53	12.69	16.85
1189.79	22.0	1167.8	**Elev. (ft)**	1182.20	1176.39	1179.61	1176.32	1180.63	1177.44	1180.59	1176.26	1177.10	1172.94
MW-4*	7.0	1200.4?	**Depth (ft)**	4.83	10.55	6.25	9.45	5.18	8.93	5.32	10.75	4.82	11.95
1209.46	32.0?	1175.4?	**Elev. (ft)**	1204.63	1198.91	1203.21	1200.01	1204.28	1200.53	1204.14	1198.71	1204.64	1197.51
MW-5*	6.0	1201.4?	**Depth (ft)**	5.15	10.34	7.15	9.61	6.12	9.61	6.68	10.72	4.55	12.03
1209.87	31.0?	1176.4?	**Elev. (ft)**	1204.72	1199.53	1202.72	1200.26	1203.75	1200.26	1203.19	1199.15	1205.32	1197.84
MW-6*	7.7	1191.4?	**Depth (ft)**	6.40	10.10	9.15	9.74	7.38	10.47	7.24	11.70	4.65	12.72
1201.70	32.7?	1166.4?	**Elev. (ft)**	1195.30	1191.60	1192.55	1191.96	1194.32	1191.23	1194.46	1190.00	1197.05	1188.98
MW-7*	7.5	1190.1	**Depth (ft)**	4.18	9.51	7.63	9.70	5.47	8.49	5.68	10.35	4.11	10.88
1197.57	22.5	1175.1	**Elev. (ft)**	1193.39	1188.06	1189.94	1187.87	1192.10	1189.08	1191.89	1187.22	1193.46	1186.69
MW-9*	22.5	1185.0	**Depth (ft)**	7.46	7.35	8.16	7.31	7.52	6.14	7.88	7.44	8.44	8.74
1207.51	32.5	1175.0	**Elev. (ft)**	1200.05	1200.16	1199.35	1200.20	1199.99	1201.37	1199.63	1200.07	1199.07	1198.77
MW-10*	134.2	1072.9	**Depth (ft)**	---	63.49	64.58	64.91	61.79	63.11	62.22	64.45	65.38	67.54
1207.06	144.2	1062.9	**Elev. (ft)**	---	1143.57	1142.48	1142.15	1145.27	1143.95	1144.84	1142.61	1141.68	1139.52
*9/14/07 survey													
				4/16/08	**10/3/08**	**4/15/09**	**10/19/09**	**4/19/10**	**9/22/10**	**4/13/11**	**9/28/11**	**4/23/12**	**9/24/12**

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Water-level data, Floyd-Mitchell County Sani

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	DATE										
				4/24/13	**10/21/13**	**4/8/14**	**10/14/14**	**4/13/15**	**9/22/15**	**4/12/16**	**10/11/16**	**4/20/17**	**10/12/17**	**4/23/18**
MW-1*	87.2	1092.5	**Depth (ft)**	35.70	35.30	35.60	36.20	36.21	37.22	33.80	32.06	31.65	35.20	33.82
1179.69	92.2	1087.5	**Elev. (ft)**	1143.99	1144.39	1144.09	1143.49	1143.48	1142.47	1145.89	1147.63	1148.04	1144.49	1145.87
MW-2*	7.0	1172.8?	**Depth (ft)**	2.00	4.80	2.80	2.60	2.80	5.52	3.40	3.80	1.85	2.80	1.88
1180.67	32.0?	1147.8?	**Elev. (ft)**	1178.67	1175.87	1177.87	1178.07	1177.87	1175.15	1177.27	1176.87	1178.82	1177.87	1178.79
MW-3*	7.0	1182.8	**Depth (ft)**	7.60	12.70	8.32	12.68	9.26	12.66	9.08	10.14	6.45	13.76	8.41
1189.79	22.0	1167.8	**Elev. (ft)**	1182.19	1177.09	1181.47	1177.11	1180.53	1177.13	1180.71	1179.65	1183.34	1176.03	1181.38
MW-4*	7.0	1200.4?	**Depth (ft)**	2.60	6.80	4.40	5.85	4.70	9.47	5.14	6.34	4.51	7.23	2.48
1209.46	32.0?	1175.4?	**Elev. (ft)**	1206.86	1202.66	1205.06	1203.61	1204.76	1199.99	1204.32	1203.12	1204.95	1202.23	1206.98
MW-5*	6.0	1201.4?	**Depth (ft)**	1.80	6.00	3.95	7.20	4.65	9.48	5.85	7.03	1.50	7.90	1.63
1209.87	31.0?	1176.4?	**Elev. (ft)**	1208.07	1203.87	1205.92	1202.67	1205.22	1200.39	1204.02	1202.84	1208.37	1201.97	1208.24
MW-6*	7.7	1191.4?	**Depth (ft)**	4.35	8.15	4.60	8.50	4.40	10.05	6.71	8.20	3.52	4.68	2.09
1201.70	32.7?	1166.4?	**Elev. (ft)**	1197.35	1193.55	1197.10	1193.20	1197.30	1191.65	1194.99	1193.50	1198.18	1197.02	1199.61
MW-7*	7.5	1190.1	**Depth (ft)**	3.70	8.60	4.30	5.70	4.67	8.40	4.92	6.00	3.30	6.09	3.88
1197.57	22.5	1175.1	**Elev. (ft)**	1193.87	1188.97	1193.27	1191.87	1192.90	1189.17	1192.65	1191.57	1194.27	1191.48	1193.69
MW-9*	22.5	1185.0	**Depth (ft)**	6.75	5.70	6.80	5.85	7.28	6.70	6.69	4.95	6.83	7.45	6.75
1207.51	32.5	1175.0	**Elev. (ft)**	1200.76	1201.81	1200.71	1201.66	1200.23	1200.81	1200.82	1202.56	1200.68	1200.06	1200.76
MW-10*	134.2	1072.9	**Depth (ft)**	64.30	63.10	63.70	64.15	64.71	65.45	61.47	59.25	59.31	63.30	62.41
1207.06	144.2	1062.9	**Elev. (ft)**	1142.76	1143.96	1143.36	1142.91	1142.35	1141.61	1145.59	1147.81	1147.75	1143.76	1144.65
*9/14/07 survey														
				4/24/13	**10/21/13**	**4/8/14**	**10/14/14**	**4/13/15**	**9/22/15**	**4/12/16**	**10/11/16**	**4/20/17**	**10/12/17**	**4/23/18**

Table 4 Supplement

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Water-level data, Floyd-Mitchell County Sani

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	10/12/18	4/16/19	10/17/19	4/9/20	10/8/20	4/15/21	10/28/21	4/13/22	10/19/22	4/6/23	10/10/23	Maximum	Minimum	
MW-1*	87.2	1092.5	**Depth (ft)**	31.17	33.50	33.06						36.85	35.37		**39.40**	**31.17**	
1179.69	92.2	1087.5	**Elev. (ft)**	1148.52	1146.19	1146.63						1142.84	1144.32		**1148.52**	**1140.29**	
MW-2*	7.0	1172.8?	**Depth (ft)**	1.60	1.87	1.87	1.50	6.03	3.30	3.99	2.27	5.06	1.69	6.12	**8.04**	**1.50**	
1180.67	32.0?	1147.8?	**Elev. (ft)**	1179.07	1178.80	1178.80	1179.17	1174.64	1177.37	1176.68	1178.40	1175.61	1178.98	1174.55	**1179.17**	**1172.63**	
MW-3*	7.0	1182.8	**Depth (ft)**	7.20	8.90	9.03	9.04	13.98	11.95	11.88	10.23	13.85	11.70	16.85	**16.85**	**6.45**	
1189.79	22.0	1167.8	**Elev. (ft)**	1182.59	1180.89	1180.76	1180.75	1175.81	1177.84	1177.91	1179.56	1175.94	1178.09	1172.94	**1183.34**	**1172.94**	
MW-4*	7.0	1200.4?	**Depth (ft)**	2.75	2.49	2.67	4.55	8.85	5.44	8.02	4.30	7.90	2.58	11.59	**11.95**	**2.48**	
1209.46	32.0?	1175.4?	**Elev. (ft)**	1206.71	1206.97	1206.79	1204.91	1200.61	1204.02	1201.44	1205.16	1201.56	1206.88	1197.87	**1206.98**	**1197.51**	
MW-5*	6.0	1201.4?	**Depth (ft)**	2.00	2.36	3.00	5.40	10.70	6.32	8.61	3.88	7.47	2.53	12.19	**12.19**	**1.50**	
1209.87	31.0?	1176.4?	**Elev. (ft)**	1207.87	1207.51	1206.87	1204.47	1199.17	1203.55	1201.26	1205.99	1202.40	1207.34	1197.68	**1208.37**	**1197.84**	
MW-6*	7.7	1191.4?	**Depth (ft)**	1.95	1.57	1.92	4.15	11.61	6.85	10.53	3.53	7.86	2.78	12.35	**12.72**	**1.57**	
1201.70	32.7?	1166.4?	**Elev. (ft)**	1199.75	1200.13	1199.78	1197.55	1190.09	1194.85	1191.17	1198.17	1193.84	1198.92	1189.35	**1200.13**	**1188.98**	
MW-7*	7.5	1190.1	**Depth (ft)**	3.55	4.13	4.27	4.20	10.20	4.64	8.78	3.27	9.67	3.90	10.71	**10.88**	**3.27**	
1197.57	22.5	1175.1	**Elev. (ft)**	1194.02	1193.44	1193.30	1193.37	1187.37	1192.93	1188.79	1194.30	1187.90	1193.67	1186.86	**1194.27**	**1186.69**	
MW-9*	22.5	1185.0	**Depth (ft)**	4.75	6.95	4.85	6.96	7.25	7.58	5.89	7.84	6.65	7.28	8.31	**8.94**	**4.75**	
1207.51	32.5	1175.0	**Elev. (ft)**	1202.76	1200.56	1202.66	1200.55	1200.26	1199.93	1201.62	1199.67	1200.86	1200.23	1199.20	**1202.76**	**1198.57**	
MW-10*	134.2	1072.9	**Depth (ft)**	58.40	61.25	60.71						66.00	63.95		**67.54**	**58.40**	
1207.06	144.2	1062.9	**Elev. (ft)**	1148.66	1145.81	1146.35						1141.06	1143.11		**1148.66**	**1139.52**	
*9/14/07 survey																	*9
				10/12/18	**4/16/19**	**10/17/19**	**4/9/20**	**10/8/20**	**4/15/21**	**10/28/21**	**4/13/22**	**10/19/22**	**4/6/23**	**10/10/23**	**Maximum**	**Minimum**	

Table 5 – Background and GWPS Summary

Table 5
Background and GWPS Summary
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Interwell Background Well (MW-4, MW-5, MW-9 and MW-14)

Inorganics - Appendix I										
Constituent	**Units**	**Model Type**	**Samples - N**	**Detections**	**Mean**	**SD**	**Prediction Limit**	**Confidence**	**GWPS**	**Source**
Antimony (Sb)	µg/l	nonparametric	80	1			2.50	0.99	6	SS
Arsenic (As)	µg/l	nonparametric	80	1			4.50	0.99	10	SS
Barium (Ba)	µg/l	normal	80	80	144.2913	67.8642	306.4367		2000	SS
Beryllium (Be)	µg/l	nonparametric	80	0			4.00	0.99	4	SS
Cadmium (Cd)	µg/l	nonparametric	80	4			5.30	0.99	**5.3**	Site
Chromium (Cr)	µg/l	nonparametric	80	2			9.10	0.99	100	SS
Cobalt (Co)	µg/l	nonparametric	80	10			3.50	0.99	**3.5**	Site
Copper (Cu)	µg/l	nonparametric	80	6			9.60	0.99	1300	SS
Lead (Pb)	µg/l	nonparametric	80	2			7.60	0.99	15	SS
Nickel (Ni)	µg/l	nonparametric	79	14			9.80	0.99	100	SS
Selenium (Se)	µg/l	nonparametric	80	3			5.50	0.99	50	SS
Silver (Ag)	µg/l	nonparametric	80	0			4.00	0.99	100	SS
Thallium (Tl)	µg/l	nonparametric	80	0			2.00	0.99	2	SS
Vanadium (V)	µg/l	nonparametric	80	0			20.00	0.99	35	SS
Zinc (Zn)	µg/l	nonparametric	79	18			237.00	0.99	2000	SS

VOC - Appendix I										
Constituent	**Units**	**Model Type**	**Samples - N**	**Detections**	**Mean**	**SD**	**Prediction Limit**	**Confidence**	**GWPS**	**Source**
All	µg/l	DQR	80	0	<1	<1	<1	<1	various	SS

= Prediction limit exceeds the GWPS. A Site-Specific GWPS is warranted

Table 6 – Summary of Detections

Table 6
Summary of Well/Detected Constituent Pairs that Exceed the Prediction Limit
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Well	Compound	Date	Result (ug/L)	Prediction Limit (ug/L)	Monitoring Program
MW 6	Arsenic	4/6/2023	5.3	4.5	Assessment Monitoring
MW 6	Bis (2-ethylhexyl)phthalate	4/6/2023	7.0	6.0	Assessment Monitoring

Table 7 – Summary of Ongoing and Newly Identified SSI

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

KEY:	SSI	SSL LCL>GWPS

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

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW 2	Arsenic	4/12/2016	12.5	4.00	0.000	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	10/11/2016	<4.0	4.00	0.000	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	4/20/2017	9.4	4.00	2.347	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	10/12/2017	5.0	4.00	2.099	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	4/23/2018	4.7	4.00	1.672	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	10/12/2018	<4.0	4.00	1.672	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	4/16/2019	4.3	4.00	2.396	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	10/17/2019	<4.0	4.00	1.541	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	4/9/2020	<4.0	4.00	1.222	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	10/8/2020	<4.0	4.00	1.222	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	4/15/2021	<4.0	4.00	2.000	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	10/28/2021	<4.0	4.00	2.000	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	4/13/2022	<4.0	4.00	2.000	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	10/19/2022	4.1	4.00	1.290	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	4/6/2023	4.1	4.50	1.624	10	4/12/2016	NA	10/11/2016
MW 2	Arsenic	10/10/2023	<4.0	4.50	1.624	10	4/12/2016	NA	10/11/2016
MW 2	Cobalt	4/12/2016	1.5	0.80	---	2.8	4/12/2016	NA	10/11/2016
MW 2	Cobalt	10/11/2016	2.6	0.80	0.808	2.8	4/12/2016	NA	10/11/2016
MW 2	Cobalt	4/20/2017	3.9	0.80	1.574	2.8	4/12/2016	NA	10/11/2016
MW 2	Cobalt	10/12/2017	5.5	0.80	1.348	2.8	4/12/2016	NA	10/11/2016
MW 2	Cobalt	4/23/2018	3.3	0.80	2.370	2.8	4/12/2016	NA	10/11/2016
MW 2	Cobalt	10/12/2018	2.4	0.80	2.240	2.8	4/12/2016	NA	10/11/2016
MW 2	Cobalt	4/16/2019	3.0	0.80	1.959	2.1	4/12/2016	NA	10/11/2016
MW 2	Cobalt	10/17/2019	0.8	0.80	1.064	2.1	4/12/2016	NA	10/11/2016
MW 2	Cobalt	4/9/2020	5.8	3.40	0.548	**3.4**	4/12/2016	NA	10/11/2016
MW 2	Cobalt	10/8/2020	4.2	3.40	0.972	**3.4**	4/12/2016	NA	10/11/2016
MW 2	Cobalt	4/15/2021	5.1	3.40	1.369	**3.4**	4/12/2016	NA	10/11/2016
MW 2	Cobalt	10/28/2021	1.7	3.40	2.094	**3.4**	4/12/2016	NA	10/11/2016
MW 2	Cobalt	4/13/2022	4.4	3.40	2.104	**3.4**	4/12/2016	NA	10/11/2016
MW 2	Cobalt	10/19/2022	4.0	3.40	2.069	**3.4**	4/12/2016	NA	10/11/2016
MW 2	Cobalt	4/6/2023	2.8	3.50	1.786	**3.4**	4/12/2016	NA	10/11/2016
MW 2	Cobalt	10/10/2023	1.8	3.50	1.860	**3.4**	4/12/2016	NA	10/11/2016
MW 2	Nickel	4/12/2016	<4.0	4.00	---	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	10/11/2016	4.4	4.00	1.494	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	4/20/2017	4.7	4.00	2.411	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	10/12/2017	4.2	4.00	2.374	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	4/23/2018	<4.0	4.00	2.374	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	10/12/2018	5.7	4.00	2.311	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	4/16/2019	4.5	4.00	2.285	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	10/17/2019	4.4	4.00	2.326	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	4/9/2020	<4.0	4.00	2.326	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	10/8/2020	<4.0	9.50	1.560	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	4/15/2021	<4.0	9.50	1.561	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	10/28/2021	<4.0	9.50	2.000	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	4/13/2022	<4.0	9.50	2.000	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	10/19/2022	4.6	9.50	1.121	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	4/6/2023	<4.0	9.80	1.121	100	10/11/2016	NA	10/11/2016
MW 2	Nickel	10/10/2023	<4.0	9.80	1.121	100	10/11/2016	NA	10/11/2016
MW 2	Zinc	4/12/2016	<8.0	16.1	3.100	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	10/11/2016	8.3	16.1	3.105	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	4/20/2017	<20.0	16.1	2.546	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	10/12/2017	9.5	16.1	3.073	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	4/23/2018	9.0	16.1	4.741	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	10/12/2018	25.3	16.1	1.081	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	4/16/2019	42.3	16.1	2.959	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	10/17/2019	30.6	29.9	10.532	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	4/9/2020	<20.0	237.0	7.474	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	10/8/2020	<20.0	237.0	0.000	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	4/15/2021	<20.0	237.0	6.230	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	10/28/2021	<20.0	237.0	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	4/13/2022	<20.0	237.0	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	10/19/2022	<20.0	237.0	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	4/6/2023	<20.0	237.0	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Zinc	10/10/2023	<20.0	237.0	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	4/12/2016	---	6	---	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	10/11/2016	<8	6	---	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	4/20/2017	---	6	---	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	10/12/2017	35.0	6	---	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	4/23/2018	<6	6	0.000	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	10/12/2018	<6	6	0.000	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	4/16/2019	<6	6	0.000	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	10/17/2019	25.0	6	0.000	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	4/9/2020	<6	6	0.000	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	10/8/2020	<6	6	0.000	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	4/15/2021	<6	6	0.000	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	10/28/2021	12.0	6	1.353	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	4/13/2022	11.0	6	1.457	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	10/19/2022	<6	6	1.457	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	4/6/2023	NT	6	1.457	6	10/12/2017	NA	10/11/2016
MW 2	Bis (2-ethylhexyl)phthalate	10/10/2023	NT	6	1.457	6	10/12/2017	NA	10/11/2016

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

Table 7

KEY:	SSI	SSL LCL>GWPS

Summary of Ongoing & Newly Identified SSI

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

Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW 3	Zinc	4/12/2016	<8.0	16.1	4.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	10/11/2016	<8.0	16.1	4.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	4/20/2017	<20.0	16.1	4.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	10/12/2017	<8.0	16.1	4.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	4/23/2018	22.7	16.1	0.000	2,000.00	4/23/2018	7/5/2018	10/11/2016
MW 3	Zinc	7/5/2018	152	16.1	0.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	10/12/2018	29.8	16.1	0.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	4/16/2019	20.6	16.1	0.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	10/17/2019	26.3	29.9	0.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	4/9/2020	<20.0	237.0	6.729	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	10/8/2020	<20.0	237.0	0.235	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	4/15/2021	<20.0	237.0	7.017	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	10/28/2021	<20.0	237.0	10.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	4/13/2022	<20.0	237.0	10.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	10/19/2022	<20.0	237.0	10.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	4/6/2023	<20.0	237.0	10.000	2,000.00	4/23/2018	NA	10/11/2016
MW 3	Zinc	10/10/2023	<20.0	237.0	10.000	2,000.00	4/23/2018	NA	10/11/2016

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

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

KEY:	SSI	SSL LCL>GWPS

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

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW 6	Arsenic	4/12/2016	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	10/11/2016	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	4/20/2017	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	10/12/2017	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	4/23/2018	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	10/12/2018	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	4/16/2019	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	10/17/2019	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	4/9/2020	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	10/8/2020	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	4/15/2021	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	10/28/2021	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	4/13/2022	<4.0	4.0	2.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	10/19/2022	**8.1**	4.0	0.000	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	4/6/2023	**5.3**	4.5	0.886	10.0	10/19/2022	NA	10/11/2016
MW 6	Arsenic	10/10/2023	<4.0	4.5	0.886	10.0	10/19/2022	NA	10/11/2016
MW 6	Cobalt	4/12/2016	**2.3**	0.80	---	2.8	4/12/2016	NA	10/11/2016
MW 6	Cobalt	10/11/2016	**1.1**	0.80	0.410	2.8	4/12/2016	NA	10/11/2016
MW 6	Cobalt	4/20/2017	**2.0**	0.80	0.211	2.8	4/12/2016	NA	10/11/2016
MW 6	Cobalt	10/12/2017	<0.8	0.80	0.099	2.8	4/12/2016	NA	10/11/2016
MW 6	Cobalt	4/23/2018	<0.8	0.80	0.546	2.8	4/12/2016	NA	10/11/2016
MW 6	Cobalt	10/12/2018	<0.8	0.80	2.000	2.8	4/12/2016	NA	10/11/2016
MW 6	Cobalt	4/16/2019	**0.8**	0.80	0.994	2.1	4/12/2016	NA	10/11/2016
MW 6	Cobalt	10/17/2019	<0.8	0.80	0.994	2.1	4/12/2016	NA	10/11/2016
MW 6	Cobalt	4/9/2020	**1.9**	3.40	0.987	**3.4**	4/12/2016	NA	10/11/2016
MW 6	Cobalt	10/8/2020	**1.0**	3.40	0.704	**3.4**	4/12/2016	NA	10/11/2016
MW 6	Cobalt	4/15/2021	<0.4	3.40	1.154	**3.4**	4/12/2016	NA	10/11/2016
MW 6	Cobalt	10/28/2021	**1.0**	3.40	0.828	**3.4**	4/12/2016	NA	10/11/2016
MW 6	Cobalt	4/13/2022	**1.1**	3.40	0.704	**3.4**	4/12/2016	NA	10/11/2016
MW 6	Cobalt	10/19/2022	**4.6**	3.40	0.201	**3.4**	4/12/2016	NA	10/11/2016
MW 6	Cobalt	4/6/2023	**0.7**	3.50	0.000	**3.5**	4/12/2016	NA	10/11/2016
MW 6	Cobalt	10/10/2023	**0.5**	3.50	0.000	**3.5**	4/12/2016	NA	10/11/2016
MW 6	Zinc	4/12/2016	<8.0	16.10	0.000	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	10/11/2016	<8.0	16.10	0.000	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	4/20/2017	<8.0	16.10	4.000	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	10/12/2017	**28.8**	16.10	0.000	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	4/23/2018	**10.1**	16.10	0.000	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	10/12/2018	**32.0**	16.10	2.526	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	4/16/2019	**24.8**	16.10	12.543	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	10/17/2019	**22.0**	29.90	11.503	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	4/9/2020	**28.0**	237.00	21.642	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	10/8/2020	<20.0	237.00	7.055	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	4/15/2021	<20.0	237.00	9.706	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	10/28/2021	<20.0	237.00	6.706	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	4/13/2022	<20.0	237.00	10.000	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	10/19/2022	<20.0	237.00	10.000	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	4/6/2023	<20.0	237.00	10.000	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Zinc	10/10/2023	**27.4**	237.00	6.816	2,000.00	10/12/2017	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	4/12/2016	---	6.00	---	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	10/11/2016	---	6.00	---	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	4/20/2017	<6.0	6.00	---	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	10/12/2017	---	6.00	---	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	4/23/2018	**6.0**	6.00	---	6.00	4/23/2018	7/5/2018	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	7/5/2018	**8.0**	6.00	---	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	10/12/2018	<6.0	6.00	2.085	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	4/16/2019	<6.0	6.00	2.085	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	10/17/2019	**10.0**	6.00	1.814	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	4/9/2020	<6.0	6.00	1.814	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	10/8/2020	<6.0	6.00	1.814	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	4/15/2021	<6.0	6.00	1.814	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	10/28/2021	<6.0	6.00	3.000	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	4/13/2022	<6.0	6.00	3.000	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	10/19/2022	NT	6.00	3.000	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	4/6/2023	**7.0**	6.00	1.647	6.00	4/23/2018	NA	10/11/2016
MW 6	Bis (2-ethylhexyl)phthalate	10/10/2023	<6.0	6.00	1.647	6.00	4/23/2018	NA	10/11/2016

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

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

KEY:	SSI	SSL LCL>GWPS

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

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW 7	Nickel	4/12/2016	<4.0	4.00	---	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	10/11/2016	8.1	4.00	0.898	100	10/11/2016	1/17/2017	10/11/2016
MW 7	Nickel	1/17/2017	12.5	4.00	0.130	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	4/20/2017	<4.0	4.00	0.130	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	10/12/2017	<4.0	4.00	0.130	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	4/23/2018	<4.0	4.00	0.000	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	10/12/2018	<4.0	4.00	2.000	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	4/16/2019	<4.0	4.00	2.000	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	10/17/2019	<4.0	4.00	2.000	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	4/9/2020	<4.0	4.00	2.000	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	10/8/2020	4.0	9.50	1.324	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	4/15/2021	<4.0	9.50	1.324	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	10/28/2021	<4.0	9.50	1.324	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	4/13/2022	4.8	9.50	1.324	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	10/19/2022	10.3	9.50	0.173	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	4/6/2023	<4.0	9.80	0.173	100	10/11/2016	NA	10/11/2016
MW 7	Nickel	10/10/2023	<4.0	9.80	0.173	100	10/11/2016	NA	10/11/2016
MW 7	Zinc	4/12/2016	<8.0	16.10	4.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	10/11/2016	<8.0	16.10	4.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	4/20/2017	30.7	16.10	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	10/12/2017	<8.0	16.10	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	4/23/2018	<8.0	16.10	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	10/12/2018	41.5	16.10	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	4/16/2019	24.4	16.10	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	10/17/2019	<20.0	29.90	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	4/9/2020	<20.0	237.00	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	10/8/2020	<20.0	237.00	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	4/15/2021	<20.0	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	10/28/2021	<20.0	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	4/13/2022	<20.0	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	10/19/2022	<20.0	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	4/6/2023	<20.0	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 7	Zinc	10/10/2023	<20.0	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016

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

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

KEY:	SSI	SSL LCL>GWPS

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

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW-11	Zinc	4/12/2016	<8.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	10/11/2016	<8.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	4/20/2017	<20.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	10/12/2017	<8.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	4/23/2018	<8.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	10/12/2018	49.1	16.10	0.000	2,000.00	10/12/2018	1/23/2019	10/11/2016
MW-11	Zinc	1/23/2019	99.8	16.10	0.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	4/16/2019	22.5	16.10	0.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	10/17/2019	28.8	29.90	8.815	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	4/9/2020	<20	237.00	0.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	10/8/2020	<20	237.00	6.774	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	4/15/2021	<20	237.00	6.559	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	10/28/2021	<20	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	4/13/2022	<20	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	10/19/2022	<20	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	4/6/2023	<20	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-11	Zinc	10/10/2023	<20	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016

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

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

KEY:	SSI	SSL LCL>GWPS

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

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW-12	Copper	4/12/2016	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	10/11/2016	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	4/20/2017	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	10/12/2017	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	4/23/2018	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	10/12/2018	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	1/23/2019	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	4/16/2019	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	10/17/2019	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	4/9/2020	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	10/8/2020	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	4/15/2021	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	10/28/2021	<4.0	7.0	2.000	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	4/13/2022	7.7	7.0	0.200	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	10/19/2022	<4.0	7.0	0.200	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	4/6/2023	<4.0	9.6	0.200	1300	4/13/2022	NA	10/11/2016
MW-12	Copper	10/10/2023	<4.0	9.6	0.200	1300	4/13/2022	NA	10/11/2016
MW-12	Zinc	4/12/2016	<8.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	10/11/2016	<8.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	4/20/2017	<20.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	10/12/2017	<8.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	4/23/2018	<8.0	16.10	4.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	10/12/2018	17.8	16.10	0.037	2,000.00	10/12/2018	1/23/2019	10/11/2016
MW-12	Zinc	1/23/2019	26.6	16.10	0.037	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	4/16/2019	<20.0	16.10	0.037	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	10/17/2019	<20.0	29.90	0.037	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	4/9/2020	<20.0	237.00	0.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	10/8/2020	<20.0	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	4/15/2021	<20.0	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	10/28/2021	<20.0	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	4/13/2022	<20.0	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	10/19/2022	<20.0	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	4/6/2023	<20.0	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Zinc	10/10/2023	<20.0	237.00	10.000	2,000.00	10/12/2018	NA	10/11/2016
MW-12	Bis (2-ethylhexyl)phthalate	4/12/2016	---	6.0	---	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	10/11/2016	---	6.0	---	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	4/20/2017	---	6.0	---	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	10/12/2017	---	6.0	---	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	4/23/2018	---	6.0	---	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	10/12/2018	---	6.0	---	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	4/16/2019	16.0	6.0	---	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	10/17/2019	<6.0	6.0	---	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	4/9/2020	16.0	6.0	---	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	10/8/2020	<6.0	6.0	0.671	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	4/15/2021	<6.0	6.0	0.621	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	10/28/2021	<6.0	6.0	0.621	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	4/13/2022	<6.0	6.0	3.000	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	10/19/2022	NT	6.0	3.000	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	4/6/2023	NT	6.0	3.000	6.0	4/16/2019	NA	10/8/2020
MW-12	Bis (2-ethylhexyl)phthalate	10/10/2023	NT	6.0	3.000	6.0	4/16/2019	NA	10/8/2020

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

Table 7

KEY:	SSI	SSL LCL>GWPS

Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

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

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW 15	Zinc	4/12/2016	<8.0	16.10	4.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	10/11/2016	<8.0	16.10	4.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	4/20/2017	30.7	16.10	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	10/12/2017	<8.0	16.10	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	4/23/2018	<8.0	16.10	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	10/12/2018	41.5	16.10	3.552	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	4/16/2019	23.0	16.10	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	10/17/2019	37.5	29.90	5.053	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	4/9/2020	<20	237.00	5.053	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	10/8/2020	<20	237.00	0.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	4/15/2021	<20	237.00	4.967	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	10/28/2021	<20	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	4/13/2022	<20	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	10/19/2022	<20	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	4/6/2023	<20	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Zinc	10/10/2023	<20	237.00	10.000	2,000.00	4/20/2017	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	4/12/2016	<10	6.00	---	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	10/11/2016	19.0	6.00	2.197	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	4/20/2017	<6.0	6.00	2.197	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	10/12/2017	15.0	6.00	2.627	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	4/23/2018	<6.0	6.00	1.456	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	10/12/2018	6.0	6.00	1.072	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	4/16/2019	7.0	6.00	2.318	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	10/17/2019	7.0	6.00	4.336	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	4/9/2020	<6.0	6.00	4.336	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	10/8/2020	<6.0	6.00	2.283	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	4/15/2021	<6.0	6.00	2.268	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	10/28/2021	<6.0	6.00	3.000	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	4/13/2022	<6.0	6.00	3.000	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	10/19/2022	NT	6.00	3.000	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	4/6/2023	NT	6.00	3.000	6.00	10/11/2016	NA	10/11/2016
MW 15	Bis (2-ethylhexyl)phthalate	10/10/2023	NT	6.00	3.000	6.00	10/11/2016	NA	10/11/2016

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

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

KEY:	SSI	SSL LCL>GWPS

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

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW-16	Cobalt	10/17/2019	4.0	0.80	---	2.10	10/17/2019	N/A	10/28/2021
MW-16	Cobalt	4/9/2020	4.2	0.80	---	**3.40**	10/17/2019	N/A	10/28/2021
MW-16	Cobalt	10/8/2020	1.2	3.40	---	**3.40**	10/17/2019	N/A	10/28/2021
MW-16	Cobalt	4/15/2021	<0.4	3.40	0.040	**3.40**	10/17/2019	N/A	10/28/2021
MW-16	Cobalt	10/28/2021	<0.4	3.40	0.000	**3.40**	10/17/2019	N/A	10/28/2021
MW-16	Cobalt	4/13/2022	<0.4	3.40	0.000	**3.40**	10/17/2019	N/A	10/28/2021
MW-16	Cobalt	10/19/2022	<2.0	3.40	0.200	**3.40**	10/17/2019	N/A	10/28/2021
MW-16	Cobalt	4/6/2023	<0.4	3.50	0.200	**3.50**	10/17/2019	N/A	10/28/2021
MW-16	Cobalt	10/10/2023	<0.4	3.50	0.200	**3.50**	10/17/2019	N/A	10/28/2021
MW-16	Copper	10/17/2019	<4.0	7.00	2.000	1,300	10/19/2022	N/A	10/28/2021
MW-16	Copper	4/9/2020	<4.0	7.00	2.000	1,300	10/19/2022	N/A	10/28/2021
MW-16	Copper	10/8/2020	<4.0	7.00	2.000	1,300	10/19/2022	N/A	10/28/2021
MW-16	Copper	4/15/2021	<4.0	7.00	2.000	1,300	10/19/2022	N/A	10/28/2021
MW-16	Copper	10/28/2021	<4.0	7.00	2.000	1,300	10/19/2022	N/A	10/28/2021
MW-16	Copper	4/13/2022	<4.0	7.00	2.000	1,300	10/19/2022	N/A	10/28/2021
MW-16	Copper	10/19/2022	19.1	7.00	0.000	1,300	10/19/2022	N/A	10/28/2021
MW-16	Copper	4/6/2023	<4.0	9.60	0.000	1,300	10/19/2022	N/A	10/28/2021
MW-16	Copper	10/10/2023	<4.0	9.60	0.000	1,300	10/19/2022	N/A	10/28/2021
MW-16	Nickel	10/17/2019	10.4	4.00	---	100.00	10/17/2019	N/A	10/28/2021
MW-16	Nickel	4/9/2020	6.6	4.00	---	100.00	10/17/2019	N/A	10/28/2021
MW-16	Nickel	10/8/2020	<4.0	9.50	---	100.00	10/17/2019	N/A	10/28/2021
MW-16	Nickel	4/15/2021	<4.0	9.50	1.733	100.00	10/17/2019	N/A	10/28/2021
MW-16	Nickel	10/28/2021	<4.0	9.50	1.158	100.00	10/17/2019	N/A	10/28/2021
MW-16	Nickel	4/13/2022	<4.0	9.50	2.000	100.00	10/17/2019	N/A	10/28/2021
MW-16	Nickel	10/19/2022	<4.0	9.50	2.000	100.00	10/17/2019	N/A	10/28/2021
MW-16	Nickel	4/6/2023	<4.0	9.80	2.000	100.00	10/17/2019	N/A	10/28/2021
MW-16	Nickel	10/10/2023	<4.0	9.80	2.000	100.00	10/17/2019	N/A	10/28/2021
MW-16	Zinc	10/17/2019	42.6	29.90	---	2,000.00	10/17/2019	N/A	10/28/2021
MW-16	Zinc	4/9/2020	<20	237.00	---	2,000.00	10/17/2019	N/A	10/28/2021
MW-16	Zinc	10/8/2020	<20	237.00	---	2,000.00	10/17/2019	N/A	10/28/2021
MW-16	Zinc	4/15/2021	<20	237.00	4.034	2,000.00	10/17/2019	N/A	10/28/2021
MW-16	Zinc	10/28/2021	<20	237.00	10.000	2,000.00	10/17/2019	N/A	10/28/2021
MW-16	Zinc	4/13/2022	<20	237.00	10.000	2,000.00	10/17/2019	N/A	10/28/2021
MW-16	Zinc	10/19/2022	<20	237.00	10.000	2,000.00	10/17/2019	N/A	10/28/2021
MW-16	Zinc	4/6/2023	<20	237.00	10.000	2,000.00	10/17/2019	N/A	10/28/2021
MW-16	Zinc	10/10/2023	<20	237.00	10.000	2,000.00	10/17/2019	N/A	10/28/2021
MW-16	Bis (2-ethylhexyl)phthalate	10/17/2019	---	6.00	---	6.00	10/8/2020	N/A	10/19/2022
MW-16	Bis (2-ethylhexyl)phthalate	4/9/2020	---	6.00	---	6.00	10/8/2020	N/A	10/19/2022
MW-16	Bis (2-ethylhexyl)phthalate	10/8/2020	8.0	6.00	---	6.00	10/8/2020	N/A	10/19/2022
MW-16	Bis (2-ethylhexyl)phthalate	12/9/2020	<6	6.00	---	6.00	10/8/2020	12/9/2020	10/19/2022
MW-16	Bis (2-ethylhexyl)phthalate	4/15/2021	---	6.00	---	6.00	10/8/2020	N/A	10/19/2022
MW-16	Bis (2-ethylhexyl)phthalate	10/28/2021	8.0	6.00	---	6.00	10/8/2020	N/A	10/19/2022
MW-16	Bis (2-ethylhexyl)phthalate	4/13/2022	Lab Error	6.00	---	6.00	10/8/2020	N/A	10/19/2022
MW-16	Bis (2-ethylhexyl)phthalate	10/19/2022	19.0	6.00	0.794	6.00	10/8/2020	N/A	10/19/2022
MW-16	Bis (2-ethylhexyl)phthalate	4/6/2023	<6	6.00	0.794	6.00	10/8/2020	N/A	10/19/2022
MW-16	Bis (2-ethylhexyl)phthalate	10/10/2023	NT	6.00	---	6.00	10/8/2020	N/A	10/19/2022

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

Table 8 - Summary of Ongoing and Newly Identified SSL - *Not Required*

Table 9 – Analytical Data Summary

Table 9

Analytical Data Summary for MW-11

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	7/21/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017
(3 4)-methylphenol	ug/L	<8							
1,1,1,2-tetrachloroethane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1		<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L	<1							
1,2,3-trichloropropane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L	<8							
1,2,4-trichlorobenzene	ug/L	<1							
1,2-dibromo-3-chloropropane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1		<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1		<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L	<8							
1,3,5-trinitrobenzene	ug/L	<8							
1,3-dichlorobenzene	ug/L	<1							
1,3-dichloropropane	ug/L	<1							
1,3-dinitrobenzene	ug/L	<8							
1,4-dichlorobenzene	ug/L	<1	<1		<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L	<8							
1,4-phenylenediamine	ug/L	<8							
1-naphthylamine	ug/L	<8							
2,2-dichloropropane	ug/L	<1							
2,3,4,6-tetrachlorophenol	ug/L	<8							
2,4,5-t	ug/L	<.5							
2,4,5-tp (silvex)	ug/L	<.5							
2,4,5-trichlorophenol	ug/L	<8							
2,4,6-trichlorophenol	ug/L	<8							
2,4-d	ug/L	<2							
2,4-dichlorophenol	ug/L	<8							
2,4-dimethylphenol	ug/L	<8							
2,4-dinitrophenol	ug/L	<8							
2,4-dinitrotoluene	ug/L	<8							
2,6-dichlorophenol	ug/L	<8							
2,6-dinitrotoluene	ug/L	<8							
2-acetylaminofluorene	ug/L	<8							
2-butanone (mek)	ug/L	<5	<5		<5	<5	<5	<5	<5
2-chloronaphthalene	ug/L	<8							
2-chlorophenol	ug/L	<8							
2-hexanone (mbk)	ug/L	<5	<5		<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L	<8							
2-methylphenol	ug/L	<8							
2-naphthylamine	ug/L	<8							
2-nitroaniline	ug/L	<8							
2-nitrophenol	ug/L	<8							
3,3´-dichlorobenzidine	ug/L	<8							
3,3'-dimethylbenzidine	ug/L	<8							
3-methylcholanthrene	ug/L	<8							
3-nitroaniline	ug/L	<8							
4,4´-ddd	ug/L	<.05							
4,4´-dde	ug/L	<.05							
4,4´-ddt	ug/L	<.05							
4,6-dinitro-2-methylphenol	ug/L	<8							
4-aminobiphenyl	ug/L	<8							
4-bromophenyl phenyl ether	ug/L	<8							
4-chloro-3-methylphenol	ug/L	<8							
4-chloroaniline	ug/L	<8							
4-chlorophenyl phenyl ether	ug/L	<8							
4-methyl-2-pentanone (mibk)	ug/L	<5	<5		<5	<5	<5	<5	<5
4-nitroaniline	ug/L	<8							
4-nitrophenol	ug/L	<8							
5-nitro-o-toluidine	ug/L	<8							
7,12-dimethylbenz(a)anthracene	ug/L	<8							
Acenaphthene	ug/L	<8							
Acenaphthylene	ug/L	<8							
Acetone	ug/L	<10	<10		<10	<10	<10	<10	<10
Acetonitrile	ug/L	<10							
Acetophenone	ug/L	<8							
Acrolein	ug/L	<10							
Acrylonitrile	ug/L	<5	<5		<5	<5	<5	<5	<5
Aldrin	ug/L	<.05							
Allyl chloride	ug/L	<1							
Alpha-bhc	ug/L	<.05							

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

Table 9

Analytical Data Summary for MW-11

Constituents	4/23/2018	10/12/2018	1/23/2019	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021
(3 4)-methylphenol				<8					
1,1,1,2-tetrachloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloropropene				<1					
1,2,3-trichloropropane	<1	<1		<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene				<8					
1,2,4-trichlorobenzene				<1					
1,2-dibromo-3-chloropropane	<1	<1		<1	<1	<5	<5	<5	<5
1,2-dibromoethane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene				<8					
1,3,5-trinitrobenzene				<8					
1,3-dichlorobenzene				<1					
1,3-dichloropropane				<1					
1,3-dinitrobenzene				<8					
1,4-dichlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
1,4-naphthoquinone				<8					
1,4-phenylenediamine				<8					
1-naphthylamine				<8					
2,2-dichloropropane				<1					
2,3,4,6-tetrachlorophenol				<8					
2,4,5-t				<.5					
2,4,5-tp (silvex)				<.5					
2,4,5-trichlorophenol				<8					
2,4,6-trichlorophenol				<8					
2,4-d				<2					
2,4-dichlorophenol				<8					
2,4-dimethylphenol				<8					
2,4-dinitrophenol				<8					
2,4-dinitrotoluene				<8					
2,6-dichlorophenol				<8					
2,6-dinitrotoluene				<8					
2-acetylaminofluorene				<8					
2-butanone (mek)	<5	<5		<5	<5	<5	<5	<5	<5
2-chloronaphthalene				<8					
2-chlorophenol				<8					
2-hexanone (mbk)	<5	<5		<5	<5	<5	<5	<5	<5
2-methylnaphthalene				<8					
2-methylphenol				<8					
2-naphthylamine				<8					
2-nitroaniline				<8					
2-nitrophenol				<8					
3,3´-dichlorobenzidine				<8					
3,3'-dimethylbenzidine				<8					
3-methylcholanthrene				<8					
3-nitroaniline				<8					
4,4´-ddd				<.05					
4,4´-dde				<.05					
4,4´-ddt				<.05					
4,6-dinitro-2-methylphenol				<8					
4-aminobiphenyl				<8					
4-bromophenyl phenyl ether				<8					
4-chloro-3-methylphenol				<8					
4-chloroaniline				<8					
4-chlorophenyl phenyl ether				<8					
4-methyl-2-pentanone (mibk)	<5	<5		<5	<5	<5	<5	<5	<5
4-nitroaniline				<8					
4-nitrophenol				<8					
5-nitro-o-toluidine				<8					
7,12-dimethylbenz(a)anthracene				<8					
Acenaphthene				<8					
Acenaphthylene				<8					
Acetone	<10	<10		<10	<10	<10	<10	<10	<10
Acetonitrile				<10					
Acetophenone				<8					
Acrolein				<10					
Acrylonitrile	<5	<5		<5	<5	<5	<5	<5	<5
Aldrin				<.05					
Allyl chloride				<1					
Alpha-bhc				<.05					

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

Table 9

Analytical Data Summary for MW-11

Constituents	4/13/2022	10/19/2022	4/6/2023	10/10/2023
(3 4)-methylphenol				
1,1,1,2-tetrachloroethane	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1
1,1-dichloropropene				
1,2,3-trichloropropane	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene				
1,2,4-trichlorobenzene				
1,2-dibromo-3-chloropropane	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1
1,2-dinitrobenzene				
1,3,5-trinitrobenzene				
1,3-dichlorobenzene				
1,3-dichloropropane				
1,3-dinitrobenzene				
1,4-dichlorobenzene	<1	<1	<1	<1
1,4-naphthoquinone				
1,4-phenylenediamine				
1-naphthylamine				
2,2-dichloropropane				
2,3,4,6-tetrachlorophenol				
2,4,5-t				
2,4,5-tp (silvex)				
2,4,5-trichlorophenol				
2,4,6-trichlorophenol				
2,4-d				
2,4-dichlorophenol				
2,4-dimethylphenol				
2,4-dinitrophenol				
2,4-dinitrotoluene				
2,6-dichlorophenol				
2,6-dinitrotoluene				
2-acetylaminofluorene				
2-butanone (mek)	<10	<10	<10	<10
2-chloronaphthalene				
2-chlorophenol				
2-hexanone (mbk)	<5	<5	<5	<5
2-methylnaphthalene				
2-methylphenol				
2-naphthylamine				
2-nitroaniline				
2-nitrophenol				
3,3´-dichlorobenzidine				
3,3'-dimethylbenzidine				
3-methylcholanthrene				
3-nitroaniline				
4,4´-ddd				
4,4´-dde				
4,4´-ddt				
4,6-dinitro-2-methylphenol				
4-aminobiphenyl				
4-bromophenyl phenyl ether				
4-chloro-3-methylphenol				
4-chloroaniline				
4-chlorophenyl phenyl ether				
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5
4-nitroaniline				
4-nitrophenol				
5-nitro-o-toluidine				
7,12-dimethylbenz(a)anthracene				
Acenaphthene				
Acenaphthylene				
Acetone	<10	<10	<10	<10
Acetonitrile				
Acetophenone				
Acrolein				
Acrylonitrile	<5	<5	<5	<5
Aldrin				
Allyl chloride				
Alpha-bhc				

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

Table 9

Analytical Data Summary for MW-11

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	7/21/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017
Anthracene	ug/L	<8							
Antimony, total	ug/L	<2	<2		<2	<2	<2	<2	<2
Arochlor 1016	ug/L	<.1							
Arochlor 1221	ug/L	<.2							
Arochlor 1232	ug/L	<.2							
Arochlor 1242	ug/L	<.2							
Arochlor 1248	ug/L	<.2							
Arochlor 1254	ug/L	<.1							
Arochlor 1260	ug/L	<.1							
Arsenic, total	ug/L	<4	<4		<4	<4	<4	<4	<4
Azobenzene	ug/L	<8							
Barium, total	ug/L	15.4	19.0		20.5	12.9	13.9	17.8	12.6
Benzene	ug/L	<1	<1		<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L	<8							
Benzo(a)pyrene	ug/L	<8							
Benzo(b)fluoranthene	ug/L	<8							
Benzo(g,h,i)perylene	ug/L	<8							
Benzo(k)fluoranthene	ug/L	<8							
Benzyl alcohol	ug/L	<8							
Beryllium, total	ug/L	<4	<4		<4	<4	<4	<4	<4
Beta-bhc	ug/L	<.05							
Bis (2-chloroethoxy) methane	ug/L	<8							
Bis(2-chloroethyl) ether	ug/L	<8							
Bis(2-chloroisopropyl) ether	ug/L	<8							
Bis(2-ethylhexyl) phthalate	ug/L	<8							
Bromochloromethane	ug/L	<1	<1		<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1		<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1		<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1		<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L	<8							
Cadmium, total	ug/L	<.8	<.8		<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1		<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1		<1	<1	<1	<1	<1
Chlordane	ug/L	<.1							
Chlorobenzene	ug/L	<1	<1		<1	<1	<1	<1	<1
Chlorobenzilate	ug/L	<8							
Chloroethane	ug/L	<1	<1		<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1		<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1		<1	<1	<1	<1	<1
Chloroprene	ug/L	<1							
Chromium, total	ug/L	<8	<8		<8	<8	<8	<8	<8
Chrysene	ug/L	<8							
Cis-1,2-dichloroethylene	ug/L	<1	<1		<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1		<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	<.8		<.8	<.8	<.8	<.8	<.8
Copper, total	ug/L	<4	<4		<4	<4	<4	<4	<4
Cyanide, total	mg/L	<.005							
Delta-bhc	ug/L	<.05							
Diallate	ug/L	<8							
Dibenzo(a,h)anthracene	ug/L	<8							
Dibenzofuran	ug/L	<8							
Dibromochloromethane	ug/L	<1	<1		<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1		<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L	<1							
Dieldrin	ug/L	<.05							
Diethyl phthalate	ug/L	<8	<30	<30	<30	<30	<30		
Dimethoate	ug/L	<.4							
Dimethylphthalate	ug/L	<8							
Di-n-butyl phthalate	ug/L	<8							
Di-n-octyl phthalate	ug/L	<8							
Dinoseb	ug/L	<.5							
Diphenylamine	ug/L	<8							
Disulfoton	ug/L	<.4							
Endosulfan i	ug/L	<.05							
Endosulfan ii	ug/L	<.05							
Endosulfan sulfate	ug/L	<.05							
Endrin	ug/L	<.05							
Endrin aldehyde	ug/L	<.05							
Ethyl methacrylate	ug/L	<10							
Ethyl methanesulfonate	ug/L	<8							
Ethylbenzene	ug/L	<1	<1		<1	<1	<1	<1	<1
Famphur	ug/L	<.4							
Fluoranthene	ug/L	<8							
Fluorene	ug/L	<8							
Gamma-bhc (lindane)	ug/L	<.05							
Heptachlor	ug/L	<.05							

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

Table 9

Analytical Data Summary for MW-11

Constituents	4/23/2018	10/12/2018	1/23/2019	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021
Anthracene				<8					
Antimony, total	<2	<2		<2	<2	<2	<2	<2	<2
Arochlor 1016				<.1					
Arochlor 1221				<.2					
Arochlor 1232				<.2					
Arochlor 1242				<.2					
Arochlor 1248				<.2					
Arochlor 1254				<.1					
Arochlor 1260				<.1					
Arsenic, total	<4	<4		<4	<4	<4	<4	<4	<4
Azobenzene				<8					
Barium, total	17.4	15.2		19.0	18.9	12.1	12.8	12.0	11.5
Benzene	<1	<1		<1	<1	<1	<1	<1	<1
Benzo(a)anthracene				<8					
Benzo(a)pyrene				<8					
Benzo(b)fluoranthene				<8					
Benzo(g,h,i)perylene				<8					
Benzo(k)fluoranthene				<8					
Benzyl alcohol				<8					
Beryllium, total	<4	<4		<4	<4	<4	<4	<4	<4
Beta-bhc				<.05					
Bis (2-chloroethoxy) methane				<8					
Bis(2-chloroethyl) ether				<8					
Bis(2-chloroisopropyl) ether				<8					
Bis(2-ethylhexyl) phthalate				<6					
Bromochloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Bromoform	<1	<1		<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1		<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate				<8					
Cadmium, total	<.8	.8		<.8	<.8	<.8	<.8	<.8	1.2
Carbon disulfide	<1	<1		<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1		<1	<1	<1	<1	<1	<1
Chlordane				<.1					
Chlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
Chlorobenzilate				<8					
Chloroethane	<1	<1		<1	<1	<1	<1	<1	<1
Chloroform	<1	<1		<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Chloroprene				<1					
Chromium, total	<8	<8		<8	<8	<8	<8	<8	<8
Chrysene				<8					
Cis-1,2-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1		<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	<.8		<.8	<.8	<.4	<.4	<.4	<.4
Copper, total	<4	<4		<4	<4	<4	<4	<4	<4
Cyanide, total				<.005					
Delta-bhc				<.05					
Diallate				<8					
Dibenzo(a,h)anthracene				<8					
Dibenzofuran				<8					
Dibromochloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1		<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane				<1					
Dieldrin				<.05					
Diethyl phthalate				<8					
Dimethoate				<.4					
Dimethylphthalate				<8					
Di-n-butyl phthalate				<8					
Di-n-octyl phthalate				<8					
Dinoseb				<.5					
Diphenylamine				<8					
Disulfoton				<.4					
Endosulfan i				<.05					
Endosulfan ii				<.05					
Endosulfan sulfate				<.05					
Endrin				<.05					
Endrin aldehyde				<.05					
Ethyl methacrylate				<10					
Ethyl methanesulfonate				<8					
Ethylbenzene	<1	<1		<1	<1	<1	<1	<1	<1
Famphur				<.4					
Fluoranthene				<8					
Fluorene				<8					
Gamma-bhc (lindane)				<.05					
Heptachlor				<.05					

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

Table 9

Analytical Data Summary for MW-11

Constituents	4/13/2022	10/19/2022	4/6/2023	10/10/2023
Anthracene				
Antimony, total	<2	<2	<2	<2
Arochlor 1016				
Arochlor 1221				
Arochlor 1232				
Arochlor 1242				
Arochlor 1248				
Arochlor 1254				
Arochlor 1260				
Arsenic, total	<4	<4	<4	<4
Azobenzene				
Barium, total	12.7	14.2	17.4	13.9
Benzene	<1	<1	<1	<1
Benzo(a)anthracene				
Benzo(a)pyrene				
Benzo(b)fluoranthene				
Benzo(g,h,i)perylene				
Benzo(k)fluoranthene				
Benzyl alcohol				
Beryllium, total	<4	<4	<4	<4
Beta-bhc				
Bis (2-chloroethoxy) methane				
Bis(2-chloroethyl) ether				
Bis(2-chloroisopropyl) ether				
Bis(2-ethylhexyl) phthalate				
Bromochloromethane	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1
Butyl benzyl phthalate				
Cadmium, total	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1
Chlordane				
Chlorobenzene	<1	<1	<1	<1
Chlorobenzilate				
Chloroethane	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1
Chloroprene				
Chromium, total	<8	<8	<8	<8
Chrysene				
Cis-1,2-dichloroethylene	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1
Cobalt, total	.4	<2.0	.6	<.4
Copper, total	<4	<4	<4	<4
Cyanide, total				
Delta-bhc				
Diallate				
Dibenzo(a,h)anthracene				
Dibenzofuran				
Dibromochloromethane	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1
Dichlorodifluoromethane				
Dieldrin				
Diethyl phthalate				
Dimethoate				
Dimethylphthalate				
Di-n-butyl phthalate				
Di-n-octyl phthalate				
Dinoseb				
Diphenylamine				
Disulfoton				
Endosulfan i				
Endosulfan ii				
Endosulfan sulfate				
Endrin				
Endrin aldehyde				
Ethyl methacrylate				
Ethyl methanesulfonate				
Ethylbenzene	<1	<1	<1	<1
Famphur				
Fluoranthene				
Fluorene				
Gamma-bhc (lindane)				
Heptachlor				

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

Table 9

Analytical Data Summary for MW-11

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	7/21/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017
Heptachlor epoxide	ug/L	<.05							
Hexachlorobenzene	ug/L	<.05							
Hexachlorobutadiene	ug/L	<8							
Hexachlorocyclopentadiene	ug/L	<8							
Hexachloroethane	ug/L	<8							
Hexachloropropene	ug/L	<8							
Indeno(1,2,3-cd)pyrene	ug/L	<8							
Isobutanol	mg/L	<1							
Isodrin	ug/L	<8							
Isophorone	ug/L	<8							
Isosafrole	ug/L	<8							
Kepone	ug/L	<8							
Lead, total	ug/L	<4	<4		<4	<4	<4	<4	<4
Mercury, total	ug/L	<.5							
Methacrylonitrile	ug/L	<1							
Methapyrilene	ug/L	<8							
Methoxychlor	ug/L	<.05							
Methyl iodide	ug/L	<1	<1		<1	<1	<1	<1	<1
Methyl methacrylate	ug/L	<1							
Methyl methanesulfonate	ug/L	<8							
Methyl parathion	ug/L	2.9	<.4	<.4	<.4	<.4	<.4		
Methylene chloride	ug/L	<5	<5		<5	<5	<5	<5	<5
Naphthalene	ug/L	<8							
Nickel, total	ug/L	4.9	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene	ug/L	<8							
N-nitrosodiethylamine	ug/L	<8							
N-nitrosodimethylamine	ug/L	<8							
N-nitrosodi-n-butylamine	ug/L	<8							
N-nitroso-di-n-propylamine	ug/L	<8							
N-nitrosodiphenylamine	ug/L	<8							
N-nitrosomethylethylamine	ug/L	<8							
N-nitrosopiperidine	ug/L	<8							
N-nitrosopyrrolidine	ug/L	<8							
O,o,o-triethyl phosphorothioate	ug/L	<.4							
O-toluidine	ug/L	<8							
Parathion	ug/L	<.4							
P-dimethylaminoazobenzene	ug/L	<8							
Pentachlorobenzene	ug/L	<8							
Pentachloronitrobenzene (pcnb)	ug/L	<8							
Pentachlorophenol	ug/L	<8							
Phenacetin	ug/L	<8							
Phenanthrene	ug/L	<8							
Phenol	ug/L	<8							
Phorate	ug/L	.9	<.4	<.4	<.4	<.4	<.4		
Pronamide	ug/L	<8							
Propionitrile	ug/L	<10							
Pyrene	ug/L	<8							
Safrole	ug/L	<8							
Selenium, total	ug/L	<4	<4		<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4		<4	<4	<4	<4	<4
Solids, total suspended	mg/L	79	3						
Styrene	ug/L	<1	<1		<1	<1	<1	<1	<1
Sulfide, total	mg/L	<.1							
Tetrachloroethylene	ug/L	<1	<1		<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4		<4	<4	<4	<4	<4
Thionazin	ug/L	.5	<.4	<.4	<.4	<.4	<.4		
Tin, total	ug/L	<20							
Toluene	ug/L	<1	<1		<1	<1	<1	<1	<1
Toxaphene	ug/L	<.2							
Trans-1,2-dichloroethylene	ug/L	<1	<1		<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1		<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5		<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1		<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1		<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20		<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5		<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1		<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2		<2	<2	<2	<2	<2
Zinc, total	ug/L	9.7	<8.0		<20.0	<8.0	<8.0	<20.0	<8.0

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

Table 9

Analytical Data Summary for MW-11

Constituents	4/23/2018	10/12/2018	1/23/2019	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021
Heptachlor epoxide				<.05					
Hexachlorobenzene				<.05					
Hexachlorobutadiene				<8					
Hexachlorocyclopentadiene				<8					
Hexachloroethane				<8					
Hexachloropropene				<8					
Indeno(1,2,3-cd)pyrene				<8					
Isobutanol				<1					
Isodrin				<8					
Isophorone				<8					
Isosafrole				<8					
Kepone				<8					
Lead, total	<4	<4		<4	<4	<4	<4	<4	<4
Mercury, total				<.5					
Methacrylonitrile				<1					
Methapyrilene				<8					
Methoxychlor				<.05					
Methyl iodide	<1	<1		<1	<1	<1	<1	<1	<1
Methyl methacrylate				<1					
Methyl methanesulfonate				<8					
Methyl parathion				<.4					
Methylene chloride	<5	<5		<5	<5	<5	<5	<5	<5
Naphthalene				<8					
Nickel, total	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene				<8					
N-nitrosodiethylamine				<8					
N-nitrosodimethylamine				<8					
N-nitrosodi-n-butylamine				<8					
N-nitroso-di-n-propylamine				<8					
N-nitrosodiphenylamine				<8					
N-nitrosomethylethylamine				<8					
N-nitrosopiperidine				<8					
N-nitrosopyrrolidine				<8					
O,o,o-triethyl phosphorothioate				<.4					
O-toluidine				<8					
Parathion				<.4					
P-dimethylaminoazobenzene				<8					
Pentachlorobenzene				<8					
Pentachloronitrobenzene (pcnb)				<8					
Pentachlorophenol				<8					
Phenacetin				<8					
Phenanthrene				<8					
Phenol				<8					
Phorate				<.4					
Pronamide				<8					
Propionitrile				<10					
Pyrene				<8					
Safrole				<8					
Selenium, total	<4	<4		<4	<4	<4	<4	<4	<4
Silver, total	<4	<4		<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1		<1	<1	<1	<1	<1	<1
Sulfide, total				<.1					
Tetrachloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Thallium, total	<4	<4		<2	<2	<2	<2	<2	<2
Thionazin				<.4					
Tin, total				<20					
Toluene	<1	<1		<1	<1	<1	<1	<1	<1
Toxaphene				<.2					
Trans-1,2-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1		<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5		<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1		<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20		<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5		<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1		<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2		<2	<2	<2	<2	<2	<2
Zinc, total	<8.0	49.1	99.8	22.5	28.8	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-11

Constituents	4/13/2022	10/19/2022	4/6/2023	10/10/2023
Heptachlor epoxide				
Hexachlorobenzene				
Hexachlorobutadiene				
Hexachlorocyclopentadiene				
Hexachloroethane				
Hexachloropropene				
Indeno(1,2,3-cd)pyrene				
Isobutanol				
Isodrin				
Isophorone				
Isosafrole				
Kepone				
Lead, total	<4	<4	<4	<4
Mercury, total				
Methacrylonitrile				
Methapyrilene				
Methoxychlor				
Methyl iodide	<1	<1	<1	<1
Methyl methacrylate				
Methyl methanesulfonate				
Methyl parathion				
Methylene chloride	<5	<5	<5	<5
Naphthalene				
Nickel, total	<4.0	<4.0	<4.0	<4.0
Nitrobenzene				
N-nitrosodiethylamine				
N-nitrosodimethylamine				
N-nitrosodi-n-butylamine				
N-nitroso-di-n-propylamine				
N-nitrosodiphenylamine				
N-nitrosomethylethylamine				
N-nitrosopiperidine				
N-nitrosopyrrolidine				
O,o,o-triethyl phosphorothioate				
O-toluidine				
Parathion				
P-dimethylaminoazobenzene				
Pentachlorobenzene				
Pentachloronitrobenzene (pcnb)				
Pentachlorophenol				
Phenacetin				
Phenanthrene				
Phenol				
Phorate				
Pronamide				
Propionitrile				
Pyrene				
Safrole				
Selenium, total	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4
Solids, total suspended				
Styrene	<1	<1	<1	<1
Sulfide, total				
Tetrachloroethylene	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2
Thionazin				
Tin, total				
Toluene	<1	<1	<1	<1
Toxaphene				
Trans-1,2-dichloroethylene	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-12

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017	4/23/2018
(3 4)-methylphenol	ug/L								
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L								
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L								
1,2,4-trichlorobenzene	ug/L								
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L								
1,3,5-trinitrobenzene	ug/L								
1,3-dichlorobenzene	ug/L								
1,3-dichloropropane	ug/L								
1,3-dinitrobenzene	ug/L								
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L								
1,4-phenylenediamine	ug/L								
1-naphthylamine	ug/L								
2,2-dichloropropane	ug/L								
2,3,4,6-tetrachlorophenol	ug/L								
2,4,5-t	ug/L								
2,4,5-tp (silvex)	ug/L								
2,4,5-trichlorophenol	ug/L								
2,4,6-trichlorophenol	ug/L								
2,4-d	ug/L								
2,4-dichlorophenol	ug/L								
2,4-dimethylphenol	ug/L								
2,4-dinitrophenol	ug/L								
2,4-dinitrotoluene	ug/L								
2,6-dichlorophenol	ug/L								
2,6-dinitrotoluene	ug/L								
2-acetylaminofluorene	ug/L								
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-chloronaphthalene	ug/L								
2-chlorophenol	ug/L								
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L								
2-methylphenol	ug/L								
2-naphthylamine	ug/L								
2-nitroaniline	ug/L								
2-nitrophenol	ug/L								
3,3´-dichlorobenzidine	ug/L								
3,3'-dimethylbenzidine	ug/L								
3-methylcholanthrene	ug/L								
3-nitroaniline	ug/L								
4,4´-ddd	ug/L								
4,4´-dde	ug/L								
4,4´-ddt	ug/L								
4,6-dinitro-2-methylphenol	ug/L								
4-aminobiphenyl	ug/L								
4-bromophenyl phenyl ether	ug/L								
4-chloro-3-methylphenol	ug/L								
4-chloroaniline	ug/L								
4-chlorophenyl phenyl ether	ug/L								
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	ug/L								
4-nitrophenol	ug/L								
5-nitro-o-toluidine	ug/L								
7,12-dimethylbenz(a)anthracene	ug/L								
Acenaphthene	ug/L								
Acenaphthylene	ug/L								
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Acetonitrile	ug/L								
Acetophenone	ug/L								
Acrolein	ug/L								
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	ug/L								
Allyl chloride	ug/L								
Alpha-bhc	ug/L								

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

Table 9

Analytical Data Summary for MW-12

Constituents	10/12/2018	1/23/2019	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
(3 4)-methylphenol			<8		<8				
1,1,1,2-tetrachloroethane	<1		<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1		<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1		<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1		<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1		<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1		<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene			<1		<1				
1,2,3-trichloropropane	<1		<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene			<8		<8				
1,2,4-trichlorobenzene			<1		<1				
1,2-dibromo-3-chloropropane	<1		<1	<1	<1	<5	<5	<5	<5
1,2-dibromoethane	<1		<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1		<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1		<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1		<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene			<8		<8				
1,3,5-trinitrobenzene			<8		<8				
1,3-dichlorobenzene			<1		<1				
1,3-dichloropropane			<1		<1				
1,3-dinitrobenzene			<8		<8				
1,4-dichlorobenzene	<1		<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone			<8		<8				
1,4-phenylenediamine			<8		<8				
1-naphthylamine			<8		<8				
2,2-dichloropropane			<1		<1				
2,3,4,6-tetrachlorophenol			<8		<8				
2,4,5-t			<.5		<.7				
2,4,5-tp (silvex)			<.5		<.7				
2,4,5-trichlorophenol			<8		<8				
2,4,6-trichlorophenol			<8		<8				
2,4-d			<2.0		<2.7				
2,4-dichlorophenol			<8		<8				
2,4-dimethylphenol			<8		<8				
2,4-dinitrophenol			<8		<8				
2,4-dinitrotoluene			<8		<8				
2,6-dichlorophenol			<8		<8				
2,6-dinitrotoluene			<8		<8				
2-acetylaminofluorene			<8		<8				
2-butanone (mek)	<5		<5	<5	<5	<5	<5	<5	<10
2-chloronaphthalene			<8		<8				
2-chlorophenol			<8		<8				
2-hexanone (mbk)	<5		<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene			<8		<8				
2-methylphenol			<8		<8				
2-naphthylamine			<8		<8				
2-nitroaniline			<8		<8				
2-nitrophenol			<8		<8				
3,3´-dichlorobenzidine			<8		<8				
3,3'-dimethylbenzidine			<8		<8				
3-methylcholanthrene			<8		<8				
3-nitroaniline			<8		<8				
4,4´-ddd			<.05		<.06				
4,4´-dde			<.05		<.06				
4,4´-ddt			<.05		<.06				
4,6-dinitro-2-methylphenol			<8		<8				
4-aminobiphenyl			<8		<8				
4-bromophenyl phenyl ether			<8		<8				
4-chloro-3-methylphenol			<8		<8				
4-chloroaniline			<8		<8				
4-chlorophenyl phenyl ether			<8		<8				
4-methyl-2-pentanone (mibk)	<5		<5	<5	<5	<5	<5	<5	<5
4-nitroaniline			<8		<8				
4-nitrophenol			<8		<8				
5-nitro-o-toluidine			<8		<8				
7,12-dimethylbenz(a)anthracene			<8		<8				
Acenaphthene			<8		<8				
Acenaphthylene			<8		<8				
Acetone	<10		<10	<10	<10	<10	<10	<10	<10
Acetonitrile			<10		<10				
Acetophenone			<8		<8				
Acrolein			<10		<10				
Acrylonitrile	<5		<5	<5	<5	<5	<5	<5	<5
Aldrin			<.05		<.06				
Allyl chloride			<1		<1				
Alpha-bhc			<.05		<.06				

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

Table 9

Analytical Data Summary for MW-12

Constituents	10/19/2022	4/6/2023	10/10/2023
(3 4)-methylphenol			
1,1,1,2-tetrachloroethane	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1
1,1-dichloroethane	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1
1,1-dichloropropene			
1,2,3-trichloropropane	<1	<1	<1
1,2,4,5-tetrachlorobenzene			
1,2,4-trichlorobenzene			
1,2-dibromo-3-chloropropane	<5	<5	<5
1,2-dibromoethane	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1
1,2-dichloroethane	<1	<1	<1
1,2-dichloropropane	<1	<1	<1
1,2-dinitrobenzene			
1,3,5-trinitrobenzene			
1,3-dichlorobenzene			
1,3-dichloropropane			
1,3-dinitrobenzene			
1,4-dichlorobenzene	<1	<1	<1
1,4-naphthoquinone			
1,4-phenylenediamine			
1-naphthylamine			
2,2-dichloropropane			
2,3,4,6-tetrachlorophenol			
2,4,5-t			
2,4,5-tp (silvex)			
2,4,5-trichlorophenol			
2,4,6-trichlorophenol			
2,4-d			
2,4-dichlorophenol			
2,4-dimethylphenol			
2,4-dinitrophenol			
2,4-dinitrotoluene			
2,6-dichlorophenol			
2,6-dinitrotoluene			
2-acetylaminofluorene			
2-butanone (mek)	<10	<10	<10
2-chloronaphthalene			
2-chlorophenol			
2-hexanone (mbk)	<5	<5	<5
2-methylnaphthalene			
2-methylphenol			
2-naphthylamine			
2-nitroaniline			
2-nitrophenol			
3,3´-dichlorobenzidine			
3,3'-dimethylbenzidine			
3-methylcholanthrene			
3-nitroaniline			
4,4´-ddd			
4,4´-dde			
4,4´-ddt			
4,6-dinitro-2-methylphenol			
4-aminobiphenyl			
4-bromophenyl phenyl ether			
4-chloro-3-methylphenol			
4-chloroaniline			
4-chlorophenyl phenyl ether			
4-methyl-2-pentanone (mibk)	<5	<5	<5
4-nitroaniline			
4-nitrophenol			
5-nitro-o-toluidine			
7,12-dimethylbenz(a)anthracene			
Acenaphthene			
Acenaphthylene			
Acetone	<10	<10	<10
Acetonitrile			
Acetophenone			
Acrolein			
Acrylonitrile	<5	<5	<5
Aldrin			
Allyl chloride			
Alpha-bhc			

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

Table 9

Analytical Data Summary for MW-12

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017	4/23/2018
Anthracene	ug/L								
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	ug/L								
Arochlor 1221	ug/L								
Arochlor 1232	ug/L								
Arochlor 1242	ug/L								
Arochlor 1248	ug/L								
Arochlor 1254	ug/L								
Arochlor 1260	ug/L								
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Azobenzene	ug/L								
Barium, total	ug/L	105.0	111.0	93.2	81.1	101.0	107.0	118.0	110.0
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L								
Benzo(a)pyrene	ug/L								
Benzo(b)fluoranthene	ug/L								
Benzo(g,h,i)perylene	ug/L								
Benzo(k)fluoranthene	ug/L								
Benzyl alcohol	ug/L								
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	ug/L								
Bis (2-chloroethoxy) methane	ug/L								
Bis(2-chloroethyl) ether	ug/L								
Bis(2-chloroisopropyl) ether	ug/L								
Bis(2-ethylhexyl) phthalate	ug/L								
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L								
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	ug/L								
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	ug/L								
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene	ug/L								
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene	ug/L								
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Copper, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Cyanide, total	mg/L								
Delta-bhc	ug/L								
Diallate	ug/L								
Dibenzo(a,h)anthracene	ug/L								
Dibenzofuran	ug/L								
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L								
Dieldrin	ug/L								
Diethyl phthalate	ug/L								
Dimethoate	ug/L								
Dimethylphthalate	ug/L								
Di-n-butyl phthalate	ug/L								
Di-n-octyl phthalate	ug/L								
Dinoseb	ug/L								
Diphenylamine	ug/L								
Disulfoton	ug/L								
Endosulfan i	ug/L								
Endosulfan ii	ug/L								
Endosulfan sulfate	ug/L								
Endrin	ug/L								
Endrin aldehyde	ug/L								
Ethyl methacrylate	ug/L								
Ethyl methanesulfonate	ug/L								
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	ug/L								
Fluoranthene	ug/L								
Fluorene	ug/L								
Gamma-bhc (lindane)	ug/L								
Heptachlor	ug/L								

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

Table 9

Analytical Data Summary for MW-12

Constituents	10/12/2018	1/23/2019	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Anthracene			<8		<8				
Antimony, total	<2		<2	<2	<2	<2	<2	<2	<2
Arochlor 1016			<.10		<.13				
Arochlor 1221			<.20		<.26				
Arochlor 1232			<.20		<.26				
Arochlor 1242			<.20		<.26				
Arochlor 1248			<.20		<.26				
Arochlor 1254			<.10		<.13				
Arochlor 1260			<.10		<.13				
Arsenic, total	<4		<4	<4	<4	<4	<4	<4	<4
Azobenzene			<8		<8				
Barium, total	105.0		96.9	123.0	97.0	102.0	98.0	111.0	112.0
Benzene	<1		<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene			<8		<8				
Benzo(a)pyrene			<8		<8				
Benzo(b)fluoranthene			<8		<8				
Benzo(g,h,i)perylene			<8		<8				
Benzo(k)fluoranthene			<8		<8				
Benzyl alcohol			<8		<8				
Beryllium, total	<4		<4	<4	<4	<4	<4	<4	<4
Beta-bhc			<.05		<.06				
Bis (2-chloroethoxy) methane			<8		<8				
Bis(2-chloroethyl) ether			<8		<8				
Bis(2-chloroisopropyl) ether			<8		<8				
Bis(2-ethylhexyl) phthalate			16	<6	16	<6	<6	<6	<6
Bromochloromethane	<1		<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1		<1	<1	<1	<1	<1	<1	<1
Bromoform	<1		<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1		<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate			<8		<8				
Cadmium, total	<.8		<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1		<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1		<1	<1	<1	<1	<1	<1	<1
Chlordane			<.10		<.13				
Chlorobenzene	<1		<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate			<8		<8				
Chloroethane	<1		<1	<1	<1	<1	<1	<1	<1
Chloroform	<1		<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1		<1	<1	<1	<1	<1	<1	<1
Chloroprene			<1		<1				
Chromium, total	<8		<8	<8	<8	<8	<8	<8	<8
Chrysene			<8		<8				
Cis-1,2-dichloroethylene	<1		<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1		<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.8		<.8	<.8	<.4	<.4	<.4	<.4	<.4
Copper, total	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	7.7
Cyanide, total			<.005		<.005				
Delta-bhc			<.05		<.06				
Diallate			<8		<8				
Dibenzo(a,h)anthracene			<8		<8				
Dibenzofuran			<8		<8				
Dibromochloromethane	<1		<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1		<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane			<1		<1				
Dieldrin			<.05		<.06				
Diethyl phthalate			<8		<8				
Dimethoate			<.4		<.5				
Dimethylphthalate			<8		<8				
Di-n-butyl phthalate			<8		<8				
Di-n-octyl phthalate			<8		<8				
Dinoseb			<.5		<.7				
Diphenylamine			<8		<8				
Disulfoton			<.4		<.5				
Endosulfan i			<.05		<.06				
Endosulfan ii			<.05		<.06				
Endosulfan sulfate			<.05		<.06				
Endrin			<.05		<.06				
Endrin aldehyde			<.05		<.06				
Ethyl methacrylate			<10		<10				
Ethyl methanesulfonate			<8		<8				
Ethylbenzene	<1		<1	<1	<1	<1	<1	<1	<1
Famphur			<.4		<.5				
Fluoranthene			<8		<8				
Fluorene			<8		<8				
Gamma-bhc (lindane)			<.05		<.06				
Heptachlor			<.05		<.06				

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

Table 9

Analytical Data Summary for MW-12

Constituents	10/19/2022	4/6/2023	10/10/2023
Anthracene			
Antimony, total	<2	<2	<2
Arochlor 1016			
Arochlor 1221			
Arochlor 1232			
Arochlor 1242			
Arochlor 1248			
Arochlor 1254			
Arochlor 1260			
Arsenic, total	<4	<4	<4
Azobenzene			
Barium, total	140.0	123.0	137.0
Benzene	<1	<1	<1
Benzo(a)anthracene			
Benzo(a)pyrene			
Benzo(b)fluoranthene			
Benzo(g,h,i)perylene			
Benzo(k)fluoranthene			
Benzyl alcohol			
Beryllium, total	<4	<4	<4
Beta-bhc			
Bis (2-chloroethoxy) methane			
Bis(2-chloroethyl) ether			
Bis(2-chloroisopropyl) ether			
Bis(2-ethylhexyl) phthalate			
Bromochloromethane	<1	<1	<1
Bromodichloromethane	<1	<1	<1
Bromoform	<1	<1	<1
Bromomethane	<1	<1	<1
Butyl benzyl phthalate			
Cadmium, total	1.4	<.8	<.8
Carbon disulfide	<1	<1	<1
Carbon tetrachloride	<1	<1	<1
Chlordane			
Chlorobenzene	<1	<1	<1
Chlorobenzilate			
Chloroethane	<1	<1	<1
Chloroform	<1	<1	<1
Chloromethane	<1	<1	<1
Chloroprene			
Chromium, total	<8	<8	<8
Chrysene			
Cis-1,2-dichloroethylene	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1
Cobalt, total	2.2	<.4	<.4
Copper, total	<4.0	<4.0	<4.0
Cyanide, total			
Delta-bhc			
Diallate			
Dibenzo(a,h)anthracene			
Dibenzofuran			
Dibromochloromethane	<1	<1	<1
Dibromomethane	<1	<1	<1
Dichlorodifluoromethane			
Dieldrin			
Diethyl phthalate			
Dimethoate			
Dimethylphthalate			
Di-n-butyl phthalate			
Di-n-octyl phthalate			
Dinoseb			
Diphenylamine			
Disulfoton			
Endosulfan i			
Endosulfan ii			
Endosulfan sulfate			
Endrin			
Endrin aldehyde			
Ethyl methacrylate			
Ethyl methanesulfonate			
Ethylbenzene	<1	<1	<1
Famphur			
Fluoranthene			
Fluorene			
Gamma-bhc (lindane)			
Heptachlor			

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

Table 9

Analytical Data Summary for MW-12

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017	4/23/2018
Heptachlor epoxide	ug/L								
Hexachlorobenzene	ug/L								
Hexachlorobutadiene	ug/L								
Hexachlorocyclopentadiene	ug/L								
Hexachloroethane	ug/L								
Hexachloropropene	ug/L								
Indeno(1,2,3-cd)pyrene	ug/L								
Isobutanol	mg/L								
Isodrin	ug/L								
Isophorone	ug/L								
Isosafrole	ug/L								
Kepone	ug/L								
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total	ug/L								
Methacrylonitrile	ug/L								
Methapyrilene	ug/L								
Methoxychlor	ug/L								
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate	ug/L								
Methyl methanesulfonate	ug/L								
Methyl parathion	ug/L								
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/L								
Nickel, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene	ug/L								
N-nitrosodiethylamine	ug/L								
N-nitrosodimethylamine	ug/L								
N-nitrosodi-n-butylamine	ug/L								
N-nitroso-di-n-propylamine	ug/L								
N-nitrosodiphenylamine	ug/L								
N-nitrosomethylethylamine	ug/L								
N-nitrosopiperidine	ug/L								
N-nitrosopyrrolidine	ug/L								
O,o,o-triethyl phosphorothioate	ug/L								
O-toluidine	ug/L								
Parathion	ug/L								
P-dimethylaminoazobenzene	ug/L								
Pentachlorobenzene	ug/L								
Pentachloronitrobenzene (pcnb)	ug/L								
Pentachlorophenol	ug/L								
Phenacetin	ug/L								
Phenanthrene	ug/L								
Phenol	ug/L								
Phorate	ug/L								
Pronamide	ug/L								
Propionitrile	ug/L								
Pyrene	ug/L								
Safrole	ug/L								
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended	mg/L	58	4						
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total	mg/L								
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Thionazin	ug/L								
Tin, total	ug/L								
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	ug/L								
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<8.0	11.4	<8.0	<8.0	<8.0	<20.0	<8.0	<8.0

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

Table 9

Analytical Data Summary for MW-12

Constituents	10/12/2018	1/23/2019	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Heptachlor epoxide			<.05		<.06				
Hexachlorobenzene			<.05		<.06				
Hexachlorobutadiene			<8		<8				
Hexachlorocyclopentadiene			<8		<8				
Hexachloroethane			<8		<8				
Hexachloropropene			<8		<8				
Indeno(1,2,3-cd)pyrene			<8		<8				
Isobutanol			<1		<1				
Isodrin			<8		<8				
Isophorone			<8		<8				
Isosafrole			<8		<8				
Kepone			<8		<8				
Lead, total	<4		<4	<4	<4	<4	<4	<4	<4
Mercury, total			<.5		<.5				
Methacrylonitrile			<1		<1				
Methapyrilene			<8		<8				
Methoxychlor			<.05		<.06				
Methyl iodide	<1		<1	<1	<2	<1	<1	<1	<1
Methyl methacrylate			<1		<1				
Methyl methanesulfonate			<8		<8				
Methyl parathion			<.4		<.5				
Methylene chloride	<5		<5	<5	<5	<5	<5	<5	<5
Naphthalene			<8		<8				
Nickel, total	14.8	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene			<8		<8				
N-nitrosodiethylamine			<8		<8				
N-nitrosodimethylamine			<8		<8				
N-nitrosodi-n-butylamine			<8		<8				
N-nitroso-di-n-propylamine			<8		<8				
N-nitrosodiphenylamine			<8		<8				
N-nitrosomethylethylamine			<8		<8				
N-nitrosopiperidine			<8		<8				
N-nitrosopyrrolidine			<8		<8				
O,o,o-triethyl phosphorothioate			<.4		<.5				
O-toluidine			<8		<8				
Parathion			<.4		<.5				
P-dimethylaminoazobenzene			<8		<8				
Pentachlorobenzene			<8		<8				
Pentachloronitrobenzene (pcnb)			<8		<8				
Pentachlorophenol			<8		<8				
Phenacetin			<8		<8				
Phenanthrene			<8		<8				
Phenol			<8		<8				
Phorate			<.4		<.5				
Pronamide			<8		<8				
Propionitrile			<10		<10				
Pyrene			<8		<8				
Safrole			<8		<8				
Selenium, total	<4		<4	<4	<4	<4	<4	<4	<4
Silver, total	<4		<4	<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1		<1	<1	<1	<1	<1	<1	<1
Sulfide, total			<.1		<.1				
Tetrachloroethylene	<1		<1	<1	<1	<1	<1	<1	<1
Thallium, total	<4		<2	<2	<2	<2	<2	<2	<2
Thionazin			<.4		<.5				
Tin, total			<20		<20				
Toluene	<1		<1	<1	<1	<1	<1	<1	<1
Toxaphene			<.20		<.26				
Trans-1,2-dichloroethylene	<1		<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1		<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5		<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1		<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1		<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20		<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	<5		<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1		<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2		<2	<2	<2	<2	<2	<2	<2
Zinc, total	17.8	26.6	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-12

Constituents	10/19/2022	4/6/2023	10/10/2023
Heptachlor epoxide			
Hexachlorobenzene			
Hexachlorobutadiene			
Hexachlorocyclopentadiene			
Hexachloroethane			
Hexachloropropene			
Indeno(1,2,3-cd)pyrene			
Isobutanol			
Isodrin			
Isophorone			
Isosafrole			
Kepone			
Lead, total	<4	<4	<4
Mercury, total			
Methacrylonitrile			
Methapyrilene			
Methoxychlor			
Methyl iodide	<1	<1	<1
Methyl methacrylate			
Methyl methanesulfonate			
Methyl parathion			
Methylene chloride	<5	<5	<5
Naphthalene			
Nickel, total	<4.0	<4.0	<4.0
Nitrobenzene			
N-nitrosodiethylamine			
N-nitrosodimethylamine			
N-nitrosodi-n-butylamine			
N-nitroso-di-n-propylamine			
N-nitrosodiphenylamine			
N-nitrosomethylethylamine			
N-nitrosopiperidine			
N-nitrosopyrrolidine			
O,o,o-triethyl phosphorothioate			
O-toluidine			
Parathion			
P-dimethylaminoazobenzene			
Pentachlorobenzene			
Pentachloronitrobenzene (pcnb)			
Pentachlorophenol			
Phenacetin			
Phenanthrene			
Phenol			
Phorate			
Pronamide			
Propionitrile			
Pyrene			
Safrole			
Selenium, total	<4	<4	<4
Silver, total	<4	<4	<4
Solids, total suspended			
Styrene	<1	<1	<1
Sulfide, total			
Tetrachloroethylene	<1	<1	<1
Thallium, total	<2	<2	<2
Thionazin			
Tin, total			
Toluene	<1	<1	<1
Toxaphene			
Trans-1,2-dichloroethylene	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5
Trichloroethylene	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1
Vanadium, total	<20	<20	<20
Vinyl acetate	<5	<5	<5
Vinyl chloride	<1	<1	<1
Xylenes, total	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-14

Constituents	Units	10/14/2014	1/12/2015	4/13/2015 4/14/2015	7/21/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	2.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	ug/L	184	169	143	141	185	121	125	140
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Copper, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Selenium, total	ug/L	<4.0	<4.0	5.1	<4.0	<4.0	<4.0	5.5	<4.0
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended	mg/L	31		2					
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<8.0	<8.0	<8.0	<8.0	<20.0	<8.0	<8.0	<20.0

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

Table 9

Analytical Data Summary for MW-14

Constituents	10/12/2017	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	<1	<1	<1	<1	<1	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	11.8	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Arsenic, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	170	126	128	114	155	117	137	120	102
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	<.8	5.3	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	<.8	<.8	<.8	<.8	<.4	<.4	<.4	<.4
Copper, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Selenium, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Silver, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<4	<4	<4	<2	<2	<2	<2	<2	<2
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	<8.0	<8.0	16.1	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-14

Constituents	4/13/2022	10/19/2022	4/6/2023	10/10/2023
1,1,1,2-tetrachloroethane	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1
2-butanone (mek)	<10	<10	<10	<10
2-hexanone (mbk)	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5
Acetone	<10.0	<10.0	<10.0	<10.0
Acrylonitrile	<5	<5	<5	<5
Antimony, total	<2.0	<2.0	<2.0	<2.0
Arsenic, total	<4	<4	<4	<4
Barium, total	107	133	117	140
Benzene	<1	<1	<1	<1
Beryllium, total	<4	<4	<4	<4
Bromochloromethane	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1
Cadmium, total	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1
Chromium, total	<8	<8	<8	<8
Cis-1,2-dichloroethylene	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1
Cobalt, total	<.4	<2.0	<.4	<.4
Copper, total	<4	7	<4	<4
Dibromochloromethane	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1
Lead, total	<4	<4	<4	<4
Methyl iodide	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5
Nickel, total	<4	<4	<4	<4
Selenium, total	<4.0	5.5	<4.0	<4.0
Silver, total	<4	<4	<4	<4
Solids, total suspended				
Styrene	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2
Toluene	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-15

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017	4/23/2018
(3 4)-methylphenol	ug/L								
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L								
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L								
1,2,4-trichlorobenzene	ug/L								
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L								
1,3,5-trinitrobenzene	ug/L								
1,3-dichlorobenzene	ug/L								
1,3-dichloropropane	ug/L								
1,3-dinitrobenzene	ug/L								
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L								
1,4-phenylenediamine	ug/L								
1-naphthylamine	ug/L								
2,2-dichloropropane	ug/L								
2,3,4,6-tetrachlorophenol	ug/L								
2,4,5-t	ug/L								
2,4,5-tp (silvex)	ug/L								
2,4,5-trichlorophenol	ug/L								
2,4,6-trichlorophenol	ug/L								
2,4-d	ug/L								
2,4-dichlorophenol	ug/L								
2,4-dimethylphenol	ug/L								
2,4-dinitrophenol	ug/L								
2,4-dinitrotoluene	ug/L								
2,6-dichlorophenol	ug/L								
2,6-dinitrotoluene	ug/L								
2-acetylaminofluorene	ug/L								
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-chloronaphthalene	ug/L								
2-chlorophenol	ug/L								
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L								
2-methylphenol	ug/L								
2-naphthylamine	ug/L								
2-nitroaniline	ug/L								
2-nitrophenol	ug/L								
3,3´-dichlorobenzidine	ug/L								
3,3'-dimethylbenzidine	ug/L								
3-methylcholanthrene	ug/L								
3-nitroaniline	ug/L								
4,4´-ddd	ug/L								
4,4´-dde	ug/L								
4,4´-ddt	ug/L								
4,6-dinitro-2-methylphenol	ug/L								
4-aminobiphenyl	ug/L								
4-bromophenyl phenyl ether	ug/L								
4-chloro-3-methylphenol	ug/L								
4-chloroaniline	ug/L								
4-chlorophenyl phenyl ether	ug/L								
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	ug/L								
4-nitrophenol	ug/L								
5-nitro-o-toluidine	ug/L								
7,12-dimethylbenz(a)anthracene	ug/L								
Acenaphthene	ug/L								
Acenaphthylene	ug/L								
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	10.8	<10.0
Acetonitrile	ug/L								
Acetophenone	ug/L								
Acrolein	ug/L								
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	ug/L								
Allyl chloride	ug/L								
Alpha-bhc	ug/L								

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

Table 9

Analytical Data Summary for MW-15

Constituents	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022	10/19/2022
(3 4)-methylphenol		<8							
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene		<1							
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene		<8							
1,2,4-trichlorobenzene		<1							
1,2-dibromo-3-chloropropane	<1	<1	<1	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene		<8							
1,3,5-trinitrobenzene		<8							
1,3-dichlorobenzene		<1							
1,3-dichloropropane		<1							
1,3-dinitrobenzene		<8							
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone		<8							
1,4-phenylenediamine		<8							
1-naphthylamine		<8							
2,2-dichloropropane		<1							
2,3,4,6-tetrachlorophenol		<8							
2,4,5-t		<.5							
2,4,5-tp (silvex)		<.5							
2,4,5-trichlorophenol		<8							
2,4,6-trichlorophenol		<8							
2,4-d		<2							
2,4-dichlorophenol		<8							
2,4-dimethylphenol		<8							
2,4-dinitrophenol		<8							
2,4-dinitrotoluene		<8							
2,6-dichlorophenol		<8							
2,6-dinitrotoluene		<8							
2-acetylaminofluorene		<8							
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<5	<10	<10
2-chloronaphthalene		<8							
2-chlorophenol		<8							
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene		<8							
2-methylphenol		<8							
2-naphthylamine		<8							
2-nitroaniline		<8							
2-nitrophenol		<8							
3,3´-dichlorobenzidine		<8							
3,3'-dimethylbenzidine		<8							
3-methylcholanthrene		<8							
3-nitroaniline		<8							
4,4´-ddd		<.05							
4,4´-dde		<.05							
4,4´-ddt		<.05							
4,6-dinitro-2-methylphenol		<8							
4-aminobiphenyl		<8							
4-bromophenyl phenyl ether		<8							
4-chloro-3-methylphenol		<8							
4-chloroaniline		<8							
4-chlorophenyl phenyl ether		<8							
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline		<8							
4-nitrophenol		<8							
5-nitro-o-toluidine		<8							
7,12-dimethylbenz(a)anthracene		<8							
Acenaphthene		<8							
Acenaphthylene		<8							
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Acetonitrile		<10							
Acetophenone		<8							
Acrolein		<10							
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin		<.05							
Allyl chloride		<1							
Alpha-bhc		<.05							

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

Table 9

Analytical Data Summary for MW-15

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

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

Table 9

Analytical Data Summary for MW-15

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017	4/23/2018
Anthracene	ug/L								
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	ug/L								
Arochlor 1221	ug/L								
Arochlor 1232	ug/L								
Arochlor 1242	ug/L								
Arochlor 1248	ug/L								
Arochlor 1254	ug/L								
Arochlor 1260	ug/L								
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Azobenzene	ug/L								
Barium, total	ug/L	27.9	26.9	22.8	20.2	23.1	24.2	21.2	24.7
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L								
Benzo(a)pyrene	ug/L								
Benzo(b)fluoranthene	ug/L								
Benzo(g,h,i)perylene	ug/L								
Benzo(k)fluoranthene	ug/L								
Benzyl alcohol	ug/L								
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	ug/L								
Bis (2-chloroethoxy) methane	ug/L								
Bis(2-chloroethyl) ether	ug/L								
Bis(2-chloroisopropyl) ether	ug/L								
Bis(2-ethylhexyl) phthalate	ug/L	<10	11	<10	<10	19	<6	15	<6
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L								
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	ug/L								
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	ug/L								
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene	ug/L								
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene	ug/L								
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Copper, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Cyanide, total	mg/L								
Delta-bhc	ug/L								
Diallate	ug/L								
Dibenzo(a,h)anthracene	ug/L								
Dibenzofuran	ug/L								
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L								
Dieldrin	ug/L								
Diethyl phthalate	ug/L								
Dimethoate	ug/L								
Dimethylphthalate	ug/L								
Di-n-butyl phthalate	ug/L								
Di-n-octyl phthalate	ug/L								
Dinoseb	ug/L								
Diphenylamine	ug/L								
Disulfoton	ug/L								
Endosulfan i	ug/L								
Endosulfan ii	ug/L								
Endosulfan sulfate	ug/L								
Endrin	ug/L								
Endrin aldehyde	ug/L								
Ethyl methacrylate	ug/L								
Ethyl methanesulfonate	ug/L								
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	ug/L								
Fluoranthene	ug/L								
Fluorene	ug/L								
Gamma-bhc (lindane)	ug/L								
Heptachlor	ug/L								

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

Table 9

Analytical Data Summary for MW-15

Constituents	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022	10/19/2022
Anthracene		<8							
Antimony, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016		<.1							
Arochlor 1221		<.2							
Arochlor 1232		<.2							
Arochlor 1242		<.2							
Arochlor 1248		<.2							
Arochlor 1254		<.1							
Arochlor 1260		<.1							
Arsenic, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Azobenzene		<8							
Barium, total	22.1	23.9	25.5	17.9	19.8	18.0	17.8	19.5	22.4
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene		<8							
Benzo(a)pyrene		<8							
Benzo(b)fluoranthene		<8							
Benzo(g,h,i)perylene		<8							
Benzo(k)fluoranthene		<8							
Benzyl alcohol		<8							
Beryllium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc		<.05							
Bis (2-chloroethoxy) methane		<8							
Bis(2-chloroethyl) ether		<8							
Bis(2-chloroisopropyl) ether		<8							
Bis(2-ethylhexyl) phthalate	6	7	7	<6	<6	<6	<6	<6	
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate		<8							
Cadmium, total	<.8	<.8	.9	<.8	<.8	<.8	<.8	<.8	2.0
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane		<.1							
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate		<8							
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene		<1							
Chromium, total	<8	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene		<8							
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	<.8	<.8	<.4	<.4	<.4	<.4	<.4	<2.0
Copper, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Cyanide, total		<.005							
Delta-bhc		<.05							
Diallate		<8							
Dibenzo(a,h)anthracene		<8							
Dibenzofuran		<8							
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane		<1							
Dieldrin		<.05							
Diethyl phthalate		<8							
Dimethoate		<.4							
Dimethylphthalate		<8							
Di-n-butyl phthalate		<8							
Di-n-octyl phthalate		<8							
Dinoseb		<.5							
Diphenylamine		<8							
Disulfoton		<.4							
Endosulfan i		<.05							
Endosulfan ii		<.05							
Endosulfan sulfate		<.05							
Endrin		<.05							
Endrin aldehyde		<.05							
Ethyl methacrylate		<10							
Ethyl methanesulfonate		<8							
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Famphur		<.4							
Fluoranthene		<8							
Fluorene		<8							
Gamma-bhc (lindane)		<.05							
Heptachlor		<.05							

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

Table 9

Analytical Data Summary for MW-15

Constituents	4/6/2023	10/10/2023
Anthracene		
Antimony, total	<2	<2
Arochlor 1016		
Arochlor 1221		
Arochlor 1232		
Arochlor 1242		
Arochlor 1248		
Arochlor 1254		
Arochlor 1260		
Arsenic, total	<4	<4
Azobenzene		
Barium, total	18.0	21.0
Benzene	<1	<1
Benzo(a)anthracene		
Benzo(a)pyrene		
Benzo(b)fluoranthene		
Benzo(g,h,i)perylene		
Benzo(k)fluoranthene		
Benzyl alcohol		
Beryllium, total	<4	<4
Beta-bhc		
Bis (2-chloroethoxy) methane		
Bis(2-chloroethyl) ether		
Bis(2-chloroisopropyl) ether		
Bis(2-ethylhexyl) phthalate		
Bromochloromethane	<1	<1
Bromodichloromethane	<1	<1
Bromoform	<1	<1
Bromomethane	<1	<1
Butyl benzyl phthalate		
Cadmium, total	<.8	2.4
Carbon disulfide	<1	<1
Carbon tetrachloride	<1	<1
Chlordane		
Chlorobenzene	<1	<1
Chlorobenzilate		
Chloroethane	<1	<1
Chloroform	<1	<1
Chloromethane	<1	<1
Chloroprene		
Chromium, total	<8	<8
Chrysene		
Cis-1,2-dichloroethylene	<1	<1
Cis-1,3-dichloropropene	<1	<1
Cobalt, total	<.4	<.4
Copper, total	<4	<4
Cyanide, total		
Delta-bhc		
Diallate		
Dibenzo(a,h)anthracene		
Dibenzofuran		
Dibromochloromethane	<1	<1
Dibromomethane	<1	<1
Dichlorodifluoromethane		
Dieldrin		
Diethyl phthalate		
Dimethoate		
Dimethylphthalate		
Di-n-butyl phthalate		
Di-n-octyl phthalate		
Dinoseb		
Diphenylamine		
Disulfoton		
Endosulfan i		
Endosulfan ii		
Endosulfan sulfate		
Endrin		
Endrin aldehyde		
Ethyl methacrylate		
Ethyl methanesulfonate		
Ethylbenzene	<1	<1
Famphur		
Fluoranthene		
Fluorene		
Gamma-bhc (lindane)		
Heptachlor		

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

Table 9

Analytical Data Summary for MW-15

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017	4/23/2018
Heptachlor epoxide	ug/L								
Hexachlorobenzene	ug/L								
Hexachlorobutadiene	ug/L								
Hexachlorocyclopentadiene	ug/L								
Hexachloroethane	ug/L								
Hexachloropropene	ug/L								
Indeno(1,2,3-cd)pyrene	ug/L								
Isobutanol	mg/L								
Isodrin	ug/L								
Isophorone	ug/L								
Isosafrole	ug/L								
Kepone	ug/L								
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total	ug/L								
Methacrylonitrile	ug/L								
Methapyrilene	ug/L								
Methoxychlor	ug/L								
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate	ug/L								
Methyl methanesulfonate	ug/L								
Methyl parathion	ug/L								
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/L								
Nickel, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene	ug/L								
N-nitrosodiethylamine	ug/L								
N-nitrosodimethylamine	ug/L								
N-nitrosodi-n-butylamine	ug/L								
N-nitroso-di-n-propylamine	ug/L								
N-nitrosodiphenylamine	ug/L								
N-nitrosomethylethylamine	ug/L								
N-nitrosopiperidine	ug/L								
N-nitrosopyrrolidine	ug/L								
O,o,o-triethyl phosphorothioate	ug/L								
O-toluidine	ug/L								
Parathion	ug/L								
P-dimethylaminoazobenzene	ug/L								
Pentachlorobenzene	ug/L								
Pentachloronitrobenzene (pcnb)	ug/L								
Pentachlorophenol	ug/L								
Phenacetin	ug/L								
Phenanthrene	ug/L								
Phenol	ug/L								
Phorate	ug/L								
Pronamide	ug/L								
Propionitrile	ug/L								
Pyrene	ug/L								
Safrole	ug/L								
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended	mg/L	47	7						
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total	mg/L								
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Thionazin	ug/L								
Tin, total	ug/L								
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	ug/L								
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<8.0	<8.0	<8.0	<8.0	<8.0	<20.0	<8.0	<8.0

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

Table 9

Analytical Data Summary for MW-15

Constituents	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022	10/19/2022
Heptachlor epoxide		<.05							
Hexachlorobenzene		<.05							
Hexachlorobutadiene		<8							
Hexachlorocyclopentadiene		<8							
Hexachloroethane		<8							
Hexachloropropene		<8							
Indeno(1,2,3-cd)pyrene		<8							
Isobutanol		<1							
Isodrin		<8							
Isophorone		<8							
Isosafrole		<8							
Kepone		<8							
Lead, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total		<.5							
Methacrylonitrile		<1							
Methapyrilene		<8							
Methoxychlor		<.05							
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate		<1							
Methyl methanesulfonate		<8							
Methyl parathion		<.4							
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene		<8							
Nickel, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	4.0	<4.0	4.5
Nitrobenzene		<8							
N-nitrosodiethylamine		<8							
N-nitrosodimethylamine		<8							
N-nitrosodi-n-butylamine		<8							
N-nitroso-di-n-propylamine		<8							
N-nitrosodiphenylamine		<8							
N-nitrosomethylethylamine		<8							
N-nitrosopiperidine		<8							
N-nitrosopyrrolidine		<8							
O,o,o-triethyl phosphorothioate		<.4							
O-toluidine		<8							
Parathion		<.4							
P-dimethylaminoazobenzene		<8							
Pentachlorobenzene		<8							
Pentachloronitrobenzene (pcnb)		<8							
Pentachlorophenol		<8							
Phenacetin		<8							
Phenanthrene		<8							
Phenol		<8							
Phorate		<.4							
Pronamide		<8							
Propionitrile		<10							
Pyrene		<8							
Safrole		<8							
Selenium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total		<.1							
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<4	<2	<2	<2	<2	<2	<2	<2	<2
Thionazin		<.4							
Tin, total		<20							
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene		<.2							
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	51.7	23.0	37.5	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-15

Constituents	4/6/2023	10/10/2023
Heptachlor epoxide		
Hexachlorobenzene		
Hexachlorobutadiene		
Hexachlorocyclopentadiene		
Hexachloroethane		
Hexachloropropene		
Indeno(1,2,3-cd)pyrene		
Isobutanol		
Isodrin		
Isophorone		
Isosafrole		
Kepone		
Lead, total	<4	<4
Mercury, total		
Methacrylonitrile		
Methapyrilene		
Methoxychlor		
Methyl iodide	<1	<1
Methyl methacrylate		
Methyl methanesulfonate		
Methyl parathion		
Methylene chloride	<5	<5
Naphthalene		
Nickel, total	<4.0	9.5
Nitrobenzene		
N-nitrosodiethylamine		
N-nitrosodimethylamine		
N-nitrosodi-n-butylamine		
N-nitroso-di-n-propylamine		
N-nitrosodiphenylamine		
N-nitrosomethylethylamine		
N-nitrosopiperidine		
N-nitrosopyrrolidine		
O,o,o-triethyl phosphorothioate		
O-toluidine		
Parathion		
P-dimethylaminoazobenzene		
Pentachlorobenzene		
Pentachloronitrobenzene (pcnb)		
Pentachlorophenol		
Phenacetin		
Phenanthrene		
Phenol		
Phorate		
Pronamide		
Propionitrile		
Pyrene		
Safrole		
Selenium, total	<4	<4
Silver, total	<4	<4
Solids, total suspended		
Styrene	<1	<1
Sulfide, total		
Tetrachloroethylene	<1	<1
Thallium, total	<2	<2
Thionazin		
Tin, total		
Toluene	<1	<1
Toxaphene		
Trans-1,2-dichloroethylene	<1	<1
Trans-1,3-dichloropropene	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5
Trichloroethylene	<1	<1
Trichlorofluoromethane	<1	<1
Vanadium, total	<20	<20
Vinyl acetate	<5	<5
Vinyl chloride	<1	<1
Xylenes, total	<2	<2
Zinc, total	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-16

Constituents	Units	10/17/2019	4/9/2020	10/8/2020	12/9/2020	4/15/2021	10/28/2021	4/13/2022	10/19/2022
(3 4)-methylphenol	ug/L			<8			<8		
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1-dichloropropene	ug/L			<1			<1		
1,2,3-trichloropropane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L			<8			<8		
1,2,4-trichlorobenzene	ug/L			<1			<1		
1,2-dibromo-3-chloropropane	ug/L	<1	<5	<1		<5	<1	<5	<5
1,2-dibromoethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2-dinitrobenzene	ug/L			<8			<8		
1,3,5-trinitrobenzene	ug/L			<8			<8		
1,3-dichlorobenzene	ug/L			<1			<1		
1,3-dichloropropane	ug/L			<1			<1		
1,3-dinitrobenzene	ug/L			<8			<8		
1,4-dichlorobenzene	ug/L	<1	<1	<1		<1	<1	<1	<1
1,4-naphthoquinone	ug/L			<8			<8		
1,4-phenylenediamine	ug/L			<8			<8		
1-naphthylamine	ug/L			<8			<8		
2,2-dichloropropane	ug/L			<1			<1		
2,3,4,6-tetrachlorophenol	ug/L			<8			<8		
2,4,5-t	ug/L			<.5			<.5		
2,4,5-tp (silvex)	ug/L			<.5			<.5		
2,4,5-trichlorophenol	ug/L			<8			<8		
2,4,6-trichlorophenol	ug/L			<8			<8		
2,4-d	ug/L			<2			<2		
2,4-dichlorophenol	ug/L			<8			<8		
2,4-dimethylphenol	ug/L			<8			<8		
2,4-dinitrophenol	ug/L			<8			<8		
2,4-dinitrotoluene	ug/L			<8			<8		
2,6-dichlorophenol	ug/L			<8			<8		
2,6-dinitrotoluene	ug/L			<8			<8		
2-acetylaminofluorene	ug/L			<8			<8		
2-butanone (mek)	ug/L	<5	<5	<5		<5	<5	<10	<10
2-chloronaphthalene	ug/L			<8			<8		
2-chlorophenol	ug/L			<8			<8		
2-hexanone (mbk)	ug/L	<5	<5	<5		<5	<5	<5	<5
2-methylnaphthalene	ug/L			<8			<8		
2-methylphenol	ug/L			<8			<8		
2-naphthylamine	ug/L			<8			<8		
2-nitroaniline	ug/L			<8			<8		
2-nitrophenol	ug/L			<8			<8		
3,3´-dichlorobenzidine	ug/L			<8			<8		
3,3'-dimethylbenzidine	ug/L			<8			<8		
3-methylcholanthrene	ug/L			<8			<8		
3-nitroaniline	ug/L			<8			<8		
4,4´-ddd	ug/L			<.05			<.05		
4,4´-dde	ug/L			<.05			<.05		
4,4´-ddt	ug/L			<.05			<.05		
4,6-dinitro-2-methylphenol	ug/L			<8			<8		
4-aminobiphenyl	ug/L			<8			<8		
4-bromophenyl phenyl ether	ug/L			<8			<8		
4-chloro-3-methylphenol	ug/L			<8			<8		
4-chloroaniline	ug/L			<8			<8		
4-chlorophenyl phenyl ether	ug/L			<8			<8		
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5		<5	<5	<5	<5
4-nitroaniline	ug/L			<8			<8		
4-nitrophenol	ug/L			<8			<8		
5-nitro-o-toluidine	ug/L			<8			<8		
7,12-dimethylbenz(a)anthracene	ug/L			<8			<8		
Acenaphthene	ug/L			<8			<8		
Acenaphthylene	ug/L			<8			<8		
Acetone	ug/L	<10	<10	<10		<10	<10	<10	<10
Acetonitrile	ug/L			<10			<10		
Acetophenone	ug/L			<8			<8		
Acrolein	ug/L			<10			<10		
Acrylonitrile	ug/L	<5	<5	<5		<5	<5	<5	<5
Aldrin	ug/L			<.05			<.05		
Allyl chloride	ug/L			<1			<1		
Alpha-bhc	ug/L			<.05			<.05		

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

Table 9

Analytical Data Summary for MW-16

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

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

Table 9

Analytical Data Summary for MW-16

Constituents	Units	10/17/2019	4/9/2020	10/8/2020	12/9/2020	4/15/2021	10/28/2021	4/13/2022	10/19/2022
Anthracene	ug/L			<8			<8		
Antimony, total	ug/L	<2	<2	<2		<2	<2	<2	<2
Arochlor 1016	ug/L			<.1			<.1		
Arochlor 1221	ug/L			<.2			<.2		
Arochlor 1232	ug/L			<.2			<.2		
Arochlor 1242	ug/L			<.2			<.2		
Arochlor 1248	ug/L			<.2			<.2		
Arochlor 1254	ug/L			<.1			<.1		
Arochlor 1260	ug/L			<.1			<.1		
Arsenic, total	ug/L	<4	<4	<4		<4	<4	<4	<4
Azobenzene	ug/L			<8			<8		
Barium, total	ug/L	47.6	45.7	44.2		39.6	42.0	37.6	42.9
Benzene	ug/L	<1	<1	<1		<1	<1	<1	<1
Benzo(a)anthracene	ug/L			<8			<8		
Benzo(a)pyrene	ug/L			<8			<8		
Benzo(b)fluoranthene	ug/L			<8			<8		
Benzo(g,h,i)perylene	ug/L			<8			<8		
Benzo(k)fluoranthene	ug/L			<8			<8		
Benzyl alcohol	ug/L			<8			<8		
Beryllium, total	ug/L	<4	<4	<4		<4	<4	<4	<4
Beta-bhc	ug/L			<.05			<.05		
Bis (2-chloroethoxy) methane	ug/L			<8			<8		
Bis(2-chloroethyl) ether	ug/L			<8			<8		
Bis(2-chloroisopropyl) ether	ug/L			<8			<8		
Bis(2-ethylhexyl) phthalate	ug/L			8	<6		6		19
Bromochloromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1		<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Butyl benzyl phthalate	ug/L			<8			<8		
Cadmium, total	ug/L	<.8	<.8	<.8		<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1		<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1		<1	<1	<1	<1
Chlordane	ug/L			<.1			<.1		
Chlorobenzene	ug/L	<1	<1	<1		<1	<1	<1	<1
Chlorobenzilate	ug/L			<8			<8		
Chloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1		<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Chloroprene	ug/L			<1			<1		
Chromium, total	ug/L	<8	<8	<8		<8	<8	<8	<8
Chrysene	ug/L			<8			<8		
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1		<1	<1	<1	<1
Cobalt, total	ug/L	4.0	4.2	1.2		<.4	<.4	<.4	<2.0
Copper, total	ug/L	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0	19.1
Cyanide, total	mg/L			<.005			<.005		
Delta-bhc	ug/L			<.05			<.05		
Diallate	ug/L			<8			<8		
Dibenzo(a,h)anthracene	ug/L			<8			<8		
Dibenzofuran	ug/L			<8			<8		
Dibromochloromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Dichlorodifluoromethane	ug/L			<1			<1		
Dieldrin	ug/L			<.05			<.05		
Diethyl phthalate	ug/L			<8			<8		
Dimethoate	ug/L			<.4			<.4		
Dimethylphthalate	ug/L			<8			<8		
Di-n-butyl phthalate	ug/L			<8			<8		
Di-n-octyl phthalate	ug/L			<8			<8		
Dinoseb	ug/L			<.5			<.5		
Diphenylamine	ug/L			<8			<8		
Disulfoton	ug/L			<.4			<.4		
Endosulfan i	ug/L			<.05			<.05		
Endosulfan ii	ug/L			<.05			<.05		
Endosulfan sulfate	ug/L			<.05			<.05		
Endrin	ug/L			<.05			<.05		
Endrin aldehyde	ug/L			<.05			<.05		
Ethyl methacrylate	ug/L			<10			<10		
Ethyl methanesulfonate	ug/L			<8			<8		
Ethylbenzene	ug/L	<1	<1	<1		<1	<1	<1	<1
Famphur	ug/L			<.4			<.4		
Fluoranthene	ug/L			<8			<8		
Fluorene	ug/L			<8			<8		
Gamma-bhc (lindane)	ug/L			<.05			<.05		
Heptachlor	ug/L			<.05			<.05		

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

Table 9

Analytical Data Summary for MW-16

Constituents	4/6/2023	10/10/2023
Anthracene		
Antimony, total	<2	<2
Arochlor 1016		
Arochlor 1221		
Arochlor 1232		
Arochlor 1242		
Arochlor 1248		
Arochlor 1254		
Arochlor 1260		
Arsenic, total	<4	<4
Azobenzene		
Barium, total	38.0	39.0
Benzene	<1	<1
Benzo(a)anthracene		
Benzo(a)pyrene		
Benzo(b)fluoranthene		
Benzo(g,h,i)perylene		
Benzo(k)fluoranthene		
Benzyl alcohol		
Beryllium, total	<4	<4
Beta-bhc		
Bis (2-chloroethoxy) methane		
Bis(2-chloroethyl) ether		
Bis(2-chloroisopropyl) ether		
Bis(2-ethylhexyl) phthalate	<6	
Bromochloromethane	<1	<1
Bromodichloromethane	<1	<1
Bromoform	<1	<1
Bromomethane	<1	<1
Butyl benzyl phthalate		
Cadmium, total	<.8	<.8
Carbon disulfide	<1	<1
Carbon tetrachloride	<1	<1
Chlordane		
Chlorobenzene	<1	<1
Chlorobenzilate		
Chloroethane	<1	<1
Chloroform	<1	<1
Chloromethane	<1	<1
Chloroprene		
Chromium, total	<8	<8
Chrysene		
Cis-1,2-dichloroethylene	<1	<1
Cis-1,3-dichloropropene	<1	<1
Cobalt, total	<.4	<.4
Copper, total	<4.0	<4.0
Cyanide, total		
Delta-bhc		
Diallate		
Dibenzo(a,h)anthracene		
Dibenzofuran		
Dibromochloromethane	<1	<1
Dibromomethane	<1	<1
Dichlorodifluoromethane		
Dieldrin		
Diethyl phthalate		
Dimethoate		
Dimethylphthalate		
Di-n-butyl phthalate		
Di-n-octyl phthalate		
Dinoseb		
Diphenylamine		
Disulfoton		
Endosulfan i		
Endosulfan ii		
Endosulfan sulfate		
Endrin		
Endrin aldehyde		
Ethyl methacrylate		
Ethyl methanesulfonate		
Ethylbenzene	<1	<1
Famphur		
Fluoranthene		
Fluorene		
Gamma-bhc (lindane)		
Heptachlor		

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

Table 9

Analytical Data Summary for MW-16

Constituents	Units	10/17/2019	4/9/2020	10/8/2020	12/9/2020	4/15/2021	10/28/2021	4/13/2022	10/19/2022
Heptachlor epoxide	ug/L			<.05			<.05		
Hexachlorobenzene	ug/L			<.05			<.05		
Hexachlorobutadiene	ug/L			<8			<8		
Hexachlorocyclopentadiene	ug/L			<8			<8		
Hexachloroethane	ug/L			<8			<8		
Hexachloropropene	ug/L			<8			<8		
Indeno(1,2,3-cd)pyrene	ug/L			<8			<8		
Isobutanol	mg/L			<1			<1		
Isodrin	ug/L			<8			<8		
Isophorone	ug/L			<8			<8		
Isosafrole	ug/L			<8			<8		
Kepone	ug/L			<8			<8		
Lead, total	ug/L	<4	<4	<4		<4	<4	<4	<4
Mercury, total	ug/L			<.5			<.5		
Methacrylonitrile	ug/L			<1			<1		
Methapyrilene	ug/L			<8			<8		
Methoxychlor	ug/L			<.05			<.05		
Methyl iodide	ug/L	<1	<1	<2		<1	<2	<1	<1
Methyl methacrylate	ug/L			<1			<1		
Methyl methanesulfonate	ug/L			<8			<8		
Methyl parathion	ug/L			<.4			<.4		
Methylene chloride	ug/L	<5	<5	<5		<5	<5	<5	<5
Naphthalene	ug/L			<8			<8		
Nickel, total	ug/L	10.4	6.6	<4.0		<4.0	<4.0	<4.0	<4.0
Nitrobenzene	ug/L			<8			<8		
N-nitrosodiethylamine	ug/L			<8			<8		
N-nitrosodimethylamine	ug/L			<8			<8		
N-nitrosodi-n-butylamine	ug/L			<8			<8		
N-nitroso-di-n-propylamine	ug/L			<8			<8		
N-nitrosodiphenylamine	ug/L			<8			<8		
N-nitrosomethylethylamine	ug/L			<8			<8		
N-nitrosopiperidine	ug/L			<8			<8		
N-nitrosopyrrolidine	ug/L			<8			<8		
O,o,o-triethyl phosphorothioate	ug/L			<.4			<.4		
O-toluidine	ug/L			<8			<8		
Parathion	ug/L			<.4			<.4		
P-dimethylaminoazobenzene	ug/L			<8			<8		
Pentachlorobenzene	ug/L			<8			<8		
Pentachloronitrobenzene (pcnb)	ug/L			<8			<8		
Pentachlorophenol	ug/L			<8			<8		
Phenacetin	ug/L			<8			<8		
Phenanthrene	ug/L			<8			<8		
Phenol	ug/L			<8			<8		
Phorate	ug/L			<.4			<.4		
Pronamide	ug/L			<8			<8		
Propionitrile	ug/L			<10			<10		
Pyrene	ug/L			<8			<8		
Safrole	ug/L			<8			<8		
Selenium, total	ug/L	20.6	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0
Silver, total	ug/L	<4	<4	<4		<4	<4	<4	<4
Styrene	ug/L	<1	<1	<1		<1	<1	<1	<1
Sulfide, total	mg/L			<.1			<.1		
Tetrachloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
Thallium, total	ug/L	<2	<2	<2		<2	<2	<2	<2
Thionazin	ug/L			<.4			<.4		
Tin, total	ug/L			<20			<20		
Toluene	ug/L	<1	<1	<1		<1	<1	<1	<1
Toxaphene	ug/L			<.2			<.2		
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1		<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5		<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20		<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5		<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1		<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2		<2	<2	<2	<2
Zinc, total	ug/L	42.6	<20.0	<20.0		221.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-16

Constituents	4/6/2023	10/10/2023
Heptachlor epoxide		
Hexachlorobenzene		
Hexachlorobutadiene		
Hexachlorocyclopentadiene		
Hexachloroethane		
Hexachloropropene		
Indeno(1,2,3-cd)pyrene		
Isobutanol		
Isodrin		
Isophorone		
Isosafrole		
Kepone		
Lead, total	<4	<4
Mercury, total		
Methacrylonitrile		
Methapyrilene		
Methoxychlor		
Methyl iodide	<1	<1
Methyl methacrylate		
Methyl methanesulfonate		
Methyl parathion		
Methylene chloride	<5	<5
Naphthalene		
Nickel, total	<4.0	<4.0
Nitrobenzene		
N-nitrosodiethylamine		
N-nitrosodimethylamine		
N-nitrosodi-n-butylamine		
N-nitroso-di-n-propylamine		
N-nitrosodiphenylamine		
N-nitrosomethylethylamine		
N-nitrosopiperidine		
N-nitrosopyrrolidine		
O,o,o-triethyl phosphorothioate		
O-toluidine		
Parathion		
P-dimethylaminoazobenzene		
Pentachlorobenzene		
Pentachloronitrobenzene (pcnb)		
Pentachlorophenol		
Phenacetin		
Phenanthrene		
Phenol		
Phorate		
Pronamide		
Propionitrile		
Pyrene		
Safrole		
Selenium, total	<4.0	<4.0
Silver, total	<4	<4
Styrene	<1	<1
Sulfide, total		
Tetrachloroethylene	<1	<1
Thallium, total	<2	<2
Thionazin		
Tin, total		
Toluene	<1	<1
Toxaphene		
Trans-1,2-dichloroethylene	<1	<1
Trans-1,3-dichloropropene	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5
Trichloroethylene	<1	<1
Trichlorofluoromethane	<1	<1
Vanadium, total	<20	<20
Vinyl acetate	<5	<5
Vinyl chloride	<1	<1
Xylenes, total	<2	<2
Zinc, total	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-2

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	6/14/2016	10/11/2016	4/20/2017	10/12/2017
(3 4)-methylphenol	ug/L						<8		<8
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1		<1	<1	<1
1,1-dichloropropene	ug/L						<1		<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L						<8		<8
1,2,4-trichlorobenzene	ug/L						<1		<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1		<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1		<1	<1	<1
1,2-dinitrobenzene	ug/L						<8		<8
1,3,5-trinitrobenzene	ug/L						<8		<8
1,3-dichlorobenzene	ug/L						<1		<1
1,3-dichloropropane	ug/L						<1		<1
1,3-dinitrobenzene	ug/L						<8		<8
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1		<1	<1	<1
1,4-naphthoquinone	ug/L						<8		<8
1,4-phenylenediamine	ug/L						<8		<8
1-naphthylamine	ug/L						<8		<8
2,2-dichloropropane	ug/L						<1		<1
2,3,4,6-tetrachlorophenol	ug/L						<8		<8
2,4,5-t	ug/L						<.5		<.5
2,4,5-tp (silvex)	ug/L						<.5		<.5
2,4,5-trichlorophenol	ug/L						<8		<8
2,4,6-trichlorophenol	ug/L						<8		<8
2,4-d	ug/L						<2		<2
2,4-dichlorophenol	ug/L						<8		<8
2,4-dimethylphenol	ug/L						<8		<8
2,4-dinitrophenol	ug/L						<8		<8
2,4-dinitrotoluene	ug/L						<8		<8
2,6-dichlorophenol	ug/L						<8		<8
2,6-dinitrotoluene	ug/L						<8		<8
2-acetylaminofluorene	ug/L						<8		<8
2-butanone (mek)	ug/L	<5	<5	<5	<5		<5	<5	<5
2-chloronaphthalene	ug/L						<8		<8
2-chlorophenol	ug/L						<8		<8
2-hexanone (mbk)	ug/L	<5	<5	<5	<5		<5	<5	<5
2-methylnaphthalene	ug/L						<8		<8
2-methylphenol	ug/L						<8		<8
2-naphthylamine	ug/L						<8		<8
2-nitroaniline	ug/L						<8		<8
2-nitrophenol	ug/L						<8		<8
3,3´-dichlorobenzidine	ug/L						<8		<8
3,3'-dimethylbenzidine	ug/L						<8		<8
3-methylcholanthrene	ug/L						<8		<8
3-nitroaniline	ug/L						<8		<8
4,4´-ddd	ug/L						<.05		<.05
4,4´-dde	ug/L						<.05		<.05
4,4´-ddt	ug/L						<.05		<.05
4,6-dinitro-2-methylphenol	ug/L						<8		<8
4-aminobiphenyl	ug/L						<8		<8
4-bromophenyl phenyl ether	ug/L						<8		<8
4-chloro-3-methylphenol	ug/L						<8		<8
4-chloroaniline	ug/L						<8		<8
4-chlorophenyl phenyl ether	ug/L						<8		<8
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5		<5	<5	<5
4-nitroaniline	ug/L						<8		<8
4-nitrophenol	ug/L						<8		<8
5-nitro-o-toluidine	ug/L						<8		<8
7,12-dimethylbenz(a)anthracene	ug/L						<8		<8
Acenaphthene	ug/L						<8		<8
Acenaphthylene	ug/L						<8		<8
Acetone	ug/L	<10	<10	<10	<10		<10	<10	<10
Acetonitrile	ug/L						<10		<10
Acetophenone	ug/L						<8		<8
Acrolein	ug/L						<10		<10
Acrylonitrile	ug/L	<5	<5	<5	<5		<5	<5	<5
Aldrin	ug/L						<.05		<.05
Allyl chloride	ug/L						<1		<1
Alpha-bhc	ug/L						<.05		<.05

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

Table 9

Analytical Data Summary for MW-2

Constituents	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
(3 4)-methylphenol									
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene									
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene									
1,2,4-trichlorobenzene									
1,2-dibromo-3-chloropropane	<1	<1	<1	<1	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene									
1,3,5-trinitrobenzene									
1,3-dichlorobenzene									
1,3-dichloropropane									
1,3-dinitrobenzene									
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone									
1,4-phenylenediamine									
1-naphthylamine									
2,2-dichloropropane									
2,3,4,6-tetrachlorophenol									
2,4,5-t									
2,4,5-tp (silvex)									
2,4,5-trichlorophenol									
2,4,6-trichlorophenol									
2,4-d									
2,4-dichlorophenol									
2,4-dimethylphenol									
2,4-dinitrophenol									
2,4-dinitrotoluene									
2,6-dichlorophenol									
2,6-dinitrotoluene									
2-acetylaminofluorene									
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<5	<5	<10
2-chloronaphthalene									
2-chlorophenol									
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene									
2-methylphenol									
2-naphthylamine									
2-nitroaniline									
2-nitrophenol									
3,3´-dichlorobenzidine									
3,3'-dimethylbenzidine									
3-methylcholanthrene									
3-nitroaniline									
4,4´-ddd									
4,4´-dde									
4,4´-ddt									
4,6-dinitro-2-methylphenol									
4-aminobiphenyl									
4-bromophenyl phenyl ether									
4-chloro-3-methylphenol									
4-chloroaniline									
4-chlorophenyl phenyl ether									
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline									
4-nitrophenol									
5-nitro-o-toluidine									
7,12-dimethylbenz(a)anthracene									
Acenaphthene									
Acenaphthylene									
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetonitrile									
Acetophenone									
Acrolein									
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin									
Allyl chloride									
Alpha-bhc									

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

Table 9

Analytical Data Summary for MW-2

Constituents	10/19/2022	4/6/2023	10/10/2023
(3 4)-methylphenol	<8		
1,1,1,2-tetrachloroethane	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1
1,1-dichloroethane	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1
1,1-dichloropropene	<1		
1,2,3-trichloropropane	<1	<1	<1
1,2,4,5-tetrachlorobenzene	<8		
1,2,4-trichlorobenzene	<1		
1,2-dibromo-3-chloropropane	<1	<5	<5
1,2-dibromoethane	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1
1,2-dichloroethane	<1	<1	<1
1,2-dichloropropane	<1	<1	<1
1,2-dinitrobenzene	<8		
1,3,5-trinitrobenzene	<8		
1,3-dichlorobenzene	<1		
1,3-dichloropropane	<1		
1,3-dinitrobenzene	<8		
1,4-dichlorobenzene	<1	<1	<1
1,4-naphthoquinone	<8		
1,4-phenylenediamine	<8		
1-naphthylamine	<8		
2,2-dichloropropane	<1		
2,3,4,6-tetrachlorophenol	<8		
2,4,5-t	<.5		
2,4,5-tp (silvex)	<.5		
2,4,5-trichlorophenol	<8		
2,4,6-trichlorophenol	<8		
2,4-d	<2		
2,4-dichlorophenol	<8		
2,4-dimethylphenol	<8		
2,4-dinitrophenol	<8		
2,4-dinitrotoluene	<8		
2,6-dichlorophenol	<8		
2,6-dinitrotoluene	<8		
2-acetylaminofluorene	<8		
2-butanone (mek)	<5	<10	<10
2-chloronaphthalene	<8		
2-chlorophenol	<8		
2-hexanone (mbk)	<5	<5	<5
2-methylnaphthalene	<8		
2-methylphenol	<8		
2-naphthylamine	<8		
2-nitroaniline	<8		
2-nitrophenol	<8		
3,3´-dichlorobenzidine	<8		
3,3'-dimethylbenzidine	<8		
3-methylcholanthrene	<8		
3-nitroaniline	<8		
4,4´-ddd	<.05		
4,4´-dde	<.05		
4,4´-ddt	<.05		
4,6-dinitro-2-methylphenol	<8		
4-aminobiphenyl	<8		
4-bromophenyl phenyl ether	<8		
4-chloro-3-methylphenol	<8		
4-chloroaniline	<8		
4-chlorophenyl phenyl ether	<8		
4-methyl-2-pentanone (mibk)	<5	<5	<5
4-nitroaniline	<8		
4-nitrophenol	<8		
5-nitro-o-toluidine	<8		
7,12-dimethylbenz(a)anthracene	<8		
Acenaphthene	<8		
Acenaphthylene	<8		
Acetone	<10	<10	<10
Acetonitrile	<10		
Acetophenone	<8		
Acrolein	<10		
Acrylonitrile	<5	<5	<5
Aldrin	<.05		
Allyl chloride	<1		
Alpha-bhc	<.05		

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

Table 9

Analytical Data Summary for MW-2

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	6/14/2016	10/11/2016	4/20/2017	10/12/2017
Anthracene	ug/L						<8		<8
Antimony, total	ug/L	<2	<2	<2	<2		<2	<2	<2
Arochlor 1016	ug/L						<.1		<.1
Arochlor 1221	ug/L						<.2		<.2
Arochlor 1232	ug/L						<.2		<.2
Arochlor 1242	ug/L						<.2		<.2
Arochlor 1248	ug/L						<.2		<.2
Arochlor 1254	ug/L						<.1		<.1
Arochlor 1260	ug/L						<.1		<.1
Arsenic, total	ug/L	<4.0	<4.0	<4.0	12.5	6.5	<4.0	9.4	5.0
Azobenzene	ug/L						<8		<8
Barium, total	ug/L	35.4	40.5	45.3	35.2		69.5	60.2	53.2
Benzene	ug/L	<1	<1	<1	<1		<1	<1	<1
Benzo(a)anthracene	ug/L						<8		<8
Benzo(a)pyrene	ug/L						<8		<8
Benzo(b)fluoranthene	ug/L						<8		<8
Benzo(g,h,i)perylene	ug/L						<8		<8
Benzo(k)fluoranthene	ug/L						<8		<8
Benzyl alcohol	ug/L						<8		<8
Beryllium, total	ug/L	<4	<4	<4	<4		<4	<4	<4
Beta-bhc	ug/L						<.05		<.05
Bis (2-chloroethoxy) methane	ug/L						<8		<8
Bis(2-chloroethyl) ether	ug/L						<8		<8
Bis(2-chloroisopropyl) ether	ug/L						<8		<8
Bis(2-ethylhexyl) phthalate	ug/L						<8		35
Bromochloromethane	ug/L	<1	<1	<1	<1		<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1		<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1		<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1		<1	<1	<1
Butyl benzyl phthalate	ug/L						<8		<8
Cadmium, total	ug/L	<.8	<.8	<.8	<.8		<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1		<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1		<1	<1	<1
Chlordane	ug/L						<.1		<.1
Chlorobenzene	ug/L	<1	<1	<1	<1		<1	<1	<1
Chlorobenzilate	ug/L						<8		<8
Chloroethane	ug/L	<1	<1	<1	<1		<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1		<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1		<1	<1	<1
Chloroprene	ug/L						<1		<1
Chromium, total	ug/L	<8	<8	<8	<8		<8	<8	<8
Chrysene	ug/L						<8		<8
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1		<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1		<1	<1	<1
Cobalt, total	ug/L	<.8	1.3	4.3	1.5		2.6	3.9	5.5
Copper, total	ug/L	<4	<4	<4	<4		<4	<4	<4
Cyanide, total	mg/L						<.005		<.005
Delta-bhc	ug/L						<.05		<.05
Diallate	ug/L						<8		<8
Dibenzo(a,h)anthracene	ug/L						<8		<8
Dibenzofuran	ug/L						<8		<8
Dibromochloromethane	ug/L	<1	<1	<1	<1		<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1		<1	<1	<1
Dichlorodifluoromethane	ug/L						<1		<1
Dieldrin	ug/L						<.05		<.05
Diethyl phthalate	ug/L						<8		<8
Dimethoate	ug/L						<.4		<.4
Dimethylphthalate	ug/L						<8		<8
Di-n-butyl phthalate	ug/L						<8		<8
Di-n-octyl phthalate	ug/L						<8		<8
Dinoseb	ug/L						<.5		<.5
Diphenylamine	ug/L						<8		<8
Disulfoton	ug/L						<.4		<.4
Endosulfan i	ug/L						<.05		<.05
Endosulfan ii	ug/L						<.05		<.05
Endosulfan sulfate	ug/L						<.05		<.05
Endrin	ug/L						<.05		<.05
Endrin aldehyde	ug/L						<.05		<.05
Ethyl methacrylate	ug/L						<10		<10
Ethyl methanesulfonate	ug/L						<8		<8
Ethylbenzene	ug/L	<1	<1	<1	<1		<1	<1	<1
Famphur	ug/L						<.4		<.4
Fluoranthene	ug/L						<8		<8
Fluorene	ug/L						<8		<8
Gamma-bhc (lindane)	ug/L						<.05		<.05
Heptachlor	ug/L						<.05		<.05

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

Table 9

Analytical Data Summary for MW-2

Constituents	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Anthracene									
Antimony, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016									
Arochlor 1221									
Arochlor 1232									
Arochlor 1242									
Arochlor 1248									
Arochlor 1254									
Arochlor 1260									
Arsenic, total	4.7	<4.0	4.3	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Azobenzene									
Barium, total	43.7	42.6	60.9	51.2	37.9	43.5	37.1	34.4	31.1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene									
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(g,h,i)perylene									
Benzo(k)fluoranthene									
Benzyl alcohol									
Beryllium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc									
Bis (2-chloroethoxy) methane									
Bis(2-chloroethyl) ether									
Bis(2-chloroisopropyl) ether									
Bis(2-ethylhexyl) phthalate	<6	<6	<6	25	<6	<6	<6	12	11
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate									
Cadmium, total	<.8	<.8	2.7	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane									
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate									
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene									
Chromium, total	<8	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene									
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	3.3	2.4	3.0	.8	5.8	4.2	5.1	1.7	4.4
Copper, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Cyanide, total									
Delta-bhc									
Diallate									
Dibenzo(a,h)anthracene									
Dibenzofuran									
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane									
Dieldrin									
Diethyl phthalate									
Dimethoate									
Dimethylphthalate									
Di-n-butyl phthalate									
Di-n-octyl phthalate									
Dinoseb									
Diphenylamine									
Disulfoton									
Endosulfan i									
Endosulfan ii									
Endosulfan sulfate									
Endrin									
Endrin aldehyde									
Ethyl methacrylate									
Ethyl methanesulfonate									
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Famphur									
Fluoranthene									
Fluorene									
Gamma-bhc (lindane)									
Heptachlor									

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

Table 9

Analytical Data Summary for MW-2

Constituents	10/19/2022	4/6/2023	10/10/2023
Anthracene	<8		
Antimony, total	<2	<2	<2
Arochlor 1016	<.1		
Arochlor 1221	<.2		
Arochlor 1232	<.2		
Arochlor 1242	<.2		
Arochlor 1248	<.2		
Arochlor 1254	<.1		
Arochlor 1260	<.1		
Arsenic, total	4.1	4.1	<4.0
Azobenzene	<8		
Barium, total	45.0	33.2	36.7
Benzene	<1	<1	<1
Benzo(a)anthracene	<8		
Benzo(a)pyrene	<8		
Benzo(b)fluoranthene	<8		
Benzo(g,h,i)perylene	<8		
Benzo(k)fluoranthene	<8		
Benzyl alcohol	<8		
Beryllium, total	<4	<4	<4
Beta-bhc	<.05		
Bis (2-chloroethoxy) methane	<8		
Bis(2-chloroethyl) ether	<8		
Bis(2-chloroisopropyl) ether	<8		
Bis(2-ethylhexyl) phthalate	<6		
Bromochloromethane	<1	<1	<1
Bromodichloromethane	<1	<1	<1
Bromoform	<1	<1	<1
Bromomethane	<1	<1	<1
Butyl benzyl phthalate	<8		
Cadmium, total	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1
Carbon tetrachloride	<1	<1	<1
Chlordane	<.1		
Chlorobenzene	<1	<1	<1
Chlorobenzilate	<8		
Chloroethane	<1	<1	<1
Chloroform	<1	<1	<1
Chloromethane	<1	<1	<1
Chloroprene	<1		
Chromium, total	<8	<8	<8
Chrysene	<8		
Cis-1,2-dichloroethylene	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1
Cobalt, total	4.0	2.8	1.8
Copper, total	<4	<4	<4
Cyanide, total	<.005		
Delta-bhc	<.05		
Diallate	<8		
Dibenzo(a,h)anthracene	<8		
Dibenzofuran	<8		
Dibromochloromethane	<1	<1	<1
Dibromomethane	<1	<1	<1
Dichlorodifluoromethane	<1		
Dieldrin	<.05		
Diethyl phthalate	<8		
Dimethoate	<.4		
Dimethylphthalate	<8		
Di-n-butyl phthalate	<8		
Di-n-octyl phthalate	<8		
Dinoseb	<.5		
Diphenylamine	<8		
Disulfoton	<.4		
Endosulfan i	<.05		
Endosulfan ii	<.05		
Endosulfan sulfate	<.05		
Endrin	<.05		
Endrin aldehyde	<.05		
Ethyl methacrylate	<10		
Ethyl methanesulfonate	<8		
Ethylbenzene	<1	<1	<1
Famphur	<.4		
Fluoranthene	<8		
Fluorene	<8		
Gamma-bhc (lindane)	<.05		
Heptachlor	<.05		

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

Table 9

Analytical Data Summary for MW-2

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	6/14/2016	10/11/2016	4/20/2017	10/12/2017
Heptachlor epoxide	ug/L						<.05		<.05
Hexachlorobenzene	ug/L						<.05		<.05
Hexachlorobutadiene	ug/L						<8		<8
Hexachlorocyclopentadiene	ug/L						<8		<8
Hexachloroethane	ug/L						<8		<8
Hexachloropropene	ug/L						<8		<8
Indeno(1,2,3-cd)pyrene	ug/L						<8		<8
Isobutanol	mg/L						<1		<1
Isodrin	ug/L						<8		<8
Isophorone	ug/L						<8		<8
Isosafrole	ug/L						<8		<8
Kepone	ug/L						<8		<8
Lead, total	ug/L	<4	<4	<4	<4		<4	<4	<4
Mercury, total	ug/L						<.5		<.5
Methacrylonitrile	ug/L						<1		<1
Methapyrilene	ug/L						<8		<8
Methoxychlor	ug/L						<.05		<.05
Methyl iodide	ug/L	<1	<1	<1	<1		<1	<1	<1
Methyl methacrylate	ug/L						<1		<1
Methyl methanesulfonate	ug/L						<8		<8
Methyl parathion	ug/L						<.4		<.4
Methylene chloride	ug/L	<5	<5	<5	<5		<5	<5	<5
Naphthalene	ug/L						<8		<8
Nickel, total	ug/L	<4.0	<4.0	5.0	<4.0		4.4	4.7	4.2
Nitrobenzene	ug/L						<8		<8
N-nitrosodiethylamine	ug/L						<8		<8
N-nitrosodimethylamine	ug/L						<8		<8
N-nitrosodi-n-butylamine	ug/L						<8		<8
N-nitroso-di-n-propylamine	ug/L						<8		<8
N-nitrosodiphenylamine	ug/L						<8		<8
N-nitrosomethylethylamine	ug/L						<8		<8
N-nitrosopiperidine	ug/L						<8		<8
N-nitrosopyrrolidine	ug/L						<8		<8
O,o,o-triethyl phosphorothioate	ug/L						<.4		<.4
O-toluidine	ug/L						<8		<8
Parathion	ug/L						<.4		<.4
P-dimethylaminoazobenzene	ug/L						<8		<8
Pentachlorobenzene	ug/L						<8		<8
Pentachloronitrobenzene (pcnb)	ug/L						<8		<8
Pentachlorophenol	ug/L						<8		<8
Phenacetin	ug/L						<8		<8
Phenanthrene	ug/L						<8		<8
Phenol	ug/L						<8		<8
Phorate	ug/L						<.4		<.4
Pronamide	ug/L						<8		<8
Propionitrile	ug/L						<10		<10
Pyrene	ug/L						<8		<8
Safrole	ug/L						<8		<8
Selenium, total	ug/L	<4	<4	<4	<4		<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4		<4	<4	<4
Solids, total suspended	mg/L	194	17						
Styrene	ug/L	<1	<1	<1	<1		<1	<1	<1
Sulfide, total	mg/L						<.1		<.1
Tetrachloroethylene	ug/L	<1	<1	<1	<1		<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4		<4	<4	<4
Thionazin	ug/L						<.4		<.4
Tin, total	ug/L						<20		<20
Toluene	ug/L	<1	<1	<1	<1		<1	<1	<1
Toxaphene	ug/L						<.2		<.2
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1		<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1		<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5		<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1		<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1		<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20		<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5		<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1		<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2		<2	<2	<2
Zinc, total	ug/L	8.5	9.3	<8.0	<8.0		8.3	<20.0	9.5

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

Table 9

Analytical Data Summary for MW-2

Constituents	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Heptachlor epoxide									
Hexachlorobenzene									
Hexachlorobutadiene									
Hexachlorocyclopentadiene									
Hexachloroethane									
Hexachloropropene									
Indeno(1,2,3-cd)pyrene									
Isobutanol									
Isodrin									
Isophorone									
Isosafrole									
Kepone									
Lead, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total									
Methacrylonitrile									
Methapyrilene									
Methoxychlor									
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate									
Methyl methanesulfonate									
Methyl parathion									
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene									
Nickel, total	<4.0	5.7	4.5	4.4	<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene									
N-nitrosodiethylamine									
N-nitrosodimethylamine									
N-nitrosodi-n-butylamine									
N-nitroso-di-n-propylamine									
N-nitrosodiphenylamine									
N-nitrosomethylethylamine									
N-nitrosopiperidine									
N-nitrosopyrrolidine									
O,o,o-triethyl phosphorothioate									
O-toluidine									
Parathion									
P-dimethylaminoazobenzene									
Pentachlorobenzene									
Pentachloronitrobenzene (pcnb)									
Pentachlorophenol									
Phenacetin									
Phenanthrene									
Phenol									
Phorate									
Pronamide									
Propionitrile									
Pyrene									
Safrole									
Selenium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total									
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<4	<4	<2	<2	<2	<2	<2	<2	<2
Thionazin									
Tin, total									
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene									
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	9.0	25.3	42.3	30.6	<20.0	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-2

Constituents	10/19/2022	4/6/2023	10/10/2023
Heptachlor epoxide	<.05		
Hexachlorobenzene	<.05		
Hexachlorobutadiene	<8		
Hexachlorocyclopentadiene	<8		
Hexachloroethane	<8		
Hexachloropropene	<8		
Indeno(1,2,3-cd)pyrene	<8		
Isobutanol	<1		
Isodrin	<8		
Isophorone	<8		
Isosafrole	<8		
Kepone	<8		
Lead, total	<4	<4	<4
Mercury, total	<.5		
Methacrylonitrile	<1		
Methapyrilene	<8		
Methoxychlor	<.05		
Methyl iodide	<2	<1	<1
Methyl methacrylate	<1		
Methyl methanesulfonate	<8		
Methyl parathion	<.4		
Methylene chloride	<5	<5	<5
Naphthalene	<8		
Nickel, total	4.6	<4.0	<4.0
Nitrobenzene	<8		
N-nitrosodiethylamine	<8		
N-nitrosodimethylamine	<8		
N-nitrosodi-n-butylamine	<8		
N-nitroso-di-n-propylamine	<8		
N-nitrosodiphenylamine	<8		
N-nitrosomethylethylamine	<8		
N-nitrosopiperidine	<8		
N-nitrosopyrrolidine	<8		
O,o,o-triethyl phosphorothioate	<.4		
O-toluidine	<8		
Parathion	<.4		
P-dimethylaminoazobenzene	<8		
Pentachlorobenzene	<8		
Pentachloronitrobenzene (pcnb)	<8		
Pentachlorophenol	<8		
Phenacetin	<8		
Phenanthrene	<8		
Phenol	<8		
Phorate	<.4		
Pronamide	<8		
Propionitrile	<10		
Pyrene	<8		
Safrole	<8		
Selenium, total	<4	<4	<4
Silver, total	<4	<4	<4
Solids, total suspended			
Styrene	<1	<1	<1
Sulfide, total	<.1		
Tetrachloroethylene	<1	<1	<1
Thallium, total	<2	<2	<2
Thionazin	<.4		
Tin, total	<20		
Toluene	<1	<1	<1
Toxaphene	<.2		
Trans-1,2-dichloroethylene	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5
Trichloroethylene	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1
Vanadium, total	<20	<20	<20
Vinyl acetate	<5	<5	<5
Vinyl chloride	<1	<1	<1
Xylenes, total	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-3

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017	4/23/2018
(3 4)-methylphenol	ug/L								
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L								
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L								
1,2,4-trichlorobenzene	ug/L								
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L								
1,3,5-trinitrobenzene	ug/L								
1,3-dichlorobenzene	ug/L								
1,3-dichloropropane	ug/L								
1,3-dinitrobenzene	ug/L								
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L								
1,4-phenylenediamine	ug/L								
1-naphthylamine	ug/L								
2,2-dichloropropane	ug/L								
2,3,4,6-tetrachlorophenol	ug/L								
2,4,5-t	ug/L								
2,4,5-tp (silvex)	ug/L								
2,4,5-trichlorophenol	ug/L								
2,4,6-trichlorophenol	ug/L								
2,4-d	ug/L								
2,4-dichlorophenol	ug/L								
2,4-dimethylphenol	ug/L								
2,4-dinitrophenol	ug/L								
2,4-dinitrotoluene	ug/L								
2,6-dichlorophenol	ug/L								
2,6-dinitrotoluene	ug/L								
2-acetylaminofluorene	ug/L								
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-chloronaphthalene	ug/L								
2-chlorophenol	ug/L								
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L								
2-methylphenol	ug/L								
2-naphthylamine	ug/L								
2-nitroaniline	ug/L								
2-nitrophenol	ug/L								
3,3´-dichlorobenzidine	ug/L								
3,3'-dimethylbenzidine	ug/L								
3-methylcholanthrene	ug/L								
3-nitroaniline	ug/L								
4,4´-ddd	ug/L								
4,4´-dde	ug/L								
4,4´-ddt	ug/L								
4,6-dinitro-2-methylphenol	ug/L								
4-aminobiphenyl	ug/L								
4-bromophenyl phenyl ether	ug/L								
4-chloro-3-methylphenol	ug/L								
4-chloroaniline	ug/L								
4-chlorophenyl phenyl ether	ug/L								
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	ug/L								
4-nitrophenol	ug/L								
5-nitro-o-toluidine	ug/L								
7,12-dimethylbenz(a)anthracene	ug/L								
Acenaphthene	ug/L								
Acenaphthylene	ug/L								
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Acetonitrile	ug/L								
Acetophenone	ug/L								
Acrolein	ug/L								
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	ug/L								
Allyl chloride	ug/L								
Alpha-bhc	ug/L								

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

Table 9

Analytical Data Summary for MW-3

Constituents	7/5/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
(3 4)-methylphenol		<8		<8					
1,1,1,2-tetrachloroethane		<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane		<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane		<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane		<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane		<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene		<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene		<1		<1					
1,2,3-trichloropropane		<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene		<8		<8					
1,2,4-trichlorobenzene		<1		<1					
1,2-dibromo-3-chloropropane		<1	<1	<1	<5	<5	<5	<5	<5
1,2-dibromoethane		<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane		<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane		<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene		<8		<8					
1,3,5-trinitrobenzene		<8		<8					
1,3-dichlorobenzene		<1		<1					
1,3-dichloropropane		<1		<1					
1,3-dinitrobenzene		<8		<8					
1,4-dichlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone		<8		<8					
1,4-phenylenediamine		<8		<8					
1-naphthylamine		<8		<8					
2,2-dichloropropane		<1		<1					
2,3,4,6-tetrachlorophenol		<8		<8					
2,4,5-t		<.5		<.5					
2,4,5-tp (silvex)		<.5		<.5					
2,4,5-trichlorophenol		<8		<8					
2,4,6-trichlorophenol		<8		<8					
2,4-d		<2		<2					
2,4-dichlorophenol		<8		<8					
2,4-dimethylphenol		<8		<8					
2,4-dinitrophenol		<8		<8					
2,4-dinitrotoluene		<8		<8					
2,6-dichlorophenol		<8		<8					
2,6-dinitrotoluene		<8		<8					
2-acetylaminofluorene		<8		<8					
2-butanone (mek)		<5	<5	<5	<5	<5	<5	<5	<10
2-chloronaphthalene		<8		<8					
2-chlorophenol		<8		<8					
2-hexanone (mbk)		<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene		<8		<8					
2-methylphenol		<8		<8					
2-naphthylamine		<8		<8					
2-nitroaniline		<8		<8					
2-nitrophenol		<8		<8					
3,3´-dichlorobenzidine		<8		<8					
3,3'-dimethylbenzidine		<8		<8					
3-methylcholanthrene		<8		<8					
3-nitroaniline		<8		<8					
4,4´-ddd		<.05		<.05					
4,4´-dde		<.05		<.05					
4,4´-ddt		<.05		<.05					
4,6-dinitro-2-methylphenol		<8		<8					
4-aminobiphenyl		<8		<8					
4-bromophenyl phenyl ether		<8		<8					
4-chloro-3-methylphenol		<8		<8					
4-chloroaniline		<8		<8					
4-chlorophenyl phenyl ether		<8		<8					
4-methyl-2-pentanone (mibk)		<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline		<8		<8					
4-nitrophenol		<8		<8					
5-nitro-o-toluidine		<8		<8					
7,12-dimethylbenz(a)anthracene		<8		<8					
Acenaphthene		<8		<8					
Acenaphthylene		<8		<8					
Acetone		<10	<10	<10	<10	<10	<10	<10	<10
Acetonitrile		<10		<10					
Acetophenone		<8		<8					
Acrolein		<10		<10					
Acrylonitrile		<5	<5	<5	<5	<5	<5	<5	<5
Aldrin		<.05		<.05					
Allyl chloride		<1		<1					
Alpha-bhc		<.05		<.05					

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

Table 9

Analytical Data Summary for MW-3

Constituents	10/19/2022	4/6/2023	10/10/2023
(3 4)-methylphenol			
1,1,1,2-tetrachloroethane	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1
1,1-dichloroethane	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1
1,1-dichloropropene			
1,2,3-trichloropropane	<1	<1	<1
1,2,4,5-tetrachlorobenzene			
1,2,4-trichlorobenzene			
1,2-dibromo-3-chloropropane	<5	<5	<5
1,2-dibromoethane	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1
1,2-dichloroethane	<1	<1	<1
1,2-dichloropropane	<1	<1	<1
1,2-dinitrobenzene			
1,3,5-trinitrobenzene			
1,3-dichlorobenzene			
1,3-dichloropropane			
1,3-dinitrobenzene			
1,4-dichlorobenzene	<1	<1	<1
1,4-naphthoquinone			
1,4-phenylenediamine			
1-naphthylamine			
2,2-dichloropropane			
2,3,4,6-tetrachlorophenol			
2,4,5-t			
2,4,5-tp (silvex)			
2,4,5-trichlorophenol			
2,4,6-trichlorophenol			
2,4-d			
2,4-dichlorophenol			
2,4-dimethylphenol			
2,4-dinitrophenol			
2,4-dinitrotoluene			
2,6-dichlorophenol			
2,6-dinitrotoluene			
2-acetylaminofluorene			
2-butanone (mek)	<10	<10	<10
2-chloronaphthalene			
2-chlorophenol			
2-hexanone (mbk)	<5	<5	<5
2-methylnaphthalene			
2-methylphenol			
2-naphthylamine			
2-nitroaniline			
2-nitrophenol			
3,3´-dichlorobenzidine			
3,3'-dimethylbenzidine			
3-methylcholanthrene			
3-nitroaniline			
4,4´-ddd			
4,4´-dde			
4,4´-ddt			
4,6-dinitro-2-methylphenol			
4-aminobiphenyl			
4-bromophenyl phenyl ether			
4-chloro-3-methylphenol			
4-chloroaniline			
4-chlorophenyl phenyl ether			
4-methyl-2-pentanone (mibk)	<5	<5	<5
4-nitroaniline			
4-nitrophenol			
5-nitro-o-toluidine			
7,12-dimethylbenz(a)anthracene			
Acenaphthene			
Acenaphthylene			
Acetone	<10	<10	<10
Acetonitrile			
Acetophenone			
Acrolein			
Acrylonitrile	<5	<5	<5
Aldrin			
Allyl chloride			
Alpha-bhc			

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

Table 9

Analytical Data Summary for MW-3

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017	4/23/2018
Anthracene	ug/L								
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	ug/L								
Arochlor 1221	ug/L								
Arochlor 1232	ug/L								
Arochlor 1242	ug/L								
Arochlor 1248	ug/L								
Arochlor 1254	ug/L								
Arochlor 1260	ug/L								
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Azobenzene	ug/L								
Barium, total	ug/L	94.1	90.2	92.3	37.9	80.9	39.6	94.8	55.7
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L								
Benzo(a)pyrene	ug/L								
Benzo(b)fluoranthene	ug/L								
Benzo(g,h,i)perylene	ug/L								
Benzo(k)fluoranthene	ug/L								
Benzyl alcohol	ug/L								
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	ug/L								
Bis (2-chloroethoxy) methane	ug/L								
Bis(2-chloroethyl) ether	ug/L								
Bis(2-chloroisopropyl) ether	ug/L								
Bis(2-ethylhexyl) phthalate	ug/L								
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L								
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	ug/L								
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	ug/L								
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene	ug/L								
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene	ug/L								
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Copper, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Cyanide, total	mg/L								
Delta-bhc	ug/L								
Diallate	ug/L								
Dibenzo(a,h)anthracene	ug/L								
Dibenzofuran	ug/L								
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L								
Dieldrin	ug/L								
Diethyl phthalate	ug/L								
Dimethoate	ug/L								
Dimethylphthalate	ug/L								
Di-n-butyl phthalate	ug/L								
Di-n-octyl phthalate	ug/L								
Dinoseb	ug/L								
Diphenylamine	ug/L								
Disulfoton	ug/L								
Endosulfan i	ug/L								
Endosulfan ii	ug/L								
Endosulfan sulfate	ug/L								
Endrin	ug/L								
Endrin aldehyde	ug/L								
Ethyl methacrylate	ug/L								
Ethyl methanesulfonate	ug/L								
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	ug/L								
Fluoranthene	ug/L								
Fluorene	ug/L								
Gamma-bhc (lindane)	ug/L								
Heptachlor	ug/L								

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

Table 9

Analytical Data Summary for MW-3

Constituents	7/5/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Anthracene		<8		<8					
Antimony, total		<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016		<.1		<.1					
Arochlor 1221		<.2		<.2					
Arochlor 1232		<.2		<.2					
Arochlor 1242		<.2		<.2					
Arochlor 1248		<.2		<.2					
Arochlor 1254		<.1		<.1					
Arochlor 1260		<.1		<.1					
Arsenic, total		<4	<4	<4	<4	<4	<4	<4	<4
Azobenzene		<8		<8					
Barium, total		76.9	68.4	93.3	53.2	99.8	82.1	88.6	69.5
Benzene		<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene		<8		<8					
Benzo(a)pyrene		<8		<8					
Benzo(b)fluoranthene		<8		<8					
Benzo(g,h,i)perylene		<8		<8					
Benzo(k)fluoranthene		<8		<8					
Benzyl alcohol		<8		<8					
Beryllium, total		<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc		<.05		<.05					
Bis (2-chloroethoxy) methane		<8		<8					
Bis(2-chloroethyl) ether		<8		<8					
Bis(2-chloroisopropyl) ether		<8		<8					
Bis(2-ethylhexyl) phthalate		<6		6					
Bromochloromethane		<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane		<1	<1	<1	<1	<1	<1	<1	<1
Bromoform		<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane		<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate		<8		<8					
Cadmium, total		<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide		<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride		<1	<1	<1	<1	<1	<1	<1	<1
Chlordane		<.1		<.1					
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate		<8		<8					
Chloroethane		<1	<1	<1	<1	<1	<1	<1	<1
Chloroform		<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane		<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene		<1		<1					
Chromium, total		<8	<8	<8	<8	<8	<8	<8	<8
Chrysene		<8		<8					
Cis-1,2-dichloroethylene		<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene		<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total		<.8	<.8	<.8	<.4	<.4	<.4	<.4	<.4
Copper, total		<4	<4	<4	<4	<4	<4	<4	<4
Cyanide, total		<.005		<.005					
Delta-bhc		<.05		<.05					
Diallate		<8		<8					
Dibenzo(a,h)anthracene		<8		<8					
Dibenzofuran		<8		<8					
Dibromochloromethane		<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane		<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane		<1		<1					
Dieldrin		<.05		<.05					
Diethyl phthalate		<8		<8					
Dimethoate		<.4		<.4					
Dimethylphthalate		<8		<8					
Di-n-butyl phthalate		<8		<8					
Di-n-octyl phthalate		<8		<8					
Dinoseb		<.5		<.5					
Diphenylamine		<8		<8					
Disulfoton		<.4		<.4					
Endosulfan i		<.05		<.05					
Endosulfan ii		<.05		<.05					
Endosulfan sulfate		<.05		<.05					
Endrin		<.05		<.05					
Endrin aldehyde		<.05		<.05					
Ethyl methacrylate		<10		<10					
Ethyl methanesulfonate		<8		<8					
Ethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
Famphur		<.4		<.4					
Fluoranthene		<8		<8					
Fluorene		<8		<8					
Gamma-bhc (lindane)		<.05		<.05					
Heptachlor		<.05		<.05					

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

Table 9

Analytical Data Summary for MW-3

Constituents	10/19/2022	4/6/2023	10/10/2023
Anthracene			
Antimony, total	<2	<2	<2
Arochlor 1016			
Arochlor 1221			
Arochlor 1232			
Arochlor 1242			
Arochlor 1248			
Arochlor 1254			
Arochlor 1260			
Arsenic, total	<4	<4	<4
Azobenzene			
Barium, total	110.0	84.3	104.0
Benzene	<1	<1	<1
Benzo(a)anthracene			
Benzo(a)pyrene			
Benzo(b)fluoranthene			
Benzo(g,h,i)perylene			
Benzo(k)fluoranthene			
Benzyl alcohol			
Beryllium, total	<4	<4	<4
Beta-bhc			
Bis (2-chloroethoxy) methane			
Bis(2-chloroethyl) ether			
Bis(2-chloroisopropyl) ether			
Bis(2-ethylhexyl) phthalate			
Bromochloromethane	<1	<1	<1
Bromodichloromethane	<1	<1	<1
Bromoform	<1	<1	<1
Bromomethane	<1	<1	<1
Butyl benzyl phthalate			
Cadmium, total	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1
Carbon tetrachloride	<1	<1	<1
Chlordane			
Chlorobenzene	<1	<1	<1
Chlorobenzilate			
Chloroethane	<1	<1	<1
Chloroform	<1	<1	<1
Chloromethane	<1	<1	<1
Chloroprene			
Chromium, total	<8	<8	<8
Chrysene			
Cis-1,2-dichloroethylene	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1
Cobalt, total	<2.0	<.4	<.4
Copper, total	<4	<4	<4
Cyanide, total			
Delta-bhc			
Diallate			
Dibenzo(a,h)anthracene			
Dibenzofuran			
Dibromochloromethane	<1	<1	<1
Dibromomethane	<1	<1	<1
Dichlorodifluoromethane			
Dieldrin			
Diethyl phthalate			
Dimethoate			
Dimethylphthalate			
Di-n-butyl phthalate			
Di-n-octyl phthalate			
Dinoseb			
Diphenylamine			
Disulfoton			
Endosulfan i			
Endosulfan ii			
Endosulfan sulfate			
Endrin			
Endrin aldehyde			
Ethyl methacrylate			
Ethyl methanesulfonate			
Ethylbenzene	<1	<1	<1
Famphur			
Fluoranthene			
Fluorene			
Gamma-bhc (lindane)			
Heptachlor			

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

Table 9

Analytical Data Summary for MW-3

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017	4/23/2018
Heptachlor epoxide	ug/L								
Hexachlorobenzene	ug/L								
Hexachlorobutadiene	ug/L								
Hexachlorocyclopentadiene	ug/L								
Hexachloroethane	ug/L								
Hexachloropropene	ug/L								
Indeno(1,2,3-cd)pyrene	ug/L								
Isobutanol	mg/L								
Isodrin	ug/L								
Isophorone	ug/L								
Isosafrole	ug/L								
Kepone	ug/L								
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total	ug/L								
Methacrylonitrile	ug/L								
Methapyrilene	ug/L								
Methoxychlor	ug/L								
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate	ug/L								
Methyl methanesulfonate	ug/L								
Methyl parathion	ug/L								
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/L								
Nickel, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Nitrobenzene	ug/L								
N-nitrosodiethylamine	ug/L								
N-nitrosodimethylamine	ug/L								
N-nitrosodi-n-butylamine	ug/L								
N-nitroso-di-n-propylamine	ug/L								
N-nitrosodiphenylamine	ug/L								
N-nitrosomethylethylamine	ug/L								
N-nitrosopiperidine	ug/L								
N-nitrosopyrrolidine	ug/L								
O,o,o-triethyl phosphorothioate	ug/L								
O-toluidine	ug/L								
Parathion	ug/L								
P-dimethylaminoazobenzene	ug/L								
Pentachlorobenzene	ug/L								
Pentachloronitrobenzene (pcnb)	ug/L								
Pentachlorophenol	ug/L								
Phenacetin	ug/L								
Phenanthrene	ug/L								
Phenol	ug/L								
Phorate	ug/L								
Pronamide	ug/L								
Propionitrile	ug/L								
Pyrene	ug/L								
Safrole	ug/L								
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended	mg/L	36	5						
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total	mg/L								
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Thionazin	ug/L								
Tin, total	ug/L								
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	ug/L								
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<8.0	14.0	<8.0	<8.0	<8.0	<20.0	<8.0	22.7

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

Table 9

Analytical Data Summary for MW-3

Constituents	7/5/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Heptachlor epoxide		<.05		<.05					
Hexachlorobenzene		<.05		<.05					
Hexachlorobutadiene		<8		<8					
Hexachlorocyclopentadiene		<8		<8					
Hexachloroethane		<8		<8					
Hexachloropropene		<8		<8					
Indeno(1,2,3-cd)pyrene		<8		<8					
Isobutanol		<1		<1					
Isodrin		<8		<8					
Isophorone		<8		<8					
Isosafrole		<8		<8					
Kepone		<8		<8					
Lead, total		<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total		<.5		<.5					
Methacrylonitrile		<1		<1					
Methapyrilene		<8		<8					
Methoxychlor		<.05		<.05					
Methyl iodide		<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate		<1		<1					
Methyl methanesulfonate		<8		<8					
Methyl parathion		<.4		<.4					
Methylene chloride		<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene		<8		<8					
Nickel, total		<4	<4	<4	<4	<4	<4	<4	<4
Nitrobenzene		<8		<8					
N-nitrosodiethylamine		<8		<8					
N-nitrosodimethylamine		<8		<8					
N-nitrosodi-n-butylamine		<8		<8					
N-nitroso-di-n-propylamine		<8		<8					
N-nitrosodiphenylamine		<8		<8					
N-nitrosomethylethylamine		<8		<8					
N-nitrosopiperidine		<8		<8					
N-nitrosopyrrolidine		<8		<8					
O,o,o-triethyl phosphorothioate		<.4		<.4					
O-toluidine		<8		<8					
Parathion		<.4		<.4					
P-dimethylaminoazobenzene		<8		<8					
Pentachlorobenzene		<8		<8					
Pentachloronitrobenzene (pcnb)		<8		<8					
Pentachlorophenol		<8		<8					
Phenacetin		<8		<8					
Phenanthrene		<8		<8					
Phenol		<8		<8					
Phorate		<.4		<.4					
Pronamide		<8		<8					
Propionitrile		<10		<10					
Pyrene		<8		<8					
Safrole		<8		<8					
Selenium, total		<4	<4	<4	<4	<4	<4	<4	<4
Silver, total		<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene		<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total		<.1		<.1					
Tetrachloroethylene		<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total		<4	<2	<2	<2	<2	<2	<2	<2
Thionazin		<.4		<.4					
Tin, total		<20		<20					
Toluene		<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene		<.2		<.2					
Trans-1,2-dichloroethylene		<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene		<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene		<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene		<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane		<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total		<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate		<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride		<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total		<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	152.0	29.8	20.6	26.3	<20.0	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-3

Constituents	10/19/2022	4/6/2023	10/10/2023
Heptachlor epoxide			
Hexachlorobenzene			
Hexachlorobutadiene			
Hexachlorocyclopentadiene			
Hexachloroethane			
Hexachloropropene			
Indeno(1,2,3-cd)pyrene			
Isobutanol			
Isodrin			
Isophorone			
Isosafrole			
Kepone			
Lead, total	<4	<4	<4
Mercury, total			
Methacrylonitrile			
Methapyrilene			
Methoxychlor			
Methyl iodide	<1	<1	<1
Methyl methacrylate			
Methyl methanesulfonate			
Methyl parathion			
Methylene chloride	<5	<5	<5
Naphthalene			
Nickel, total	<4	<4	<4
Nitrobenzene			
N-nitrosodiethylamine			
N-nitrosodimethylamine			
N-nitrosodi-n-butylamine			
N-nitroso-di-n-propylamine			
N-nitrosodiphenylamine			
N-nitrosomethylethylamine			
N-nitrosopiperidine			
N-nitrosopyrrolidine			
O,o,o-triethyl phosphorothioate			
O-toluidine			
Parathion			
P-dimethylaminoazobenzene			
Pentachlorobenzene			
Pentachloronitrobenzene (pcnb)			
Pentachlorophenol			
Phenacetin			
Phenanthrene			
Phenol			
Phorate			
Pronamide			
Propionitrile			
Pyrene			
Safrole			
Selenium, total	<4	<4	<4
Silver, total	<4	<4	<4
Solids, total suspended			
Styrene	<1	<1	<1
Sulfide, total			
Tetrachloroethylene	<1	<1	<1
Thallium, total	<2	<2	<2
Thionazin			
Tin, total			
Toluene	<1	<1	<1
Toxaphene			
Trans-1,2-dichloroethylene	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5
Trichloroethylene	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1
Vanadium, total	<20	<20	<20
Vinyl acetate	<5	<5	<5
Vinyl chloride	<1	<1	<1
Xylenes, total	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-4

Constituents	Units	10/14/2014	1/12/2015	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	1/17/2017	4/20/2017
(3 4)-methylphenol	ug/L								<8
1,1,1,2-tetrachloroethane	ug/L	<1		<1	<1	<1	<1		<1
1,1,1-trichloroethane	ug/L	<1		<1	<1	<1	<1		<1
1,1,2,2-tetrachloroethane	ug/L	<1		<1	<1	<1	<1		<1
1,1,2-trichloroethane	ug/L	<1		<1	<1	<1	<1		<1
1,1-dichloroethane	ug/L	<1		<1	<1	<1	<1		<1
1,1-dichloroethylene	ug/L	<1		<1	<1	<1	<1		<1
1,1-dichloropropene	ug/L								<1
1,2,3-trichloropropane	ug/L	<1		<1	<1	<1	<1		<1
1,2,4,5-tetrachlorobenzene	ug/L								<8
1,2,4-trichlorobenzene	ug/L								<1
1,2-dibromo-3-chloropropane	ug/L	<1		<1	<1	<1	<1		<1
1,2-dibromoethane	ug/L	<1		<1	<1	<1	<1		<1
1,2-dichlorobenzene	ug/L	<1		<1	<1	<1	<1		<1
1,2-dichloroethane	ug/L	<1		<1	<1	<1	<1		<1
1,2-dichloropropane	ug/L	<1		<1	<1	<1	<1		<1
1,2-dinitrobenzene	ug/L								<8
1,3,5-trinitrobenzene	ug/L								<8
1,3-dichlorobenzene	ug/L								<1
1,3-dichloropropane	ug/L								<1
1,3-dinitrobenzene	ug/L								<8
1,4-dichlorobenzene	ug/L	<1		<1	<1	<1	<1		<1
1,4-naphthoquinone	ug/L								<8
1,4-phenylenediamine	ug/L								<8
1-naphthylamine	ug/L								<8
2,2-dichloropropane	ug/L								<1
2,3,4,6-tetrachlorophenol	ug/L								<8
2,4,5-t	ug/L								<.5
2,4,5-tp (silvex)	ug/L								<.5
2,4,5-trichlorophenol	ug/L								<8
2,4,6-trichlorophenol	ug/L								<8
2,4-d	ug/L								<2
2,4-dichlorophenol	ug/L								<8
2,4-dimethylphenol	ug/L								<8
2,4-dinitrophenol	ug/L								<8
2,4-dinitrotoluene	ug/L								<8
2,6-dichlorophenol	ug/L								<8
2,6-dinitrotoluene	ug/L								<8
2-acetylaminofluorene	ug/L								<8
2-butanone (mek)	ug/L	<5		<5	<5	<5	<5		<5
2-chloronaphthalene	ug/L								<8
2-chlorophenol	ug/L								<8
2-hexanone (mbk)	ug/L	<5		<5	<5	<5	<5		<5
2-methylnaphthalene	ug/L								<8
2-methylphenol	ug/L								<8
2-naphthylamine	ug/L								<8
2-nitroaniline	ug/L								<8
2-nitrophenol	ug/L								<8
3,3´-dichlorobenzidine	ug/L								<8
3,3'-dimethylbenzidine	ug/L								<8
3-methylcholanthrene	ug/L								<8
3-nitroaniline	ug/L								<8
4,4´-ddd	ug/L								<.05
4,4´-dde	ug/L								<.05
4,4´-ddt	ug/L								<.05
4,6-dinitro-2-methylphenol	ug/L								<8
4-aminobiphenyl	ug/L								<8
4-bromophenyl phenyl ether	ug/L								<8
4-chloro-3-methylphenol	ug/L								<8
4-chloroaniline	ug/L								<8
4-chlorophenyl phenyl ether	ug/L								<8
4-methyl-2-pentanone (mibk)	ug/L	<5		<5	<5	<5	<5		<5
4-nitroaniline	ug/L								<8
4-nitrophenol	ug/L								<8
5-nitro-o-toluidine	ug/L								<8
7,12-dimethylbenz(a)anthracene	ug/L								<8
Acenaphthene	ug/L								<8
Acenaphthylene	ug/L								<8
Acetone	ug/L	<10		<10	<10	<10	<10		<10
Acetonitrile	ug/L								<10
Acetophenone	ug/L								<8
Acrolein	ug/L								<10
Acrylonitrile	ug/L	<5		<5	<5	<5	<5		<5
Aldrin	ug/L								<.05
Allyl chloride	ug/L								<1
Alpha-bhc	ug/L								<.05

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

Table 9

Analytical Data Summary for MW-4

Constituents	10/12/2017	4/23/2018	7/5/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021
(3 4)-methylphenol		<8							
1,1,1,2-tetrachloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloropropene		<1							
1,2,3-trichloropropane	<1	<1		<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene		<8							
1,2,4-trichlorobenzene		<1							
1,2-dibromo-3-chloropropane	<1	<1		<1	<1	<1	<5	<5	<5
1,2-dibromoethane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene		<8							
1,3,5-trinitrobenzene		<8							
1,3-dichlorobenzene		<1							
1,3-dichloropropane		<1							
1,3-dinitrobenzene		<8							
1,4-dichlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
1,4-naphthoquinone		<8							
1,4-phenylenediamine		<8							
1-naphthylamine		<8							
2,2-dichloropropane		<1							
2,3,4,6-tetrachlorophenol		<8							
2,4,5-t		<.5							
2,4,5-tp (silvex)		<.5							
2,4,5-trichlorophenol		<8							
2,4,6-trichlorophenol		<8							
2,4-d		<2							
2,4-dichlorophenol		<8							
2,4-dimethylphenol		<8							
2,4-dinitrophenol		<8							
2,4-dinitrotoluene		<8							
2,6-dichlorophenol		<8							
2,6-dinitrotoluene		<8							
2-acetylaminofluorene		<8							
2-butanone (mek)	<5	<5		<5	<5	<5	<5	<5	<5
2-chloronaphthalene		<8							
2-chlorophenol		<8							
2-hexanone (mbk)	<5	<5		<5	<5	<5	<5	<5	<5
2-methylnaphthalene		<8							
2-methylphenol		<8							
2-naphthylamine		<8							
2-nitroaniline		<8							
2-nitrophenol		<8							
3,3´-dichlorobenzidine		<8							
3,3'-dimethylbenzidine		<8							
3-methylcholanthrene		<8							
3-nitroaniline		<8							
4,4´-ddd		<.05							
4,4´-dde		<.05							
4,4´-ddt		<.05							
4,6-dinitro-2-methylphenol		<8							
4-aminobiphenyl		<8							
4-bromophenyl phenyl ether		<8							
4-chloro-3-methylphenol		<8							
4-chloroaniline		<8							
4-chlorophenyl phenyl ether		<8							
4-methyl-2-pentanone (mibk)	<5	<5		<5	<5	<5	<5	<5	<5
4-nitroaniline		<8							
4-nitrophenol		<8							
5-nitro-o-toluidine		<8							
7,12-dimethylbenz(a)anthracene		<8							
Acenaphthene		<8							
Acenaphthylene		<8							
Acetone	<10	<10		<10	<10	<10	<10	<10	<10
Acetonitrile		<10							
Acetophenone		<8							
Acrolein		<10							
Acrylonitrile	<5	<5		<5	<5	<5	<5	<5	<5
Aldrin		<.05							
Allyl chloride		<1							
Alpha-bhc		<.05							

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

Table 9

Analytical Data Summary for MW-4

Constituents	10/28/2021	4/13/2022	10/19/2022	4/6/2023	10/10/2023
(3 4)-methylphenol					
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1
1,1-dichloropropene					
1,2,3-trichloropropane	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene					
1,2,4-trichlorobenzene					
1,2-dibromo-3-chloropropane	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1
1,2-dinitrobenzene					
1,3,5-trinitrobenzene					
1,3-dichlorobenzene					
1,3-dichloropropane					
1,3-dinitrobenzene					
1,4-dichlorobenzene	<1	<1	<1	<1	<1
1,4-naphthoquinone					
1,4-phenylenediamine					
1-naphthylamine					
2,2-dichloropropane					
2,3,4,6-tetrachlorophenol					
2,4,5-t					
2,4,5-tp (silvex)					
2,4,5-trichlorophenol					
2,4,6-trichlorophenol					
2,4-d					
2,4-dichlorophenol					
2,4-dimethylphenol					
2,4-dinitrophenol					
2,4-dinitrotoluene					
2,6-dichlorophenol					
2,6-dinitrotoluene					
2-acetylaminofluorene					
2-butanone (mek)	<5	<10	<10	<10	<10
2-chloronaphthalene					
2-chlorophenol					
2-hexanone (mbk)	<5	<5	<5	<5	<5
2-methylnaphthalene					
2-methylphenol					
2-naphthylamine					
2-nitroaniline					
2-nitrophenol					
3,3´-dichlorobenzidine					
3,3'-dimethylbenzidine					
3-methylcholanthrene					
3-nitroaniline					
4,4´-ddd					
4,4´-dde					
4,4´-ddt					
4,6-dinitro-2-methylphenol					
4-aminobiphenyl					
4-bromophenyl phenyl ether					
4-chloro-3-methylphenol					
4-chloroaniline					
4-chlorophenyl phenyl ether					
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5
4-nitroaniline					
4-nitrophenol					
5-nitro-o-toluidine					
7,12-dimethylbenz(a)anthracene					
Acenaphthene					
Acenaphthylene					
Acetone	<10	<10	<10	<10	<10
Acetonitrile					
Acetophenone					
Acrolein					
Acrylonitrile	<5	<5	<5	<5	<5
Aldrin					
Allyl chloride					
Alpha-bhc					

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

Table 9

Analytical Data Summary for MW-4

Constituents	Units	10/14/2014	1/12/2015	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	1/17/2017	4/20/2017
Anthracene	ug/L								<8
Antimony, total	ug/L	<2		<2	<2	<2	<2		<2
Arochlor 1016	ug/L								<.1
Arochlor 1221	ug/L								<.2
Arochlor 1232	ug/L								<.2
Arochlor 1242	ug/L								<.2
Arochlor 1248	ug/L								<.2
Arochlor 1254	ug/L								<.1
Arochlor 1260	ug/L								<.1
Arsenic, total	ug/L	<4.0		<4.0	<4.0	<4.0	<4.0		<4.0
Azobenzene	ug/L								<8
Barium, total	ug/L	141.0		103.0	92.5	66.2	77.7		128.0
Benzene	ug/L	<1		<1	<1	<1	<1		<1
Benzo(a)anthracene	ug/L								<8
Benzo(a)pyrene	ug/L								<8
Benzo(b)fluoranthene	ug/L								<8
Benzo(g,h,i)perylene	ug/L								<8
Benzo(k)fluoranthene	ug/L								<8
Benzyl alcohol	ug/L								<8
Beryllium, total	ug/L	<4		<4	<4	<4	<4		<4
Beta-bhc	ug/L								<.05
Bis (2-chloroethoxy) methane	ug/L								<8
Bis(2-chloroethyl) ether	ug/L								<8
Bis(2-chloroisopropyl) ether	ug/L								<8
Bis(2-ethylhexyl) phthalate	ug/L								<6
Bromochloromethane	ug/L	<1		<1	<1	<1	<1		<1
Bromodichloromethane	ug/L	<1		<1	<1	<1	<1		<1
Bromoform	ug/L	<1		<1	<1	<1	<1		<1
Bromomethane	ug/L	<1		<1	<1	<1	<1		<1
Butyl benzyl phthalate	ug/L								<8
Cadmium, total	ug/L	<.8		<.8	<.8	<.8	<.8		<.8
Carbon disulfide	ug/L	<1		<1	<1	<1	<1		<1
Carbon tetrachloride	ug/L	<1		<1	<1	<1	<1		<1
Chlordane	ug/L								<.1
Chlorobenzene	ug/L	<1		<1	<1	<1	<1		<1
Chlorobenzilate	ug/L								<8
Chloroethane	ug/L	<1		<1	<1	<1	<1		<1
Chloroform	ug/L	<1		<1	<1	<1	<1		<1
Chloromethane	ug/L	<1		<1	<1	<1	<1		<1
Chloroprene	ug/L								<1
Chromium, total	ug/L	<8.0		<8.0	<8.0	<8.0	<8.0		9.1
Chrysene	ug/L								<8
Cis-1,2-dichloroethylene	ug/L	<1		<1	<1	<1	<1		<1
Cis-1,3-dichloropropene	ug/L	<1		<1	<1	<1	<1		<1
Cobalt, total	ug/L	2.1		<.8	<.8	<.8	<.8		3.3
Copper, total	ug/L	6.1		<4.0	<4.0	<4.0	<4.0		5.5
Cyanide, total	mg/L								<.005
Delta-bhc	ug/L								<.05
Diallate	ug/L								<8
Dibenzo(a,h)anthracene	ug/L								<8
Dibenzofuran	ug/L								<8
Dibromochloromethane	ug/L	<1		<1	<1	<1	<1		<1
Dibromomethane	ug/L	<1		<1	<1	<1	<1		<1
Dichlorodifluoromethane	ug/L								<1
Dieldrin	ug/L								<.05
Diethyl phthalate	ug/L								<8
Dimethoate	ug/L								<.4
Dimethylphthalate	ug/L								<8
Di-n-butyl phthalate	ug/L								<8
Di-n-octyl phthalate	ug/L								<8
Dinoseb	ug/L								<.5
Diphenylamine	ug/L								<8
Disulfoton	ug/L								<.4
Endosulfan i	ug/L								<.05
Endosulfan ii	ug/L								<.05
Endosulfan sulfate	ug/L								<.05
Endrin	ug/L								<.05
Endrin aldehyde	ug/L								<.05
Ethyl methacrylate	ug/L								<10
Ethyl methanesulfonate	ug/L								<8
Ethylbenzene	ug/L	<1		<1	<1	<1	<1		<1
Famphur	ug/L								<.4
Fluoranthene	ug/L								<8
Fluorene	ug/L								<8
Gamma-bhc (lindane)	ug/L								<.05
Heptachlor	ug/L								<.05

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

Table 9

Analytical Data Summary for MW-4

Constituents	10/12/2017	4/23/2018	7/5/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021
Anthracene		<8							
Antimony, total	<2	<2		<2	<2	<2	<2	<2	<2
Arochlor 1016		<.1							
Arochlor 1221		<.2							
Arochlor 1232		<.2							
Arochlor 1242		<.2							
Arochlor 1248		<.2							
Arochlor 1254		<.1							
Arochlor 1260		<.1							
Arsenic, total	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Azobenzene		<8							
Barium, total	83.8	116.0		111.0	71.2	137.0	65.3	75.2	49.6
Benzene	<1	<1		<1	<1	<1	<1	<1	<1
Benzo(a)anthracene		<8							
Benzo(a)pyrene		<8							
Benzo(b)fluoranthene		<8							
Benzo(g,h,i)perylene		<8							
Benzo(k)fluoranthene		<8							
Benzyl alcohol		<8							
Beryllium, total	<4	<4		<4	<4	<4	<4	<4	<4
Beta-bhc		<.05							
Bis (2-chloroethoxy) methane		<8							
Bis(2-chloroethyl) ether		<8							
Bis(2-chloroisopropyl) ether		<8							
Bis(2-ethylhexyl) phthalate		11	<6	<6	<6	<6	<6	<6	
Bromochloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Bromoform	<1	<1		<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1		<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate		<8							
Cadmium, total	<.8	<.8		<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1		<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1		<1	<1	<1	<1	<1	<1
Chlordane		<.1							
Chlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
Chlorobenzilate		<8							
Chloroethane	<1	<1		<1	<1	<1	<1	<1	<1
Chloroform	<1	<1		<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Chloroprene		<1							
Chromium, total	<8.0	<8.0		<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Chrysene		<8							
Cis-1,2-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1		<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	2.8		1.4	<.8	2.0	<.4	<.4	<.4
Copper, total	<4.0	<4.0		<4.0	<4.0	4.3	<4.0	<4.0	<4.0
Cyanide, total		<.005							
Delta-bhc		<.05							
Diallate		<8							
Dibenzo(a,h)anthracene		<8							
Dibenzofuran		<8							
Dibromochloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1		<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane		<1							
Dieldrin		<.05							
Diethyl phthalate		<8							
Dimethoate		<.4							
Dimethylphthalate		<8							
Di-n-butyl phthalate		<8							
Di-n-octyl phthalate		<8							
Dinoseb		<.5							
Diphenylamine		<8							
Disulfoton		<.4							
Endosulfan i		<.05							
Endosulfan ii		<.05							
Endosulfan sulfate		<.05							
Endrin		<.05							
Endrin aldehyde		<.05							
Ethyl methacrylate		<10							
Ethyl methanesulfonate		<8							
Ethylbenzene	<1	<1		<1	<1	<1	<1	<1	<1
Famphur		<.4							
Fluoranthene		<8							
Fluorene		<8							
Gamma-bhc (lindane)		<.05							
Heptachlor		<.05							

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

Table 9

Analytical Data Summary for MW-4

Constituents	10/28/2021	4/13/2022	10/19/2022	4/6/2023	10/10/2023
Anthracene					
Antimony, total	<2	<2	<2	<2	<2
Arochlor 1016					
Arochlor 1221					
Arochlor 1232					
Arochlor 1242					
Arochlor 1248					
Arochlor 1254					
Arochlor 1260					
Arsenic, total	<4.0	<4.0	<4.0	4.5	<4.0
Azobenzene					
Barium, total	73.2	63.6	81.8	162.0	67.4
Benzene	<1	<1	<1	<1	<1
Benzo(a)anthracene					
Benzo(a)pyrene					
Benzo(b)fluoranthene					
Benzo(g,h,i)perylene					
Benzo(k)fluoranthene					
Benzyl alcohol					
Beryllium, total	<4	<4	<4	<4	<4
Beta-bhc					
Bis (2-chloroethoxy) methane					
Bis(2-chloroethyl) ether					
Bis(2-chloroisopropyl) ether					
Bis(2-ethylhexyl) phthalate					
Bromochloromethane	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1
Butyl benzyl phthalate					
Cadmium, total	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1
Chlordane					
Chlorobenzene	<1	<1	<1	<1	<1
Chlorobenzilate					
Chloroethane	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1
Chloroprene					
Chromium, total	<8.0	<8.0	<8.0	8.3	<8.0
Chrysene					
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1
Cobalt, total	<.4	<.4	<2.0	3.5	<.4
Copper, total	<4.0	<4.0	<4.0	9.1	<4.0
Cyanide, total					
Delta-bhc					
Diallate					
Dibenzo(a,h)anthracene					
Dibenzofuran					
Dibromochloromethane	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1
Dichlorodifluoromethane					
Dieldrin					
Diethyl phthalate					
Dimethoate					
Dimethylphthalate					
Di-n-butyl phthalate					
Di-n-octyl phthalate					
Dinoseb					
Diphenylamine					
Disulfoton					
Endosulfan i					
Endosulfan ii					
Endosulfan sulfate					
Endrin					
Endrin aldehyde					
Ethyl methacrylate					
Ethyl methanesulfonate					
Ethylbenzene	<1	<1	<1	<1	<1
Famphur					
Fluoranthene					
Fluorene					
Gamma-bhc (lindane)					
Heptachlor					

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

Table 9

Analytical Data Summary for MW-4

Constituents	Units	10/14/2014	1/12/2015	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	1/17/2017	4/20/2017
Heptachlor epoxide	ug/L								<.05
Hexachlorobenzene	ug/L								<.05
Hexachlorobutadiene	ug/L								<8
Hexachlorocyclopentadiene	ug/L								<8
Hexachloroethane	ug/L								<8
Hexachloropropene	ug/L								<8
Indeno(1,2,3-cd)pyrene	ug/L								<8
Isobutanol	mg/L								<1
Isodrin	ug/L								<8
Isophorone	ug/L								<8
Isosafrole	ug/L								<8
Kepone	ug/L								<8
Lead, total	ug/L	<4.0		<4.0	<4.0	<4.0	<4.0		<4.0
Mercury, total	ug/L								<.5
Methacrylonitrile	ug/L								<1
Methapyrilene	ug/L								<8
Methoxychlor	ug/L								<.05
Methyl iodide	ug/L	<1		<1	<1	<1	<1		<1
Methyl methacrylate	ug/L								<1
Methyl methanesulfonate	ug/L								<8
Methyl parathion	ug/L								<.4
Methylene chloride	ug/L	<5		<5	<5	<5	<5		<5
Naphthalene	ug/L								<8
Nickel, total	ug/L	6.2		<4.0	<4.0	<4.0	<4.0		9.5
Nitrobenzene	ug/L								<8
N-nitrosodiethylamine	ug/L								<8
N-nitrosodimethylamine	ug/L								<8
N-nitrosodi-n-butylamine	ug/L								<8
N-nitroso-di-n-propylamine	ug/L								<8
N-nitrosodiphenylamine	ug/L								<8
N-nitrosomethylethylamine	ug/L								<8
N-nitrosopiperidine	ug/L								<8
N-nitrosopyrrolidine	ug/L								<8
O,o,o-triethyl phosphorothioate	ug/L								<.4
O-toluidine	ug/L								<8
Parathion	ug/L								<.4
P-dimethylaminoazobenzene	ug/L								<8
Pentachlorobenzene	ug/L								<8
Pentachloronitrobenzene (pcnb)	ug/L								<8
Pentachlorophenol	ug/L								<8
Phenacetin	ug/L								<8
Phenanthrene	ug/L								<8
Phenol	ug/L								<8
Phorate	ug/L								<.4
Pronamide	ug/L								<8
Propionitrile	ug/L								<10
Pyrene	ug/L								<8
Safrole	ug/L								<8
Selenium, total	ug/L	<4		<4	<4	<4	<4		<4
Silver, total	ug/L	<4		<4	<4	<4	<4		<4
Solids, total suspended	mg/L	69		2					
Styrene	ug/L	<1		<1	<1	<1	<1		<1
Sulfide, total	mg/L								<.1
Tetrachloroethylene	ug/L	<1		<1	<1	<1	<1		<1
Thallium, total	ug/L	<4		<4	<4	<4	<4		<4
Thionazin	ug/L								<.4
Tin, total	ug/L								<20
Toluene	ug/L	<1		<1	<1	<1	<1		<1
Toxaphene	ug/L								<.2
Trans-1,2-dichloroethylene	ug/L	<1		<1	<1	<1	<1		<1
Trans-1,3-dichloropropene	ug/L	<1		<1	<1	<1	<1		<1
Trans-1,4-dichloro-2-butene	ug/L	<5		<5	<5	<5	<5		<5
Trichloroethylene	ug/L	<1		<1	<1	<1	<1		<1
Trichlorofluoromethane	ug/L	<1		<1	<1	<1	<1		<1
Vanadium, total	ug/L	<20		<20	<20	<20	<20		<20
Vinyl acetate	ug/L	<5		<5	<5	<5	<5		<5
Vinyl chloride	ug/L	<1		<1	<1	<1	<1		<1
Xylenes, total	ug/L	<2		<2	<2	<2	<2		<2
Zinc, total	ug/L	40.0	<8.0	12.4	10.3	<8.0	11.9	58.9	57.6

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

Table 9

Analytical Data Summary for MW-4

Constituents	10/12/2017	4/23/2018	7/5/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021
Heptachlor epoxide		<.05							
Hexachlorobenzene		<.05							
Hexachlorobutadiene		<8							
Hexachlorocyclopentadiene		<8							
Hexachloroethane		<8							
Hexachloropropene		<8							
Indeno(1,2,3-cd)pyrene		<8							
Isobutanol		<1							
Isodrin		<8							
Isophorone		<8							
Isosafrole		<8							
Kepone		<8							
Lead, total	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Mercury, total		<.5							
Methacrylonitrile		<1							
Methapyrilene		<8							
Methoxychlor		<.05							
Methyl iodide	<1	<1		<1	<1	<1	<1	<1	<1
Methyl methacrylate		<1							
Methyl methanesulfonate		<8							
Methyl parathion		<.4							
Methylene chloride	<5	<5		<5	<5	<5	<5	<5	<5
Naphthalene		<8							
Nickel, total	<4.0	4.5		4.7	<4.0	6.0	<4.0	<4.0	<4.0
Nitrobenzene		<8							
N-nitrosodiethylamine		<8							
N-nitrosodimethylamine		<8							
N-nitrosodi-n-butylamine		<8							
N-nitroso-di-n-propylamine		<8							
N-nitrosodiphenylamine		<8							
N-nitrosomethylethylamine		<8							
N-nitrosopiperidine		<8							
N-nitrosopyrrolidine		<8							
O,o,o-triethyl phosphorothioate		<.4							
O-toluidine		<8							
Parathion		<.4							
P-dimethylaminoazobenzene		<8							
Pentachlorobenzene		<8							
Pentachloronitrobenzene (pcnb)		<8							
Pentachlorophenol		<8							
Phenacetin		<8							
Phenanthrene		<8							
Phenol		<8							
Phorate		<.4							
Pronamide		<8							
Propionitrile		<10							
Pyrene		<8							
Safrole		<8							
Selenium, total	<4	<4		<4	<4	<4	<4	<4	<4
Silver, total	<4	<4		<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1		<1	<1	<1	<1	<1	<1
Sulfide, total		<.1							
Tetrachloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Thallium, total	<4	<4		<4	<2	<2	<2	<2	<2
Thionazin		<.4							
Tin, total		<20							
Toluene	<1	<1		<1	<1	<1	<1	<1	<1
Toxaphene		<.2							
Trans-1,2-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1		<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5		<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1		<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20		<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5		<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1		<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2		<2	<2	<2	<2	<2	<2
Zinc, total	<8.0	159.0		237.0	<20.0	130.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-4

Constituents	10/28/2021	4/13/2022	10/19/2022	4/6/2023	10/10/2023
Heptachlor epoxide					
Hexachlorobenzene					
Hexachlorobutadiene					
Hexachlorocyclopentadiene					
Hexachloroethane					
Hexachloropropene					
Indeno(1,2,3-cd)pyrene					
Isobutanol					
Isodrin					
Isophorone					
Isosafrole					
Kepone					
Lead, total	<4.0	<4.0	<4.0	7.6	<4.0
Mercury, total					
Methacrylonitrile					
Methapyrilene					
Methoxychlor					
Methyl iodide	<1	<1	<1	<1	<1
Methyl methacrylate					
Methyl methanesulfonate					
Methyl parathion					
Methylene chloride	<5	<5	<5	<5	<5
Naphthalene					
Nickel, total	<4.0	<4.0	<4.0	9.8	<4.0
Nitrobenzene					
N-nitrosodiethylamine					
N-nitrosodimethylamine					
N-nitrosodi-n-butylamine					
N-nitroso-di-n-propylamine					
N-nitrosodiphenylamine					
N-nitrosomethylethylamine					
N-nitrosopiperidine					
N-nitrosopyrrolidine					
O,o,o-triethyl phosphorothioate					
O-toluidine					
Parathion					
P-dimethylaminoazobenzene					
Pentachlorobenzene					
Pentachloronitrobenzene (pcnb)					
Pentachlorophenol					
Phenacetin					
Phenanthrene					
Phenol					
Phorate					
Pronamide					
Propionitrile					
Pyrene					
Safrole					
Selenium, total	<4	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4	<4
Solids, total suspended					
Styrene	<1	<1	<1	<1	<1
Sulfide, total					
Tetrachloroethylene	<1	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2	<2
Thionazin					
Tin, total					
Toluene	<1	<1	<1	<1	<1
Toxaphene					
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2
Zinc, total	<20.0	<20.0	216.0		<20.0

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

Table 9

Analytical Data Summary for MW-5

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	11/24/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017
(3 4)-methylphenol	ug/L					<8	<8		
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
1,1-dichloropropene	ug/L					<1	<1		
1,2,3-trichloropropane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L					<8	<8		
1,2,4-trichlorobenzene	ug/L					<1	<1		
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1		<1	<1	<1	<1
1,2-dinitrobenzene	ug/L					<8	<8		
1,3,5-trinitrobenzene	ug/L					<8	<8		
1,3-dichlorobenzene	ug/L					<1	<1		
1,3-dichloropropane	ug/L					<1	<1		
1,3-dinitrobenzene	ug/L					<8	<8		
1,4-dichlorobenzene	ug/L	<1	<1	<1		<1	<1	<1	<1
1,4-naphthoquinone	ug/L					<8	<8		
1,4-phenylenediamine	ug/L					<8	<8		
1-naphthylamine	ug/L					<8	<8		
2,2-dichloropropane	ug/L					<1	<1		
2,3,4,6-tetrachlorophenol	ug/L					<8	<8		
2,4,5-t	ug/L					<.5	<.5		
2,4,5-tp (silvex)	ug/L					<.5	<.5		
2,4,5-trichlorophenol	ug/L					<8	<8		
2,4,6-trichlorophenol	ug/L					<8	<8		
2,4-d	ug/L					<2	<2		
2,4-dichlorophenol	ug/L					<8	<8		
2,4-dimethylphenol	ug/L					<8	<8		
2,4-dinitrophenol	ug/L					<8	<8		
2,4-dinitrotoluene	ug/L					<8	<8		
2,6-dichlorophenol	ug/L					<8	<8		
2,6-dinitrotoluene	ug/L					<8	<8		
2-acetylaminofluorene	ug/L					<8	<8		
2-butanone (mek)	ug/L	<5	<5	<5		<5	<5	<5	<5
2-chloronaphthalene	ug/L					<8	<8		
2-chlorophenol	ug/L					<8	<8		
2-hexanone (mbk)	ug/L	<5	<5	<5		<5	<5	<5	<5
2-methylnaphthalene	ug/L					<8	<8		
2-methylphenol	ug/L					<8	<8		
2-naphthylamine	ug/L					<8	<8		
2-nitroaniline	ug/L					<8	<8		
2-nitrophenol	ug/L					<8	<8		
3,3´-dichlorobenzidine	ug/L					<8	<8		
3,3'-dimethylbenzidine	ug/L					<8	<8		
3-methylcholanthrene	ug/L					<8	<8		
3-nitroaniline	ug/L					<8	<8		
4,4´-ddd	ug/L					<.05	<.05		
4,4´-dde	ug/L					<.05	<.05		
4,4´-ddt	ug/L					<.05	<.05		
4,6-dinitro-2-methylphenol	ug/L					<8	<8		
4-aminobiphenyl	ug/L					<8	<8		
4-bromophenyl phenyl ether	ug/L					<8	<8		
4-chloro-3-methylphenol	ug/L					<8	<8		
4-chloroaniline	ug/L					<8	<8		
4-chlorophenyl phenyl ether	ug/L					<8	<8		
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5		<5	<5	<5	<5
4-nitroaniline	ug/L					<8	<8		
4-nitrophenol	ug/L					<8	<8		
5-nitro-o-toluidine	ug/L					<8	<8		
7,12-dimethylbenz(a)anthracene	ug/L					<8	<8		
Acenaphthene	ug/L					<8	<8		
Acenaphthylene	ug/L					<8	<8		
Acetone	ug/L	<10.0	<10.0	<10.0		<10.0	<10.0	<10.0	12.2
Acetonitrile	ug/L					<10	<10		
Acetophenone	ug/L					<8	<8		
Acrolein	ug/L					<10	<10		
Acrylonitrile	ug/L	<5	<5	<5		<5	<5	<5	<5
Aldrin	ug/L					<.05	<.05		
Allyl chloride	ug/L					<1	<1		
Alpha-bhc	ug/L					<.05	<.05		

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

Table 9

Analytical Data Summary for MW-5

Constituents	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
(3 4)-methylphenol									
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene									
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene									
1,2,4-trichlorobenzene									
1,2-dibromo-3-chloropropane	<1	<1	<1	<1	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene									
1,3,5-trinitrobenzene									
1,3-dichlorobenzene									
1,3-dichloropropane									
1,3-dinitrobenzene									
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone									
1,4-phenylenediamine									
1-naphthylamine									
2,2-dichloropropane									
2,3,4,6-tetrachlorophenol									
2,4,5-t									
2,4,5-tp (silvex)									
2,4,5-trichlorophenol									
2,4,6-trichlorophenol									
2,4-d									
2,4-dichlorophenol									
2,4-dimethylphenol									
2,4-dinitrophenol									
2,4-dinitrotoluene									
2,6-dichlorophenol									
2,6-dinitrotoluene									
2-acetylaminofluorene									
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<5	<5	<10
2-chloronaphthalene									
2-chlorophenol									
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene									
2-methylphenol									
2-naphthylamine									
2-nitroaniline									
2-nitrophenol									
3,3´-dichlorobenzidine									
3,3'-dimethylbenzidine									
3-methylcholanthrene									
3-nitroaniline									
4,4´-ddd									
4,4´-dde									
4,4´-ddt									
4,6-dinitro-2-methylphenol									
4-aminobiphenyl									
4-bromophenyl phenyl ether									
4-chloro-3-methylphenol									
4-chloroaniline									
4-chlorophenyl phenyl ether									
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline									
4-nitrophenol									
5-nitro-o-toluidine									
7,12-dimethylbenz(a)anthracene									
Acenaphthene									
Acenaphthylene									
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Acetonitrile									
Acetophenone									
Acrolein									
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin									
Allyl chloride									
Alpha-bhc									

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

Table 9

Analytical Data Summary for MW-5

Constituents	10/19/2022	4/6/2023	10/10/2023
(3 4)-methylphenol			
1,1,1,2-tetrachloroethane	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1
1,1-dichloroethane	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1
1,1-dichloropropene			
1,2,3-trichloropropane	<1	<1	<1
1,2,4,5-tetrachlorobenzene			
1,2,4-trichlorobenzene			
1,2-dibromo-3-chloropropane	<5	<5	<5
1,2-dibromoethane	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1
1,2-dichloroethane	<1	<1	<1
1,2-dichloropropane	<1	<1	<1
1,2-dinitrobenzene			
1,3,5-trinitrobenzene			
1,3-dichlorobenzene			
1,3-dichloropropane			
1,3-dinitrobenzene			
1,4-dichlorobenzene	<1	<1	<1
1,4-naphthoquinone			
1,4-phenylenediamine			
1-naphthylamine			
2,2-dichloropropane			
2,3,4,6-tetrachlorophenol			
2,4,5-t			
2,4,5-tp (silvex)			
2,4,5-trichlorophenol			
2,4,6-trichlorophenol			
2,4-d			
2,4-dichlorophenol			
2,4-dimethylphenol			
2,4-dinitrophenol			
2,4-dinitrotoluene			
2,6-dichlorophenol			
2,6-dinitrotoluene			
2-acetylaminofluorene			
2-butanone (mek)	<10	<10	<10
2-chloronaphthalene			
2-chlorophenol			
2-hexanone (mbk)	<5	<5	<5
2-methylnaphthalene			
2-methylphenol			
2-naphthylamine			
2-nitroaniline			
2-nitrophenol			
3,3´-dichlorobenzidine			
3,3'-dimethylbenzidine			
3-methylcholanthrene			
3-nitroaniline			
4,4´-ddd			
4,4´-dde			
4,4´-ddt			
4,6-dinitro-2-methylphenol			
4-aminobiphenyl			
4-bromophenyl phenyl ether			
4-chloro-3-methylphenol			
4-chloroaniline			
4-chlorophenyl phenyl ether			
4-methyl-2-pentanone (mibk)	<5	<5	<5
4-nitroaniline			
4-nitrophenol			
5-nitro-o-toluidine			
7,12-dimethylbenz(a)anthracene			
Acenaphthene			
Acenaphthylene			
Acetone	<10.0	<10.0	<10.0
Acetonitrile			
Acetophenone			
Acrolein			
Acrylonitrile	<5	<5	<5
Aldrin			
Allyl chloride			
Alpha-bhc			

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

Table 9

Analytical Data Summary for MW-5

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	11/24/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017
Anthracene	ug/L					<8	<8		
Antimony, total	ug/L	<2	<2	<2		<2	<2	<2	<2
Arochlor 1016	ug/L					<.1	<.1		
Arochlor 1221	ug/L					<.2	<.2		
Arochlor 1232	ug/L					<.2	<.2		
Arochlor 1242	ug/L					<.2	<.2		
Arochlor 1248	ug/L					<.2	<.2		
Arochlor 1254	ug/L					<.1	<.1		
Arochlor 1260	ug/L					<.1	<.1		
Arsenic, total	ug/L	<4	<4	<4		<4	<4	<4	<4
Azobenzene	ug/L					<8	<8		
Barium, total	ug/L	251.0	272.0	330.0	328.0	167.0	262.0	338.0	276.0
Benzene	ug/L	<1	<1	<1		<1	<1	<1	<1
Benzo(a)anthracene	ug/L					<8	<8		
Benzo(a)pyrene	ug/L					<8	<8		
Benzo(b)fluoranthene	ug/L					<8	<8		
Benzo(g,h,i)perylene	ug/L					<8	<8		
Benzo(k)fluoranthene	ug/L					<8	<8		
Benzyl alcohol	ug/L					<8	<8		
Beryllium, total	ug/L	<4	<4	<4		<4	<4	<4	<4
Beta-bhc	ug/L					<.05	<.05		
Bis (2-chloroethoxy) methane	ug/L					<8	<8		
Bis(2-chloroethyl) ether	ug/L					<8	<8		
Bis(2-chloroisopropyl) ether	ug/L					<8	<8		
Bis(2-ethylhexyl) phthalate	ug/L					<8	<8		
Bromochloromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1		<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Butyl benzyl phthalate	ug/L					<8	<8		
Cadmium, total	ug/L	<.8	<.8	<.8		<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1		<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1		<1	<1	<1	<1
Chlordane	ug/L					<.1	<.1		
Chlorobenzene	ug/L	<1	<1	<1		<1	<1	<1	<1
Chlorobenzilate	ug/L					<8	<8		
Chloroethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1		<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Chloroprene	ug/L					<1	<1		
Chromium, total	ug/L	<8	<8	<8		<8	<8	<8	<8
Chrysene	ug/L					<8	<8		
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1		<1	<1	<1	<1
Cobalt, total	ug/L	<.8	<.8	<.8		<.8	<.8	<.8	<.8
Copper, total	ug/L	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0
Cyanide, total	mg/L					<.005	<.005		
Delta-bhc	ug/L					<.05	<.05		
Diallate	ug/L					<8	<8		
Dibenzo(a,h)anthracene	ug/L					<8	<8		
Dibenzofuran	ug/L					<8	<8		
Dibromochloromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Dichlorodifluoromethane	ug/L					<1	<1		
Dieldrin	ug/L					<.05	<.05		
Diethyl phthalate	ug/L					<8	<8		
Dimethoate	ug/L					<.4	<.4		
Dimethylphthalate	ug/L					<8	<8		
Di-n-butyl phthalate	ug/L					<8	<8		
Di-n-octyl phthalate	ug/L					<8	<8		
Dinoseb	ug/L					<.5	<.5		
Diphenylamine	ug/L					<8	<8		
Disulfoton	ug/L					<.4	<.4		
Endosulfan i	ug/L					<.05	<.05		
Endosulfan ii	ug/L					<.05	<.05		
Endosulfan sulfate	ug/L					<.05	<.05		
Endrin	ug/L					<.05	<.05		
Endrin aldehyde	ug/L					<.05	<.05		
Ethyl methacrylate	ug/L					<10	<10		
Ethyl methanesulfonate	ug/L					<8	<8		
Ethylbenzene	ug/L	<1	<1	<1		<1	<1	<1	<1
Famphur	ug/L					<.4	<.4		
Fluoranthene	ug/L					<8	<8		
Fluorene	ug/L					<8	<8		
Gamma-bhc (lindane)	ug/L					<.05	<.05		
Heptachlor	ug/L					<.05	<.05		

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

Table 9

Analytical Data Summary for MW-5

Constituents	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Anthracene									
Antimony, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016									
Arochlor 1221									
Arochlor 1232									
Arochlor 1242									
Arochlor 1248									
Arochlor 1254									
Arochlor 1260									
Arsenic, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Azobenzene									
Barium, total	206.0	212.0	193.0	296.0	268.0	268.0	71.8	175.0	180.0
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene									
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(g,h,i)perylene									
Benzo(k)fluoranthene									
Benzyl alcohol									
Beryllium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc									
Bis (2-chloroethoxy) methane									
Bis(2-chloroethyl) ether									
Bis(2-chloroisopropyl) ether									
Bis(2-ethylhexyl) phthalate									
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate									
Cadmium, total	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane									
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate									
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene									
Chromium, total	<8	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene									
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	<.8	<.8	<.8	3.4	.6	<.4	<.4	.4
Copper, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Cyanide, total									
Delta-bhc									
Diallate									
Dibenzo(a,h)anthracene									
Dibenzofuran									
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane									
Dieldrin									
Diethyl phthalate									
Dimethoate									
Dimethylphthalate									
Di-n-butyl phthalate									
Di-n-octyl phthalate									
Dinoseb									
Diphenylamine									
Disulfoton									
Endosulfan i									
Endosulfan ii									
Endosulfan sulfate									
Endrin									
Endrin aldehyde									
Ethyl methacrylate									
Ethyl methanesulfonate									
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Famphur									
Fluoranthene									
Fluorene									
Gamma-bhc (lindane)									
Heptachlor									

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

Table 9

Analytical Data Summary for MW-5

Constituents	10/19/2022	4/6/2023	10/10/2023
Anthracene			
Antimony, total	<2	<2	<2
Arochlor 1016			
Arochlor 1221			
Arochlor 1232			
Arochlor 1242			
Arochlor 1248			
Arochlor 1254			
Arochlor 1260			
Arsenic, total	<4	<4	<4
Azobenzene			
Barium, total	250.0	206.0	202.0
Benzene	<1	<1	<1
Benzo(a)anthracene			
Benzo(a)pyrene			
Benzo(b)fluoranthene			
Benzo(g,h,i)perylene			
Benzo(k)fluoranthene			
Benzyl alcohol			
Beryllium, total	<4	<4	<4
Beta-bhc			
Bis (2-chloroethoxy) methane			
Bis(2-chloroethyl) ether			
Bis(2-chloroisopropyl) ether			
Bis(2-ethylhexyl) phthalate			
Bromochloromethane	<1	<1	<1
Bromodichloromethane	<1	<1	<1
Bromoform	<1	<1	<1
Bromomethane	<1	<1	<1
Butyl benzyl phthalate			
Cadmium, total	<.8	1.1	<.8
Carbon disulfide	<1	<1	<1
Carbon tetrachloride	<1	<1	<1
Chlordane			
Chlorobenzene	<1	<1	<1
Chlorobenzilate			
Chloroethane	<1	<1	<1
Chloroform	<1	<1	<1
Chloromethane	<1	<1	<1
Chloroprene			
Chromium, total	<8	<8	<8
Chrysene			
Cis-1,2-dichloroethylene	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1
Cobalt, total	<2.0	2.7	<.4
Copper, total	<4.0	9.6	<4.0
Cyanide, total			
Delta-bhc			
Diallate			
Dibenzo(a,h)anthracene			
Dibenzofuran			
Dibromochloromethane	<1	<1	<1
Dibromomethane	<1	<1	<1
Dichlorodifluoromethane			
Dieldrin			
Diethyl phthalate			
Dimethoate			
Dimethylphthalate			
Di-n-butyl phthalate			
Di-n-octyl phthalate			
Dinoseb			
Diphenylamine			
Disulfoton			
Endosulfan i			
Endosulfan ii			
Endosulfan sulfate			
Endrin			
Endrin aldehyde			
Ethyl methacrylate			
Ethyl methanesulfonate			
Ethylbenzene	<1	<1	<1
Famphur			
Fluoranthene			
Fluorene			
Gamma-bhc (lindane)			
Heptachlor			

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

Table 9

Analytical Data Summary for MW-5

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	11/24/2015	4/12/2016	10/11/2016	4/20/2017	10/12/2017
Heptachlor epoxide	ug/L					<.05	<.05		
Hexachlorobenzene	ug/L					<.05	<.05		
Hexachlorobutadiene	ug/L					<8	<8		
Hexachlorocyclopentadiene	ug/L					<8	<8		
Hexachloroethane	ug/L					<8	<8		
Hexachloropropene	ug/L					<8	<8		
Indeno(1,2,3-cd)pyrene	ug/L					<8	<8		
Isobutanol	mg/L					<1	<1		
Isodrin	ug/L					<8	<8		
Isophorone	ug/L					<8	<8		
Isosafrole	ug/L					<8	<8		
Kepone	ug/L					<8	<8		
Lead, total	ug/L	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0
Mercury, total	ug/L					<.5	<.5		
Methacrylonitrile	ug/L					<1	<1		
Methapyrilene	ug/L					<8	<8		
Methoxychlor	ug/L					<.05	<.05		
Methyl iodide	ug/L	<1	<1	<1		<1	<1	<1	<1
Methyl methacrylate	ug/L					<1	<1		
Methyl methanesulfonate	ug/L					<8	<8		
Methyl parathion	ug/L					<.4	<.4		
Methylene chloride	ug/L	<5	<5	<5		<5	<5	<5	<5
Naphthalene	ug/L					<8	<8		
Nickel, total	ug/L	5.9	6.3	5.7		<4.0	<4.0	<4.0	<4.0
Nitrobenzene	ug/L					<8	<8		
N-nitrosodiethylamine	ug/L					<8	<8		
N-nitrosodimethylamine	ug/L					<8	<8		
N-nitrosodi-n-butylamine	ug/L					<8	<8		
N-nitroso-di-n-propylamine	ug/L					<8	<8		
N-nitrosodiphenylamine	ug/L					<8	<8		
N-nitrosomethylethylamine	ug/L					<8	<8		
N-nitrosopiperidine	ug/L					<8	<8		
N-nitrosopyrrolidine	ug/L					<8	<8		
O,o,o-triethyl phosphorothioate	ug/L					<.4	<.4		
O-toluidine	ug/L					<8	<8		
Parathion	ug/L					<.4	<.4		
P-dimethylaminoazobenzene	ug/L					<8	<8		
Pentachlorobenzene	ug/L					<8	<8		
Pentachloronitrobenzene (pcnb)	ug/L					<8	<8		
Pentachlorophenol	ug/L					<8	<8		
Phenacetin	ug/L					<8	<8		
Phenanthrene	ug/L					<8	<8		
Phenol	ug/L					<8	<8		
Phorate	ug/L					<.4	<.4		
Pronamide	ug/L					<8	<8		
Propionitrile	ug/L					<40	<10		
Pyrene	ug/L					<8	<8		
Safrole	ug/L					<8	<8		
Selenium, total	ug/L	<4	<4	<4		<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4		<4	<4	<4	<4
Solids, total suspended	mg/L	5	2						
Styrene	ug/L	<1	<1	<1		<1	<1	<1	<1
Sulfide, total	mg/L					<.1	<.1		
Tetrachloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4		<4	<4	<4	<4
Thionazin	ug/L					<.4	<.4		
Tin, total	ug/L					<20	<20		
Toluene	ug/L	<1	<1	<1		<1	<1	<1	<1
Toxaphene	ug/L					<.2	<.2		
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1		<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5		<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1		<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1		<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20		<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5		<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1		<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2		<2	<2	<2	<2
Zinc, total	ug/L	24.7	<8.0	<8.0		<8.0	<8.0	16.5	<8.0

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

Table 9

Analytical Data Summary for MW-5

Constituents	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Heptachlor epoxide									
Hexachlorobenzene									
Hexachlorobutadiene									
Hexachlorocyclopentadiene									
Hexachloroethane									
Hexachloropropene									
Indeno(1,2,3-cd)pyrene									
Isobutanol									
Isodrin									
Isophorone									
Isosafrole									
Kepone									
Lead, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Mercury, total									
Methacrylonitrile									
Methapyrilene									
Methoxychlor									
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate									
Methyl methanesulfonate									
Methyl parathion									
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene									
Nickel, total	<4.0	<4.0	<4.0	<4.0	6.8	6.6	<4.0	<4.0	<4.0
Nitrobenzene									
N-nitrosodiethylamine									
N-nitrosodimethylamine									
N-nitrosodi-n-butylamine									
N-nitroso-di-n-propylamine									
N-nitrosodiphenylamine									
N-nitrosomethylethylamine									
N-nitrosopiperidine									
N-nitrosopyrrolidine									
O,o,o-triethyl phosphorothioate									
O-toluidine									
Parathion									
P-dimethylaminoazobenzene									
Pentachlorobenzene									
Pentachloronitrobenzene (pcnb)									
Pentachlorophenol									
Phenacetin									
Phenanthrene									
Phenol									
Phorate									
Pronamide									
Propionitrile									
Pyrene									
Safrole									
Selenium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total									
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<4	<4	<2	<2	<2	<2	<2	<2	<2
Thionazin									
Tin, total									
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene									
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	15.2	20.3	<20.0	83.1	<20.0	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-5

Constituents	10/19/2022	4/6/2023	10/10/2023
Heptachlor epoxide			
Hexachlorobenzene			
Hexachlorobutadiene			
Hexachlorocyclopentadiene			
Hexachloroethane			
Hexachloropropene			
Indeno(1,2,3-cd)pyrene			
Isobutanol			
Isodrin			
Isophorone			
Isosafrole			
Kepone			
Lead, total	<4.0	6.2	<4.0
Mercury, total			
Methacrylonitrile			
Methapyrilene			
Methoxychlor			
Methyl iodide	<1	<1	<1
Methyl methacrylate			
Methyl methanesulfonate			
Methyl parathion			
Methylene chloride	<5	<5	<5
Naphthalene			
Nickel, total	5.4	13.1	<4.0
Nitrobenzene			
N-nitrosodiethylamine			
N-nitrosodimethylamine			
N-nitrosodi-n-butylamine			
N-nitroso-di-n-propylamine			
N-nitrosodiphenylamine			
N-nitrosomethylethylamine			
N-nitrosopiperidine			
N-nitrosopyrrolidine			
O,o,o-triethyl phosphorothioate			
O-toluidine			
Parathion			
P-dimethylaminoazobenzene			
Pentachlorobenzene			
Pentachloronitrobenzene (pcnb)			
Pentachlorophenol			
Phenacetin			
Phenanthrene			
Phenol			
Phorate			
Pronamide			
Propionitrile			
Pyrene			
Safrole			
Selenium, total	<4	<4	<4
Silver, total	<4	<4	<4
Solids, total suspended			
Styrene	<1	<1	<1
Sulfide, total			
Tetrachloroethylene	<1	<1	<1
Thallium, total	<2	<2	<2
Thionazin			
Tin, total			
Toluene	<1	<1	<1
Toxaphene			
Trans-1,2-dichloroethylene	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5
Trichloroethylene	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1
Vanadium, total	<20	<20	<20
Vinyl acetate	<5	<5	<5
Vinyl chloride	<1	<1	<1
Xylenes, total	<2	<2	<2
Zinc, total	<20.0	411.0	<20.0

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

Table 9

Analytical Data Summary for MW-6

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	11/24/2015	4/12/2016	10/11/2016	1/17/2017	4/20/2017
(3 4)-methylphenol	ug/L								<8
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1		<1	<1		<1
1,1,1-trichloroethane	ug/L	<1	<1	<1		<1	<1		<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1		<1	<1		<1
1,1,2-trichloroethane	ug/L	<1	<1	<1		<1	<1		<1
1,1-dichloroethane	ug/L	<1	<1	<1		<1	<1		<1
1,1-dichloroethylene	ug/L	<1	<1	<1		<1	<1		<1
1,1-dichloropropene	ug/L								<1
1,2,3-trichloropropane	ug/L	<1	<1	<1		<1	<1		<1
1,2,4,5-tetrachlorobenzene	ug/L								<8
1,2,4-trichlorobenzene	ug/L								<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1		<1	<1		<1
1,2-dibromoethane	ug/L	<1	<1	<1		<1	<1		<1
1,2-dichlorobenzene	ug/L	<1	<1	<1		<1	<1		<1
1,2-dichloroethane	ug/L	<1	<1	<1		<1	<1		<1
1,2-dichloropropane	ug/L	<1	<1	<1		<1	<1		<1
1,2-dinitrobenzene	ug/L								<8
1,3,5-trinitrobenzene	ug/L								<8
1,3-dichlorobenzene	ug/L								<1
1,3-dichloropropane	ug/L								<1
1,3-dinitrobenzene	ug/L								<8
1,4-dichlorobenzene	ug/L	<1	<1	<1		<1	<1		<1
1,4-naphthoquinone	ug/L								<8
1,4-phenylenediamine	ug/L								<8
1-naphthylamine	ug/L								<8
2,2-dichloropropane	ug/L								<1
2,3,4,6-tetrachlorophenol	ug/L								<8
2,4,5-t	ug/L								<.5
2,4,5-tp (silvex)	ug/L								<.5
2,4,5-trichlorophenol	ug/L								<8
2,4,6-trichlorophenol	ug/L								<8
2,4-d	ug/L								<2
2,4-dichlorophenol	ug/L								<8
2,4-dimethylphenol	ug/L								<8
2,4-dinitrophenol	ug/L								<8
2,4-dinitrotoluene	ug/L								<8
2,6-dichlorophenol	ug/L								<8
2,6-dinitrotoluene	ug/L								<8
2-acetylaminofluorene	ug/L								<8
2-butanone (mek)	ug/L	<5	<5	<5		<5	<5		<5
2-chloronaphthalene	ug/L								<8
2-chlorophenol	ug/L								<8
2-hexanone (mbk)	ug/L	<5	<5	<5		<5	<5		<5
2-methylnaphthalene	ug/L								<8
2-methylphenol	ug/L								<8
2-naphthylamine	ug/L								<8
2-nitroaniline	ug/L								<8
2-nitrophenol	ug/L								<8
3,3´-dichlorobenzidine	ug/L								<8
3,3'-dimethylbenzidine	ug/L								<8
3-methylcholanthrene	ug/L								<8
3-nitroaniline	ug/L								<8
4,4´-ddd	ug/L								<.05
4,4´-dde	ug/L								<.05
4,4´-ddt	ug/L								<.05
4,6-dinitro-2-methylphenol	ug/L								<8
4-aminobiphenyl	ug/L								<8
4-bromophenyl phenyl ether	ug/L								<8
4-chloro-3-methylphenol	ug/L								<8
4-chloroaniline	ug/L								<8
4-chlorophenyl phenyl ether	ug/L								<8
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5		<5	<5		<5
4-nitroaniline	ug/L								<8
4-nitrophenol	ug/L								<8
5-nitro-o-toluidine	ug/L								<8
7,12-dimethylbenz(a)anthracene	ug/L								<8
Acenaphthene	ug/L								<8
Acenaphthylene	ug/L								<8
Acetone	ug/L	<10	<10	<10		<10	<10		<10
Acetonitrile	ug/L								<10
Acetophenone	ug/L								<8
Acrolein	ug/L								<10
Acrylonitrile	ug/L	<5	<5	<5		<5	<5		<5
Aldrin	ug/L								<.05
Allyl chloride	ug/L								<1
Alpha-bhc	ug/L								<.05

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

Table 9

Analytical Data Summary for MW-6

Constituents	10/12/2017	4/23/2018	7/5/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021
(3 4)-methylphenol		<8							
1,1,1,2-tetrachloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloropropene		<1							
1,2,3-trichloropropane	<1	<1		<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene		<8							
1,2,4-trichlorobenzene		<1							
1,2-dibromo-3-chloropropane	<1	<1		<1	<1	<1	<5	<5	<5
1,2-dibromoethane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene		<8							
1,3,5-trinitrobenzene		<8							
1,3-dichlorobenzene		<1							
1,3-dichloropropane		<1							
1,3-dinitrobenzene		<8							
1,4-dichlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
1,4-naphthoquinone		<8							
1,4-phenylenediamine		<8							
1-naphthylamine		<8							
2,2-dichloropropane		<1							
2,3,4,6-tetrachlorophenol		<8							
2,4,5-t		<.5							
2,4,5-tp (silvex)		<.5							
2,4,5-trichlorophenol		<8							
2,4,6-trichlorophenol		<8							
2,4-d		<2							
2,4-dichlorophenol		<8							
2,4-dimethylphenol		<8							
2,4-dinitrophenol		<8							
2,4-dinitrotoluene		<8							
2,6-dichlorophenol		<8							
2,6-dinitrotoluene		<8							
2-acetylaminofluorene		<8							
2-butanone (mek)	<5	<5		<5	<5	<5	<5	<5	<5
2-chloronaphthalene		<8							
2-chlorophenol		<8							
2-hexanone (mbk)	<5	<5		<5	<5	<5	<5	<5	<5
2-methylnaphthalene		<8							
2-methylphenol		<8							
2-naphthylamine		<8							
2-nitroaniline		<8							
2-nitrophenol		<8							
3,3´-dichlorobenzidine		<8							
3,3'-dimethylbenzidine		<8							
3-methylcholanthrene		<8							
3-nitroaniline		<8							
4,4´-ddd		<.05							
4,4´-dde		<.05							
4,4´-ddt		<.05							
4,6-dinitro-2-methylphenol		<8							
4-aminobiphenyl		<8							
4-bromophenyl phenyl ether		<8							
4-chloro-3-methylphenol		<8							
4-chloroaniline		<8							
4-chlorophenyl phenyl ether		<8							
4-methyl-2-pentanone (mibk)	<5	<5		<5	<5	<5	<5	<5	<5
4-nitroaniline		<8							
4-nitrophenol		<8							
5-nitro-o-toluidine		<8							
7,12-dimethylbenz(a)anthracene		<8							
Acenaphthene		<8							
Acenaphthylene		<8							
Acetone	<10	<10		<10	<10	<10	<10	<10	<10
Acetonitrile		<10							
Acetophenone		<8							
Acrolein		<10							
Acrylonitrile	<5	<5		<5	<5	<5	<5	<5	<5
Aldrin		<.05							
Allyl chloride		<1							
Alpha-bhc		<.05							

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

Table 9

Analytical Data Summary for MW-6

Constituents	10/28/2021	4/13/2022	10/19/2022	4/6/2023	10/10/2023
(3 4)-methylphenol				<8	
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1
1,1-dichloropropene				<1	
1,2,3-trichloropropane	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene				<8	
1,2,4-trichlorobenzene				<1	
1,2-dibromo-3-chloropropane	<5	<5	<5	<1	<5
1,2-dibromoethane	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1
1,2-dinitrobenzene				<8	
1,3,5-trinitrobenzene				<8	
1,3-dichlorobenzene				<1	
1,3-dichloropropane				<1	
1,3-dinitrobenzene				<8	
1,4-dichlorobenzene	<1	<1	<1	<1	<1
1,4-naphthoquinone				<8	
1,4-phenylenediamine				<8	
1-naphthylamine				<8	
2,2-dichloropropane				<1	
2,3,4,6-tetrachlorophenol				<8	
2,4,5-t				<.5	
2,4,5-tp (silvex)				<.5	
2,4,5-trichlorophenol				<8	
2,4,6-trichlorophenol				<8	
2,4-d				<2	
2,4-dichlorophenol				<8	
2,4-dimethylphenol				<8	
2,4-dinitrophenol				<8	
2,4-dinitrotoluene				<8	
2,6-dichlorophenol				<8	
2,6-dinitrotoluene				<8	
2-acetylaminofluorene				<8	
2-butanone (mek)	<5	<10	<10	<5	<10
2-chloronaphthalene				<8	
2-chlorophenol				<8	
2-hexanone (mbk)	<5	<5	<5	<5	<5
2-methylnaphthalene				<8	
2-methylphenol				<8	
2-naphthylamine				<8	
2-nitroaniline				<8	
2-nitrophenol				<8	
3,3´-dichlorobenzidine				<8	
3,3'-dimethylbenzidine				<8	
3-methylcholanthrene				<8	
3-nitroaniline				<8	
4,4´-ddd				<.05	
4,4´-dde				<.05	
4,4´-ddt				<.05	
4,6-dinitro-2-methylphenol				<8	
4-aminobiphenyl				<8	
4-bromophenyl phenyl ether				<8	
4-chloro-3-methylphenol				<8	
4-chloroaniline				<8	
4-chlorophenyl phenyl ether				<8	
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5
4-nitroaniline				<8	
4-nitrophenol				<8	
5-nitro-o-toluidine				<8	
7,12-dimethylbenz(a)anthracene				<8	
Acenaphthene				<8	
Acenaphthylene				<8	
Acetone	<10	<10	<10	<10	<10
Acetonitrile				<10	
Acetophenone				<8	
Acrolein				<10	
Acrylonitrile	<5	<5	<5	<5	<5
Aldrin				<.05	
Allyl chloride				<1	
Alpha-bhc				<.05	

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

Table 9

Analytical Data Summary for MW-6

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	11/24/2015	4/12/2016	10/11/2016	1/17/2017	4/20/2017
Anthracene	ug/L								<8
Antimony, total	ug/L	<2	<2	<2		<2	<2		<2
Arochlor 1016	ug/L								<.1
Arochlor 1221	ug/L								<.2
Arochlor 1232	ug/L								<.2
Arochlor 1242	ug/L								<.2
Arochlor 1248	ug/L								<.2
Arochlor 1254	ug/L								<.1
Arochlor 1260	ug/L								<.1
Arsenic, total	ug/L	<4.0	<4.0	4.2	<4.0	<4.0	<4.0		<4.0
Azobenzene	ug/L								<8
Barium, total	ug/L	35.7	37.2	25.7		24.5	28.8		36.5
Benzene	ug/L	<1	<1	<1		<1	<1		<1
Benzo(a)anthracene	ug/L								<8
Benzo(a)pyrene	ug/L								<8
Benzo(b)fluoranthene	ug/L								<8
Benzo(g,h,i)perylene	ug/L								<8
Benzo(k)fluoranthene	ug/L								<8
Benzyl alcohol	ug/L								<8
Beryllium, total	ug/L	<4	<4	<4		<4	<4		<4
Beta-bhc	ug/L								<.05
Bis (2-chloroethoxy) methane	ug/L								<8
Bis(2-chloroethyl) ether	ug/L								<8
Bis(2-chloroisopropyl) ether	ug/L								<8
Bis(2-ethylhexyl) phthalate	ug/L								<6
Bromochloromethane	ug/L	<1	<1	<1		<1	<1		<1
Bromodichloromethane	ug/L	<1	<1	<1		<1	<1		<1
Bromoform	ug/L	<1	<1	<1		<1	<1		<1
Bromomethane	ug/L	<1	<1	<1		<1	<1		<1
Butyl benzyl phthalate	ug/L								<8
Cadmium, total	ug/L	<.8	<.8	<.8		<.8	<.8		<.8
Carbon disulfide	ug/L	<1	<1	<1		<1	<1		<1
Carbon tetrachloride	ug/L	<1	<1	<1		<1	<1		<1
Chlordane	ug/L								<.1
Chlorobenzene	ug/L	<1	<1	<1		<1	<1		<1
Chlorobenzilate	ug/L								<8
Chloroethane	ug/L	<1	<1	<1		<1	<1		<1
Chloroform	ug/L	<1	<1	<1		<1	<1		<1
Chloromethane	ug/L	<1	<1	<1		<1	<1		<1
Chloroprene	ug/L								<1
Chromium, total	ug/L	<8	<8	<8		<8	<8		<8
Chrysene	ug/L								<8
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1		<1	<1		<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1		<1	<1		<1
Cobalt, total	ug/L	1.1	.8	.8		2.3	1.1	6.3	2.0
Copper, total	ug/L	<4	<4	<4		<4	<4		<4
Cyanide, total	mg/L								.009
Delta-bhc	ug/L								<.05
Diallate	ug/L								<8
Dibenzo(a,h)anthracene	ug/L								<8
Dibenzofuran	ug/L								<8
Dibromochloromethane	ug/L	<1	<1	<1		<1	<1		<1
Dibromomethane	ug/L	<1	<1	<1		<1	<1		<1
Dichlorodifluoromethane	ug/L								<1
Dieldrin	ug/L								<.05
Diethyl phthalate	ug/L								<8
Dimethoate	ug/L								<.4
Dimethylphthalate	ug/L								<8
Di-n-butyl phthalate	ug/L								<8
Di-n-octyl phthalate	ug/L								<8
Dinoseb	ug/L								<.5
Diphenylamine	ug/L								<8
Disulfoton	ug/L								<.4
Endosulfan i	ug/L								<.05
Endosulfan ii	ug/L								<.05
Endosulfan sulfate	ug/L								<.05
Endrin	ug/L								<.05
Endrin aldehyde	ug/L								<.05
Ethyl methacrylate	ug/L								<10
Ethyl methanesulfonate	ug/L								<8
Ethylbenzene	ug/L	<1	<1	<1		<1	<1		<1
Famphur	ug/L								<.4
Fluoranthene	ug/L								<8
Fluorene	ug/L								<8
Gamma-bhc (lindane)	ug/L								<.05
Heptachlor	ug/L								<.05

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

Table 9

Analytical Data Summary for MW-6

Constituents	10/12/2017	4/23/2018	7/5/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021
Anthracene		<8							
Antimony, total	<2	<2		<2	<2	<2	<2	<2	<2
Arochlor 1016		<.1							
Arochlor 1221		<.2							
Arochlor 1232		<.2							
Arochlor 1242		<.2							
Arochlor 1248		<.2							
Arochlor 1254		<.1							
Arochlor 1260		<.1							
Arsenic, total	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Azobenzene		<8							
Barium, total	22.5	23.9		25.2	43.2	28.1	22.8	28.3	18.2
Benzene	<1	<1		<1	<1	<1	<1	<1	<1
Benzo(a)anthracene		<8							
Benzo(a)pyrene		<8							
Benzo(b)fluoranthene		<8							
Benzo(g,h,i)perylene		<8							
Benzo(k)fluoranthene		<8							
Benzyl alcohol		<8							
Beryllium, total	<4	<4		<4	<4	<4	<4	<4	<4
Beta-bhc		<.05							
Bis (2-chloroethoxy) methane		<8							
Bis(2-chloroethyl) ether		<8							
Bis(2-chloroisopropyl) ether		<8							
Bis(2-ethylhexyl) phthalate		6	8	<6	<6	10	<6	<6	<6
Bromochloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Bromoform	<1	<1		<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1		<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate		<8							
Cadmium, total	<.8	<.8		<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1		<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1		<1	<1	<1	<1	<1	<1
Chlordane		<.1							
Chlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
Chlorobenzilate		<8							
Chloroethane	<1	<1		<1	<1	<1	<1	<1	<1
Chloroform	<1	<1		<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Chloroprene		<1							
Chromium, total	<8	<8		<8	<8	<8	<8	<8	<8
Chrysene		<8							
Cis-1,2-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1		<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	<.8		<.8	.8	<.8	1.9	1.0	<.4
Copper, total	<4	<4		<4	<4	<4	<4	<4	<4
Cyanide, total		<.005							
Delta-bhc		<.05							
Diallate		<8							
Dibenzo(a,h)anthracene		<8							
Dibenzofuran		<8							
Dibromochloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1		<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane		<1							
Dieldrin		<.05							
Diethyl phthalate		<8							
Dimethoate		<.4							
Dimethylphthalate		<8							
Di-n-butyl phthalate		<8							
Di-n-octyl phthalate		<8							
Dinoseb		<.5							
Diphenylamine		<8							
Disulfoton		<.4							
Endosulfan i		<.05							
Endosulfan ii		<.05							
Endosulfan sulfate		<.05							
Endrin		<.05							
Endrin aldehyde		<.05							
Ethyl methacrylate		<10							
Ethyl methanesulfonate		<8							
Ethylbenzene	<1	<1		<1	<1	<1	<1	<1	<1
Famphur		<.4							
Fluoranthene		<8							
Fluorene		<8							
Gamma-bhc (lindane)		<.05							
Heptachlor		<.05							

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

Table 9

Analytical Data Summary for MW-6

Constituents	10/28/2021	4/13/2022	10/19/2022	4/6/2023	10/10/2023
Anthracene				<8	
Antimony, total	<2	<2	<2	<2	<2
Arochlor 1016				<.1	
Arochlor 1221				<.2	
Arochlor 1232				<.2	
Arochlor 1242				<.2	
Arochlor 1248				<.2	
Arochlor 1254				<.1	
Arochlor 1260				<.1	
Arsenic, total	<4.0	<4.0	8.1	5.3	<4.0
Azobenzene				<8	
Barium, total	23.8	20.7	50.9	24.5	23.0
Benzene	<1	<1	<1	<1	<1
Benzo(a)anthracene				<8	
Benzo(a)pyrene				<8	
Benzo(b)fluoranthene				<8	
Benzo(g,h,i)perylene				<8	
Benzo(k)fluoranthene				<8	
Benzyl alcohol				<8	
Beryllium, total	<4	<4	<4	<4	<4
Beta-bhc				<.05	
Bis (2-chloroethoxy) methane				<8	
Bis(2-chloroethyl) ether				<8	
Bis(2-chloroisopropyl) ether				<8	
Bis(2-ethylhexyl) phthalate	<6	<6		7	<6
Bromochloromethane	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1
Butyl benzyl phthalate				<8	
Cadmium, total	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1
Chlordane				<.1	
Chlorobenzene	<1	<1	<1	<1	<1
Chlorobenzilate				<8	
Chloroethane	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1
Chloroprene				<1	
Chromium, total	<8	<8	<8	<8	<8
Chrysene				<8	
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1
Cobalt, total	1.0	1.1	4.6	.7	.5
Copper, total	<4	<4	<4	<4	<4
Cyanide, total				<.005	
Delta-bhc				<.05	
Diallate				<8	
Dibenzo(a,h)anthracene				<8	
Dibenzofuran				<8	
Dibromochloromethane	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1
Dichlorodifluoromethane				<1	
Dieldrin				<.05	
Diethyl phthalate				<8	
Dimethoate				<.4	
Dimethylphthalate				<8	
Di-n-butyl phthalate				<8	
Di-n-octyl phthalate				<8	
Dinoseb				<.5	
Diphenylamine				<8	
Disulfoton				<.4	
Endosulfan i				<.05	
Endosulfan ii				<.05	
Endosulfan sulfate				<.05	
Endrin				<.05	
Endrin aldehyde				<.05	
Ethyl methacrylate				<10	
Ethyl methanesulfonate				<8	
Ethylbenzene	<1	<1	<1	<1	<1
Famphur				<.4	
Fluoranthene				<8	
Fluorene				<8	
Gamma-bhc (lindane)				<.05	
Heptachlor				<.05	

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

Table 9

Analytical Data Summary for MW-6

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	11/24/2015	4/12/2016	10/11/2016	1/17/2017	4/20/2017
Heptachlor epoxide	ug/L								<.05
Hexachlorobenzene	ug/L								<.05
Hexachlorobutadiene	ug/L								<8
Hexachlorocyclopentadiene	ug/L								<8
Hexachloroethane	ug/L								<8
Hexachloropropene	ug/L								<8
Indeno(1,2,3-cd)pyrene	ug/L								<8
Isobutanol	mg/L								<1
Isodrin	ug/L								<8
Isophorone	ug/L								<8
Isosafrole	ug/L								<8
Kepone	ug/L								<8
Lead, total	ug/L	<4	<4	<4		<4	<4		<4
Mercury, total	ug/L								<.5
Methacrylonitrile	ug/L								<1
Methapyrilene	ug/L								<8
Methoxychlor	ug/L								<.05
Methyl iodide	ug/L	<1	<1	<1		<1	<1		<1
Methyl methacrylate	ug/L								<1
Methyl methanesulfonate	ug/L								<8
Methyl parathion	ug/L								<.4
Methylene chloride	ug/L	<5	<5	<5		<5	<5		<5
Naphthalene	ug/L								<8
Nickel, total	ug/L	7.1	<4.0	<4.0		<4.0	<4.0		<4.0
Nitrobenzene	ug/L								<8
N-nitrosodiethylamine	ug/L								<8
N-nitrosodimethylamine	ug/L								<8
N-nitrosodi-n-butylamine	ug/L								<8
N-nitroso-di-n-propylamine	ug/L								<8
N-nitrosodiphenylamine	ug/L								<8
N-nitrosomethylethylamine	ug/L								<8
N-nitrosopiperidine	ug/L								<8
N-nitrosopyrrolidine	ug/L								<8
O,o,o-triethyl phosphorothioate	ug/L								<.4
O-toluidine	ug/L								<8
Parathion	ug/L								<.4
P-dimethylaminoazobenzene	ug/L								<8
Pentachlorobenzene	ug/L								<8
Pentachloronitrobenzene (pcnb)	ug/L								<8
Pentachlorophenol	ug/L								<8
Phenacetin	ug/L								<8
Phenanthrene	ug/L								<8
Phenol	ug/L								<8
Phorate	ug/L								<.4
Pronamide	ug/L								<8
Propionitrile	ug/L								<10
Pyrene	ug/L								<8
Safrole	ug/L								<8
Selenium, total	ug/L	<4	<4	<4		<4	<4		<4
Silver, total	ug/L	<4	<4	<4		<4	<4		<4
Solids, total suspended	mg/L	17	46						
Styrene	ug/L	<1	<1	<1		<1	<1		<1
Sulfide, total	mg/L								<.1
Tetrachloroethylene	ug/L	<1	<1	<1		<1	<1		<1
Thallium, total	ug/L	<4	<4	<4		<4	<4		<4
Thionazin	ug/L								<.4
Tin, total	ug/L								<20
Toluene	ug/L	<1	<1	<1		<1	<1		<1
Toxaphene	ug/L								<.2
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1		<1	<1		<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1		<1	<1		<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5		<5	<5		<5
Trichloroethylene	ug/L	<1	<1	<1		<1	<1		<1
Trichlorofluoromethane	ug/L	<1	<1	<1		<1	<1		<1
Vanadium, total	ug/L	<20	<20	<20		<20	<20		<20
Vinyl acetate	ug/L	<5	<5	<5		<5	<5		<5
Vinyl chloride	ug/L	<1	<1	<1		<1	<1		<1
Xylenes, total	ug/L	<2	<2	<2		<2	<2		<2
Zinc, total	ug/L	9.4	31.0	<8.0		<8.0	<8.0		<8.0

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

Table 9

Analytical Data Summary for MW-6

Constituents	10/12/2017	4/23/2018	7/5/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021
Heptachlor epoxide		<.05							
Hexachlorobenzene		<.05							
Hexachlorobutadiene		<8							
Hexachlorocyclopentadiene		<8							
Hexachloroethane		<8							
Hexachloropropene		<8							
Indeno(1,2,3-cd)pyrene		<8							
Isobutanol		<1							
Isodrin		<8							
Isophorone		<8							
Isosafrole		<8							
Kepone		<8							
Lead, total	<4	<4		<4	<4	<4	<4	<4	<4
Mercury, total		<.5							
Methacrylonitrile		<1							
Methapyrilene		<8							
Methoxychlor		<.05							
Methyl iodide	<1	<1		<1	<1	<1	<1	<1	<1
Methyl methacrylate		<1							
Methyl methanesulfonate		<8							
Methyl parathion		<.4							
Methylene chloride	<5	<5		<5	<5	<5	<5	<5	<5
Naphthalene		<8							
Nickel, total	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene		<8							
N-nitrosodiethylamine		<8							
N-nitrosodimethylamine		<8							
N-nitrosodi-n-butylamine		<8							
N-nitroso-di-n-propylamine		<8							
N-nitrosodiphenylamine		<8							
N-nitrosomethylethylamine		<8							
N-nitrosopiperidine		<8							
N-nitrosopyrrolidine		<8							
O,o,o-triethyl phosphorothioate		<.4							
O-toluidine		<8							
Parathion		<.4							
P-dimethylaminoazobenzene		<8							
Pentachlorobenzene		<8							
Pentachloronitrobenzene (pcnb)		<8							
Pentachlorophenol		<8							
Phenacetin		<8							
Phenanthrene		<8							
Phenol		<8							
Phorate		<.4							
Pronamide		<8							
Propionitrile		<10							
Pyrene		<8							
Safrole		<8							
Selenium, total	<4	<4		<4	<4	<4	<4	<4	<4
Silver, total	<4	<4		<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1		<1	<1	<1	<1	<1	<1
Sulfide, total		<.1							
Tetrachloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Thallium, total	<4	<4		<4	<2	<2	<2	<2	<2
Thionazin		<.4							
Tin, total		<20							
Toluene	<1	<1		<1	<1	<1	<1	<1	<1
Toxaphene		<.2							
Trans-1,2-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1		<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5		<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1		<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20		<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5		<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1		<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2		<2	<2	<2	<2	<2	<2
Zinc, total	28.8	10.1		32.0	24.8	22.0	28.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-6

Constituents	10/28/2021	4/13/2022	10/19/2022	4/6/2023	10/10/2023
Heptachlor epoxide				<.05	
Hexachlorobenzene				<.05	
Hexachlorobutadiene				<8	
Hexachlorocyclopentadiene				<8	
Hexachloroethane				<8	
Hexachloropropene				<8	
Indeno(1,2,3-cd)pyrene				<8	
Isobutanol				<1	
Isodrin				<8	
Isophorone				<8	
Isosafrole				<8	
Kepone				<8	
Lead, total	<4	<4	<4	<4	<4
Mercury, total				<.5	
Methacrylonitrile				<1	
Methapyrilene				<8	
Methoxychlor				<.05	
Methyl iodide	<1	<1	<1	<2	<1
Methyl methacrylate				<1	
Methyl methanesulfonate				<8	
Methyl parathion				<.4	
Methylene chloride	<5	<5	<5	<5	<5
Naphthalene				<8	
Nickel, total	<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene				<8	
N-nitrosodiethylamine				<8	
N-nitrosodimethylamine				<8	
N-nitrosodi-n-butylamine				<8	
N-nitroso-di-n-propylamine				<8	
N-nitrosodiphenylamine				<8	
N-nitrosomethylethylamine				<8	
N-nitrosopiperidine				<8	
N-nitrosopyrrolidine				<8	
O,o,o-triethyl phosphorothioate				<.4	
O-toluidine				<8	
Parathion				<.4	
P-dimethylaminoazobenzene				<8	
Pentachlorobenzene				<8	
Pentachloronitrobenzene (pcnb)				<8	
Pentachlorophenol				<8	
Phenacetin				<8	
Phenanthrene				<8	
Phenol				<8	
Phorate				<.4	
Pronamide				<8	
Propionitrile				<10	
Pyrene				<8	
Safrole				<8	
Selenium, total	<4	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4	<4
Solids, total suspended					
Styrene	<1	<1	<1	<1	<1
Sulfide, total				<.3	
Tetrachloroethylene	<1	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2	<2
Thionazin				<.4	
Tin, total				<20	
Toluene	<1	<1	<1	<1	<1
Toxaphene				<.2	
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0	<20.0	27.4

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

Table 9

Analytical Data Summary for MW-7

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	1/17/2017	4/20/2017	10/12/2017
(3 4)-methylphenol	ug/L							<8	
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1		<1	<1
1,1-dichloropropene	ug/L							<1	
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,2,4,5-tetrachlorobenzene	ug/L							<8	
1,2,4-trichlorobenzene	ug/L							<1	
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1		<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1		<1	<1
1,2-dinitrobenzene	ug/L							<8	
1,3,5-trinitrobenzene	ug/L							<8	
1,3-dichlorobenzene	ug/L							<1	
1,3-dichloropropane	ug/L							<1	
1,3-dinitrobenzene	ug/L							<8	
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1		<1	<1
1,4-naphthoquinone	ug/L							<8	
1,4-phenylenediamine	ug/L							<8	
1-naphthylamine	ug/L							<8	
2,2-dichloropropane	ug/L							<1	
2,3,4,6-tetrachlorophenol	ug/L							<8	
2,4,5-t	ug/L							<.5	
2,4,5-tp (silvex)	ug/L							<.5	
2,4,5-trichlorophenol	ug/L							<8	
2,4,6-trichlorophenol	ug/L							<8	
2,4-d	ug/L							<2	
2,4-dichlorophenol	ug/L							<8	
2,4-dimethylphenol	ug/L							<8	
2,4-dinitrophenol	ug/L							<8	
2,4-dinitrotoluene	ug/L							<8	
2,6-dichlorophenol	ug/L							<8	
2,6-dinitrotoluene	ug/L							<8	
2-acetylaminofluorene	ug/L							<8	
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5		<5	<5
2-chloronaphthalene	ug/L							<8	
2-chlorophenol	ug/L							<8	
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5		<5	<5
2-methylnaphthalene	ug/L							<8	
2-methylphenol	ug/L							<8	
2-naphthylamine	ug/L							<8	
2-nitroaniline	ug/L							<8	
2-nitrophenol	ug/L							<8	
3,3´-dichlorobenzidine	ug/L							<8	
3,3'-dimethylbenzidine	ug/L							<8	
3-methylcholanthrene	ug/L							<8	
3-nitroaniline	ug/L							<8	
4,4´-ddd	ug/L							<.05	
4,4´-dde	ug/L							<.05	
4,4´-ddt	ug/L							<.05	
4,6-dinitro-2-methylphenol	ug/L							<8	
4-aminobiphenyl	ug/L							<8	
4-bromophenyl phenyl ether	ug/L							<8	
4-chloro-3-methylphenol	ug/L							<8	
4-chloroaniline	ug/L							<8	
4-chlorophenyl phenyl ether	ug/L							<8	
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5		<5	<5
4-nitroaniline	ug/L							<8	
4-nitrophenol	ug/L							<8	
5-nitro-o-toluidine	ug/L							<8	
7,12-dimethylbenz(a)anthracene	ug/L							<8	
Acenaphthene	ug/L							<8	
Acenaphthylene	ug/L							<8	
Acetone	ug/L	<10	<10	<10	<10	<10		<10	<10
Acetonitrile	ug/L							<10	
Acetophenone	ug/L							<8	
Acrolein	ug/L							<10	
Acrylonitrile	ug/L	<5	<5	<5	<5	<5		<5	<5
Aldrin	ug/L							<.05	
Allyl chloride	ug/L							<1	
Alpha-bhc	ug/L							<.05	

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

Table 9

Analytical Data Summary for MW-7

Constituents	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
(3 4)-methylphenol	<8								
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	<1								
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	<8								
1,2,4-trichlorobenzene	<1								
1,2-dibromo-3-chloropropane	<1	<1	<1	<1	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	<8								
1,3,5-trinitrobenzene	<8								
1,3-dichlorobenzene	<1								
1,3-dichloropropane	<1								
1,3-dinitrobenzene	<8								
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	<8								
1,4-phenylenediamine	<8								
1-naphthylamine	<8								
2,2-dichloropropane	<1								
2,3,4,6-tetrachlorophenol	<8								
2,4,5-t	<.5								
2,4,5-tp (silvex)	<.5								
2,4,5-trichlorophenol	<8								
2,4,6-trichlorophenol	<8								
2,4-d	<2								
2,4-dichlorophenol	<8								
2,4-dimethylphenol	<8								
2,4-dinitrophenol	<8								
2,4-dinitrotoluene	<8								
2,6-dichlorophenol	<8								
2,6-dinitrotoluene	<8								
2-acetylaminofluorene	<8								
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<5	<5	<10
2-chloronaphthalene	<8								
2-chlorophenol	<8								
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	<8								
2-methylphenol	<8								
2-naphthylamine	<8								
2-nitroaniline	<8								
2-nitrophenol	<8								
3,3´-dichlorobenzidine	<8								
3,3'-dimethylbenzidine	<8								
3-methylcholanthrene	<8								
3-nitroaniline	<8								
4,4´-ddd	<.05								
4,4´-dde	<.05								
4,4´-ddt	<.05								
4,6-dinitro-2-methylphenol	<8								
4-aminobiphenyl	<8								
4-bromophenyl phenyl ether	<8								
4-chloro-3-methylphenol	<8								
4-chloroaniline	<8								
4-chlorophenyl phenyl ether	<8								
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	<8								
4-nitrophenol	<8								
5-nitro-o-toluidine	<8								
7,12-dimethylbenz(a)anthracene	<8								
Acenaphthene	<8								
Acenaphthylene	<8								
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetonitrile	<10								
Acetophenone	<8								
Acrolein	<10								
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	<.05								
Allyl chloride	<1								
Alpha-bhc	<.05								

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

Table 9

Analytical Data Summary for MW-7

Constituents	10/19/2022	4/6/2023	10/10/2023
(3 4)-methylphenol		<8	
1,1,1,2-tetrachloroethane	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1
1,1-dichloroethane	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1
1,1-dichloropropene		<1	
1,2,3-trichloropropane	<1	<1	<1
1,2,4,5-tetrachlorobenzene		<8	
1,2,4-trichlorobenzene		<1	
1,2-dibromo-3-chloropropane	<5	<1	<5
1,2-dibromoethane	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1
1,2-dichloroethane	<1	<1	<1
1,2-dichloropropane	<1	<1	<1
1,2-dinitrobenzene		<8	
1,3,5-trinitrobenzene		<8	
1,3-dichlorobenzene		<1	
1,3-dichloropropane		<1	
1,3-dinitrobenzene		<8	
1,4-dichlorobenzene	<1	<1	<1
1,4-naphthoquinone		<8	
1,4-phenylenediamine		<8	
1-naphthylamine		<8	
2,2-dichloropropane		<1	
2,3,4,6-tetrachlorophenol		<8	
2,4,5-t		<.5	
2,4,5-tp (silvex)		<.5	
2,4,5-trichlorophenol		<8	
2,4,6-trichlorophenol		<8	
2,4-d		<2	
2,4-dichlorophenol		<8	
2,4-dimethylphenol		<8	
2,4-dinitrophenol		<8	
2,4-dinitrotoluene		<8	
2,6-dichlorophenol		<8	
2,6-dinitrotoluene		<8	
2-acetylaminofluorene		<8	
2-butanone (mek)	<10	<5	<10
2-chloronaphthalene		<8	
2-chlorophenol		<8	
2-hexanone (mbk)	<5	<5	<5
2-methylnaphthalene		<8	
2-methylphenol		<8	
2-naphthylamine		<8	
2-nitroaniline		<8	
2-nitrophenol		<8	
3,3´-dichlorobenzidine		<8	
3,3'-dimethylbenzidine		<8	
3-methylcholanthrene		<8	
3-nitroaniline		<8	
4,4´-ddd		<.05	
4,4´-dde		<.05	
4,4´-ddt		<.05	
4,6-dinitro-2-methylphenol		<8	
4-aminobiphenyl		<8	
4-bromophenyl phenyl ether		<8	
4-chloro-3-methylphenol		<8	
4-chloroaniline		<8	
4-chlorophenyl phenyl ether		<8	
4-methyl-2-pentanone (mibk)	<5	<5	<5
4-nitroaniline		<8	
4-nitrophenol		<8	
5-nitro-o-toluidine		<8	
7,12-dimethylbenz(a)anthracene		<8	
Acenaphthene		<8	
Acenaphthylene		<8	
Acetone	<10	<10	<10
Acetonitrile		<10	
Acetophenone		<8	
Acrolein		<10	
Acrylonitrile	<5	<5	<5
Aldrin		<.05	
Allyl chloride		<1	
Alpha-bhc		<.05	

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

Table 9

Analytical Data Summary for MW-7

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	1/17/2017	4/20/2017	10/12/2017
Anthracene	ug/L							<8	
Antimony, total	ug/L	<2	<2	<2	<2	<2		<2	<2
Arochlor 1016	ug/L							<.1	
Arochlor 1221	ug/L							<.2	
Arochlor 1232	ug/L							<.2	
Arochlor 1242	ug/L							<.2	
Arochlor 1248	ug/L							<.2	
Arochlor 1254	ug/L							<.1	
Arochlor 1260	ug/L							<.1	
Arsenic, total	ug/L	<4	<4	<4	<4	<4		<4	<4
Azobenzene	ug/L							<8	
Barium, total	ug/L	53.8	35.2	34.7	22.8	43.9		29.2	26.4
Benzene	ug/L	<1	<1	<1	<1	<1		<1	<1
Benzo(a)anthracene	ug/L							<8	
Benzo(a)pyrene	ug/L							<8	
Benzo(b)fluoranthene	ug/L							<8	
Benzo(g,h,i)perylene	ug/L							<8	
Benzo(k)fluoranthene	ug/L							<8	
Benzyl alcohol	ug/L							<8	
Beryllium, total	ug/L	<4	<4	<4	<4	<4		<4	<4
Beta-bhc	ug/L							<.05	
Bis (2-chloroethoxy) methane	ug/L							<8	
Bis(2-chloroethyl) ether	ug/L							<8	
Bis(2-chloroisopropyl) ether	ug/L							<8	
Bis(2-ethylhexyl) phthalate	ug/L							<6	
Bromochloromethane	ug/L	<1	<1	<1	<1	<1		<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1		<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1		<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1		<1	<1
Butyl benzyl phthalate	ug/L							<8	
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8		<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1		<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1		<1	<1
Chlordane	ug/L							<.1	
Chlorobenzene	ug/L	<1	<1	<1	<1	<1		<1	<1
Chlorobenzilate	ug/L							<8	
Chloroethane	ug/L	<1	<1	<1	<1	<1		<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1		<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1		<1	<1
Chloroprene	ug/L							<1	
Chromium, total	ug/L	<8	<8	<8	<8	<8		<8	<8
Chrysene	ug/L							<8	
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1		<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1		<1	<1
Cobalt, total	ug/L	1.2	<.8	2.7	<.8	<.8		<.8	<.8
Copper, total	ug/L	<4	<4	<4	<4	<4		<4	<4
Cyanide, total	mg/L							<.005	
Delta-bhc	ug/L							<.05	
Diallate	ug/L							<8	
Dibenzo(a,h)anthracene	ug/L							<8	
Dibenzofuran	ug/L							<8	
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1		<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1		<1	<1
Dichlorodifluoromethane	ug/L							<1	
Dieldrin	ug/L							<.05	
Diethyl phthalate	ug/L							<8	
Dimethoate	ug/L							<.4	
Dimethylphthalate	ug/L							<8	
Di-n-butyl phthalate	ug/L							<8	
Di-n-octyl phthalate	ug/L							<8	
Dinoseb	ug/L							<.5	
Diphenylamine	ug/L							<8	
Disulfoton	ug/L							<.4	
Endosulfan i	ug/L							<.05	
Endosulfan ii	ug/L							<.05	
Endosulfan sulfate	ug/L							<.05	
Endrin	ug/L							<.05	
Endrin aldehyde	ug/L							<.05	
Ethyl methacrylate	ug/L							<10	
Ethyl methanesulfonate	ug/L							<8	
Ethylbenzene	ug/L	<1	<1	<1	<1	<1		<1	<1
Famphur	ug/L							<.4	
Fluoranthene	ug/L							<8	
Fluorene	ug/L							<8	
Gamma-bhc (lindane)	ug/L							<.05	
Heptachlor	ug/L							<.05	

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

Table 9

Analytical Data Summary for MW-7

Constituents	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Anthracene	<8								
Antimony, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	<.1								
Arochlor 1221	<.2								
Arochlor 1232	<.2								
Arochlor 1242	<.2								
Arochlor 1248	<.2								
Arochlor 1254	<.1								
Arochlor 1260	<.1								
Arsenic, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Azobenzene	<8								
Barium, total	17.4	31.3	26.0	34.8	14.5	22.1	19.8	25.0	25.8
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	<8								
Benzo(a)pyrene	<8								
Benzo(b)fluoranthene	<8								
Benzo(g,h,i)perylene	<8								
Benzo(k)fluoranthene	<8								
Benzyl alcohol	<8								
Beryllium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	<.05								
Bis (2-chloroethoxy) methane	<8								
Bis(2-chloroethyl) ether	<8								
Bis(2-chloroisopropyl) ether	<8								
Bis(2-ethylhexyl) phthalate	<6								
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	<8								
Cadmium, total	<.8	<.8	<.8	.9	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	<.1								
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	<8								
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene	<1								
Chromium, total	<8	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene	<8								
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	<.8	<.8	<.8	<.4	<.4	<.4	<.4	.5
Copper, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Cyanide, total	<.005								
Delta-bhc	<.05								
Diallate	<8								
Dibenzo(a,h)anthracene	<8								
Dibenzofuran	<8								
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	<1								
Dieldrin	<.05								
Diethyl phthalate	<8								
Dimethoate	<.4								
Dimethylphthalate	<8								
Di-n-butyl phthalate	<8								
Di-n-octyl phthalate	<8								
Dinoseb	<.5								
Diphenylamine	<8								
Disulfoton	<.4								
Endosulfan i	<.05								
Endosulfan ii	<.05								
Endosulfan sulfate	<.05								
Endrin	<.05								
Endrin aldehyde	<.05								
Ethyl methacrylate	<10								
Ethyl methanesulfonate	<8								
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	<.4								
Fluoranthene	<8								
Fluorene	<8								
Gamma-bhc (lindane)	<.05								
Heptachlor	<.05								

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

Table 9

Analytical Data Summary for MW-7

Constituents	10/19/2022	4/6/2023	10/10/2023
Anthracene		<8	
Antimony, total	<2	<2	<2
Arochlor 1016		<.1	
Arochlor 1221		<.2	
Arochlor 1232		<.2	
Arochlor 1242		<.2	
Arochlor 1248		<.2	
Arochlor 1254		<.1	
Arochlor 1260		<.1	
Arsenic, total	<4	<4	<4
Azobenzene		<8	
Barium, total	31.4	31.3	108.0
Benzene	<1	<1	<1
Benzo(a)anthracene		<8	
Benzo(a)pyrene		<8	
Benzo(b)fluoranthene		<8	
Benzo(g,h,i)perylene		<8	
Benzo(k)fluoranthene		<8	
Benzyl alcohol		<8	
Beryllium, total	<4	<4	<4
Beta-bhc		<.05	
Bis (2-chloroethoxy) methane		<8	
Bis(2-chloroethyl) ether		<8	
Bis(2-chloroisopropyl) ether		<8	
Bis(2-ethylhexyl) phthalate		<6	
Bromochloromethane	<1	<1	<1
Bromodichloromethane	<1	<1	<1
Bromoform	<1	<1	<1
Bromomethane	<1	<1	<1
Butyl benzyl phthalate		<8	
Cadmium, total	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1
Carbon tetrachloride	<1	<1	<1
Chlordane		<.1	
Chlorobenzene	<1	<1	<1
Chlorobenzilate		<8	
Chloroethane	<1	<1	<1
Chloroform	<1	<1	<1
Chloromethane	<1	<1	<1
Chloroprene		<1	
Chromium, total	<8	<8	<8
Chrysene		<8	
Cis-1,2-dichloroethylene	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1
Cobalt, total	2.1	<.4	<.4
Copper, total	<4	<4	<4
Cyanide, total		<.005	
Delta-bhc		<.05	
Diallate		<8	
Dibenzo(a,h)anthracene		<8	
Dibenzofuran		<8	
Dibromochloromethane	<1	<1	<1
Dibromomethane	<1	<1	<1
Dichlorodifluoromethane		<1	
Dieldrin		<.05	
Diethyl phthalate		<8	
Dimethoate		<.4	
Dimethylphthalate		<8	
Di-n-butyl phthalate		<8	
Di-n-octyl phthalate		<8	
Dinoseb		<.5	
Diphenylamine		<8	
Disulfoton		<.4	
Endosulfan i		<.05	
Endosulfan ii		<.05	
Endosulfan sulfate		<.05	
Endrin		<.05	
Endrin aldehyde		<.05	
Ethyl methacrylate		<10	
Ethyl methanesulfonate		<8	
Ethylbenzene	<1	<1	<1
Famphur		<.4	
Fluoranthene		<8	
Fluorene		<8	
Gamma-bhc (lindane)		<.05	
Heptachlor		<.05	

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

Table 9

Analytical Data Summary for MW-7

Constituents	Units	10/14/2014	4/13/2015 4/14/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	1/17/2017	4/20/2017	10/12/2017
Heptachlor epoxide	ug/L							<.05	
Hexachlorobenzene	ug/L							<.05	
Hexachlorobutadiene	ug/L							<8	
Hexachlorocyclopentadiene	ug/L							<8	
Hexachloroethane	ug/L							<8	
Hexachloropropene	ug/L							<8	
Indeno(1,2,3-cd)pyrene	ug/L							<8	
Isobutanol	mg/L							<1	
Isodrin	ug/L							<8	
Isophorone	ug/L							<8	
Isosafrole	ug/L							<8	
Kepone	ug/L							<8	
Lead, total	ug/L	<4	<4	<4	<4	<4		<4	<4
Mercury, total	ug/L							<.5	
Methacrylonitrile	ug/L							<1	
Methapyrilene	ug/L							<8	
Methoxychlor	ug/L							<.05	
Methyl iodide	ug/L	<1	<1	<1	<1	<1		<1	<1
Methyl methacrylate	ug/L							<1	
Methyl methanesulfonate	ug/L							<8	
Methyl parathion	ug/L							<.4	
Methylene chloride	ug/L	<5	<5	<5	<5	<5		<5	<5
Naphthalene	ug/L							<8	
Nickel, total	ug/L	8.5	<4.0	8.2	<4.0	8.1	12.5	<4.0	<4.0
Nitrobenzene	ug/L							<8	
N-nitrosodiethylamine	ug/L							<8	
N-nitrosodimethylamine	ug/L							<8	
N-nitrosodi-n-butylamine	ug/L							<8	
N-nitroso-di-n-propylamine	ug/L							<8	
N-nitrosodiphenylamine	ug/L							<8	
N-nitrosomethylethylamine	ug/L							<8	
N-nitrosopiperidine	ug/L							<8	
N-nitrosopyrrolidine	ug/L							<8	
O,o,o-triethyl phosphorothioate	ug/L							<.4	
O-toluidine	ug/L							<8	
Parathion	ug/L							<.4	
P-dimethylaminoazobenzene	ug/L							<8	
Pentachlorobenzene	ug/L							<8	
Pentachloronitrobenzene (pcnb)	ug/L							<8	
Pentachlorophenol	ug/L							<8	
Phenacetin	ug/L							<8	
Phenanthrene	ug/L							<8	
Phenol	ug/L							<8	
Phorate	ug/L							<.4	
Pronamide	ug/L							<8	
Propionitrile	ug/L							<10	
Pyrene	ug/L							<8	
Safrole	ug/L							<8	
Selenium, total	ug/L	<4	<4	<4	<4	<4		<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4		<4	<4
Solids, total suspended	mg/L	6	10						
Styrene	ug/L	<1	<1	<1	<1	<1		<1	<1
Sulfide, total	mg/L							<.1	
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1		<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4		<4	<4
Thionazin	ug/L							<.4	
Tin, total	ug/L							<20	
Toluene	ug/L	<1	<1	<1	<1	<1		<1	<1
Toxaphene	ug/L							<.2	
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1		<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1		<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5		<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1		<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1		<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20		<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5		<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1		<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2		<2	<2
Zinc, total	ug/L	<8.0	<8.0	<8.0	<8.0	<8.0		30.7	<8.0

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

Table 9

Analytical Data Summary for MW-7

Constituents	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021	4/13/2022
Heptachlor epoxide	<.05								
Hexachlorobenzene	<.05								
Hexachlorobutadiene	<8								
Hexachlorocyclopentadiene	<8								
Hexachloroethane	<8								
Hexachloropropene	<8								
Indeno(1,2,3-cd)pyrene	<8								
Isobutanol	<1								
Isodrin	<8								
Isophorone	<8								
Isosafrole	<8								
Kepone	<8								
Lead, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total	<.5								
Methacrylonitrile	<1								
Methapyrilene	<8								
Methoxychlor	<.05								
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate	<1								
Methyl methanesulfonate	<8								
Methyl parathion	<.4								
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	<8								
Nickel, total	<4.0	<4.0	<4.0	<4.0	<4.0	4.0	<4.0	<4.0	4.8
Nitrobenzene	<8								
N-nitrosodiethylamine	<8								
N-nitrosodimethylamine	<8								
N-nitrosodi-n-butylamine	<8								
N-nitroso-di-n-propylamine	<8								
N-nitrosodiphenylamine	<8								
N-nitrosomethylethylamine	<8								
N-nitrosopiperidine	<8								
N-nitrosopyrrolidine	<8								
O,o,o-triethyl phosphorothioate	<.4								
O-toluidine	<8								
Parathion	<.4								
P-dimethylaminoazobenzene	<8								
Pentachlorobenzene	<8								
Pentachloronitrobenzene (pcnb)	<8								
Pentachlorophenol	<8								
Phenacetin	<8								
Phenanthrene	<8								
Phenol	<8								
Phorate	<.4								
Pronamide	<8								
Propionitrile	<10								
Pyrene	<8								
Safrole	<8								
Selenium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total	<.1								
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<4	<4	<2	<2	<2	<2	<2	<2	<2
Thionazin	<.4								
Tin, total	<20								
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	<.2								
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	<8.0	41.5	24.4	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-7

Constituents	10/19/2022	4/6/2023	10/10/2023
Heptachlor epoxide		<.05	
Hexachlorobenzene		<.05	
Hexachlorobutadiene		<8	
Hexachlorocyclopentadiene		<8	
Hexachloroethane		<8	
Hexachloropropene		<8	
Indeno(1,2,3-cd)pyrene		<8	
Isobutanol		<1	
Isodrin		<8	
Isophorone		<8	
Isosafrole		<8	
Kepone		<8	
Lead, total	<4	<4	<4
Mercury, total		<.5	
Methacrylonitrile		<1	
Methapyrilene		<8	
Methoxychlor		<.05	
Methyl iodide	<1	<2	<1
Methyl methacrylate		<1	
Methyl methanesulfonate		<8	
Methyl parathion		<.4	
Methylene chloride	<5	<5	<5
Naphthalene		<8	
Nickel, total	10.3	<4.0	<4.0
Nitrobenzene		<8	
N-nitrosodiethylamine		<8	
N-nitrosodimethylamine		<8	
N-nitrosodi-n-butylamine		<8	
N-nitroso-di-n-propylamine		<8	
N-nitrosodiphenylamine		<8	
N-nitrosomethylethylamine		<8	
N-nitrosopiperidine		<8	
N-nitrosopyrrolidine		<8	
O,o,o-triethyl phosphorothioate		<.4	
O-toluidine		<8	
Parathion		<.4	
P-dimethylaminoazobenzene		<8	
Pentachlorobenzene		<8	
Pentachloronitrobenzene (pcnb)		<8	
Pentachlorophenol		<8	
Phenacetin		<8	
Phenanthrene		<8	
Phenol		<8	
Phorate		<.4	
Pronamide		<8	
Propionitrile		<10	
Pyrene		<8	
Safrole		<8	
Selenium, total	<4	<4	<4
Silver, total	<4	<4	<4
Solids, total suspended			
Styrene	<1	<1	<1
Sulfide, total		<.1	
Tetrachloroethylene	<1	<1	<1
Thallium, total	<2	<2	<2
Thionazin		<.4	
Tin, total		<20	
Toluene	<1	<1	<1
Toxaphene		<.2	
Trans-1,2-dichloroethylene	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5
Trichloroethylene	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1
Vanadium, total	<20	<20	<20
Vinyl acetate	<5	<5	<5
Vinyl chloride	<1	<1	<1
Xylenes, total	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-9

Constituents	Units	10/14/2014	1/12/2015	4/13/2015 4/14/2015	7/21/2015	9/22/2015 9/23/2015	4/12/2016	10/11/2016	4/20/2017
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	ug/L	114.0	115.0	138.0	111.0	114.0	99.2	106.0	116.0
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Copper, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4.0	4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended	mg/L	7		2					
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<8.0	<8.0	<8.0	<8.0	<20.0	<8.0	<8.0	<20.0

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

Table 9

Analytical Data Summary for MW-9

Constituents	10/12/2017	4/23/2018	10/12/2018	4/16/2019	10/17/2019	4/9/2020	10/8/2020	4/15/2021	10/28/2021
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	<1	<1	<1	<1	<1	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	11.2	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	105.0	110.0	106.0	106.0	113.0	93.9	98.7	93.2	91.9
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	<.8	<.8	<.8	1.2	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	<.8	<.8	<.8	<.8	<.4	<.4	<.4	<.4
Copper, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	4.2
Selenium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<4	<4	<4	<2	<2	<2	<2	<2	<2
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	<8.0	<8.0	9.0	<20.0	29.9	<20.0	<20.0	<20.0	<20.0

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

Table 9

Analytical Data Summary for MW-9

Constituents	4/13/2022	10/19/2022	4/6/2023	10/10/2023
1,1,1,2-tetrachloroethane	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1
2-butanone (mek)	<10	<10	<10	<10
2-hexanone (mbk)	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5
Acetone	<10.0	<10.0	<10.0	<10.0
Acrylonitrile	<5	<5	<5	<5
Antimony, total	<2	<2	<2	<2
Arsenic, total	<4	<4	<4	<4
Barium, total	105.0	102.0	96.1	89.8
Benzene	<1	<1	<1	<1
Beryllium, total	<4	<4	<4	<4
Bromochloromethane	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1
Cadmium, total	<.8	1.3	<.8	<.8
Carbon disulfide	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1
Chromium, total	<8	<8	<8	<8
Cis-1,2-dichloroethylene	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1
Cobalt, total	<.4	<2.0	<.4	<.4
Copper, total	<4	<4	<4	<4
Dibromochloromethane	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1
Lead, total	<4	<4	<4	<4
Methyl iodide	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5
Nickel, total	<4.0	<4.0	<4.0	<4.0
Selenium, total	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4
Solids, total suspended				
Styrene	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2
Toluene	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2
Zinc, total	<20.0	<20.0	21.3	<20.0

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

Table 10 – Historic SSI and SSL - *Not Required*

Table 11 – Corrective Action Trend Analysis- *Not Required*

Table 12 – Leachate Thickness Summary

Table 12
Leachate Evaluation Report
FMC Sanitary Landfill
Permit No. 66-SDP-01-73P

Leachate head measurements in 2023 are summarized as:

Date/Location	Phase 1	Phase 2	Phase 3
January	< 12”	< 12”	< 12”
February	< 12”	< 12”	< 12”
March	< 12”	< 12”	< 12”
April	< 12”	< 12”	< 12”
May	< 12”	< 12”	< 12”
June	< 12”	< 12”	< 12”
July	< 12”	< 12”	< 12”
August	< 12”	< 12”	< 12”
September	< 12”	< 12”	< 12”
October	< 12”	< 12”	< 12”
November	< 12”	< 12”	< 12”
December	< 12”	< 12”	< 12”

Table 13 – Gas Monitoring Summary

Table 13
Explosive Gas Monitoring
Annual Water Quality Report
Floyd Mitchell Chickasaw Counties Sanitary Landfill
Permit No. 66-SDP-01-73P

	1/12/2023	4/6/2023	July, 23	10/10/2023
Reference Location	**LEL %**	**LEL %**	**LEL %**	**LEL %**
Ambient Air at Breathing Zone				
A-1*	0	0	0	0
A-2*	0	0	0	0
A-3*	0	0	0	0
A-4*	0	0	0	0
A-5*	0	0	0	0
A-6*	0	0	0	0
A-7*	0	0	0	0
A-8*	0	0	0	0
Subsurface Monitoring Points & Regulated Structures				
GP-1 (MW-12)	0	0	0	0
GP-2	0	0	0	0
GP-3	NA(1)	0	0	0
GP-4	0	0	0	0
GP-5 (MW-3)	0	0	0	0
Utility conduits/ E Side Scalehouse	0	0	0	0
Scalehouse	0	0	0	0
Scale Pit	0	0	0	0
T&A Building	0	0	0	0
HHW Building	0	0	0	0
BG Building	0	0	0	0
Maintenance Bldg	0	0	0	0
Equipment Building	0	0	0	0
Excluded Structures Pursuant 113.9(2)"a"(1)				
Vent 1 (east)	0	0	0	0
Vent 2	**7.2**	0	0	0
Vent 3	**7.0**	0	0	**6.8**
Vent 4 (west)	0	**OL**	0	**45.2**
Groundwater Underdrain Monitoring Point - Phase 1	0	0	0	**73.8**
Groundwater Underdrain Monitoring Point - Phase 2	0	0	0	0
Groundwater Underdrain Monitoring Point - Phase 3	0	0	0	**2.2**

*Explosive gas concentrations were recorded continuously. The concentrations are reported at each referenced location for ease in presentation of data.

OL - Over Limit

(1) point buried in snow - could not be tested

Appendix A

Field Sampling Forms

Floyd-Mitchell-Chickasaw Counties Sanitary Landfill
PERMIT # 66-SDP-01-73P

4/6/2023 Sampled by: G. Hunter Weather conditions: Sunny 28-50 degrees

IDNR Form 542-1322

Monitoring Well: MW-2 (dg)

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

GENERAL INFORMATION

TOC	1180.67
Well Depth	32.85
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	1180.67
Well Depth	32.85
Top Screen	1162.82
Bottom Screen	1147.82
Bottom Well	1147.82
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1154.67
Bottom sample	1150.67
Turbidity(NTU)	126.00

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	11:00	1.69	1178.98	

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		126.00
Appendix I	Metals	150	150		126.00
Appendix I	VOC	240	240		126.00
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	Bis	1-Qt			
Supplemental					
Total			400	0	

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

TOC	1180.67	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	32.85	Before purging	4/6/2023	11:00	1.69	1178.98	0	0.0	No
		After purging				1180.67			
		Top of Screen after construction				1162.82			
						17.85	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1147.82			
		Bottom of Well	4/6/2023		32.80	1147.87			
						0.05	feet sedimentation		
		Before Sample				1180.67	App II		
		Before Sample				1180.67	Bis		
		Recovery				1180.67			
		Recovery				1180.67			
		Recovery				1180.67			

IDNR Form 542-1322

Monitoring Well: MW-3 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1189.79
Well Depth	22.55
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	1189.79
Well Depth	22.55
Top Screen	1182.24
Bottom Screen	1167.24
Bottom Well	1167.24
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	16.00
Top sample	1173.79
Bottom sample	1169.79
Turbidity(NTU)	2.48

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	10:38	11.7	1178.09	

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		2.48
Appendix I	Metals	150	150		2.48
Appendix I	VOC	240	240		2.48
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

TOC	1189.79	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.55	Before purging	4/6/2023	10:38	11.70	1178.09		0.0	No
		After purging				1189.79			
		Top of Screen after construction				1182.24			
						7.55	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1167.24			
		Bottom of Well	4/6/2023		22.60	1167.19			
						-0.05	feet sedimentation		
		Before Sample				1189.79	App I		
		Before Sample				1189.79	App II		
		Recovery				1189.79			
		Recovery				1189.79			
		Recovery				1189.79			

IDNR Form 542-1322

Monitoring Well: MW-4 (b)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1209.46
Well Depth	32.38
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	1209.46
Well Depth	32.38
Top Screen	1192.08
Bottom Screen	1177.08
Bottom Well	1177.08
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	27.00
Top sample	1182.46
Bottom sample	1178.46
Turbidity(NTU)	706.00

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	10:17	2.58	1206.88	

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		706.00
Appendix I	Metals	150	150		706.00
Appendix I	VOC	240	240		706.00
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	BIS	1-Qt			
Supplemental					
Total			400	0	

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

TOC	1209.46	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	32.38	Before purging	4/6/2023	10:17	2.58	1206.88		0.0	No
		After purging				1209.46			
		Top of Screen after construction				1192.08			
						17.38	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1177.08			
		Bottom of Well	4/6/2023		32.80	1176.66			
						-0.42	feet sedimentation		
		Before Sample				1209.46	App I		
		Before Sample				1209.46	BIS		
		Recovery				1209.46			
		Recovery				1209.46			
		Recovery				1209.46			

IDNR Form 542-1322

Monitoring Well: MW-5 (b)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1209.87
Well Depth	31.65
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1209.87
Well Depth	31.65
Top Screen	1193.22
Bottom Screen	1178.22
Bottom Well	1178.22
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1183.87
Bottom sample	1179.87
Turbidity(NTU)	19.20

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	9:49	2.53	1207.34	

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		19.20
Appendix I	Metals	150	150		19.20
Appendix I	VOC	240	240		19.20
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1209.87								
Well Depth	31.65	Before purging	4/6/2023	9:49	2.53	1207.34		0.0	No
		After purging				1209.87			
		Top of Screen after construction				1193.22			
						16.65	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1178.22			
		Bottom of Well	4/6/2023		31.70	1178.17			
						-0.05	feet sedimentation		
		Before Sample				1209.87			
		Before Sample				1209.87			
		Recovery				1209.87			
		Recovery				1209.87			
		Recovery				1209.87			

IDNR Form 542-1322

Monitoring Well: MW-6 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1201.7
Well Depth	32.70
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	1201.7
Well Depth	32.70
Top Screen	1184.00
Bottom Screen	1169.00
Bottom Well	1169.00
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1175.70
Bottom sample	1171.70
Turbidity(NTU)	78.00

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	13:27	2.78	1198.92	

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		78.00
Appendix I	Metals	150	150		78.00
Appendix I	VOC	240	240		78.00
Full Appendix II	10 more containers	5620	5620		
TSS	TSS	1000			
Supplemental	BIS	1-Qt			
Supplemental					
Total			6020	0	

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

TOC	1201.7	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	32.70	Before purging	4/6/2023	13:27	2.78	1198.92	15	0.8	No
		After purging	4/6/2023	13:41	11.45	1190.25			
		Top of Screen after construction				1184.00			
						6.25	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1169.00			
		Bottom of Well	4/6/2023		32.60	1169.10			
						0.10	feet sedimentation		
		Before Sample				1201.70	App I		
		Before Sample				1201.70	BIS		
		Recovery				1201.70			
		Recovery				1201.70			
		Recovery				1201.70			

IDNR Form 542-1322

Monitoring Well: MW-7 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1197.57
Well Depth	22.66
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	1197.57
Well Depth	22.66
Top Screen	1189.91
Bottom Screen	1174.91
Bottom Well	1174.91
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	16.00
Top sample	1181.57
Bottom sample	1177.57
Turbidity(NTU)	1.25

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	12:36	3.9	1193.67	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		1.25
Appendix I	Metals	150	150		1.25
Appendix I	VOC	240	240		1.25
Full Appendix II	10 more containers	5620	5620		
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			6020	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1197.57	Before purging	4/6/2023	12:36	3.9	1193.67	8	2.6	No
Well Depth	22.66	After purging	4/6/2023	13:04	16.82	1180.75			
		Top of Screen after construction				1189.91			
						-9.16	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1174.91			
		Bottom of Well	4/6/2023		22.40	1175.17			
						0.26	feet sedimentation		
		Before Sample				1197.57	App I		
		Before Sample				1197.57	App II		
		Recovery				1197.57			
		Recovery				1197.57			
		Recovery				1197.57			

IDNR Form 542-1322

Monitoring Well: MW-9 (b)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1207.51
Well Depth	32.62
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	1207.51
Well Depth	32.62
Top Screen	1184.89
Bottom Screen	1174.89
Bottom Well	1174.89
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1181.51
Bottom sample	1177.51
Turbidity(NTU)	2.54

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	9:42	7.28	1200.23	

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		2.54
Appendix I	Metals	150	150		2.54
Appendix I	VOC	240	240		2.54
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1207.51								
Well Depth	32.62	Before purging	4/6/2023	9:42	7.28	1200.23		0.0	no
		After purging				1207.51			
		Top of Screen after construction				1184.89			
						22.62	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1174.89			
		Bottom of Well	4/6/2023		32.50	1175.01			
						0.12	feet sedimentation		
		Before Sample				1207.51			
		Before Sample				1207.51			
		Recovery				1207.51			
		Recovery				1207.51			
		Recovery				1207.51			

IDNR Form 542-1322

Monitoring Well: MW-11 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1179.86
Well Depth	37.14
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	1179.86
Well Depth	37.14
Top Screen	1152.72
Bottom Screen	1142.72
Bottom Well	1142.72
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	30.00
Top sample	1149.86
Bottom sample	1145.86
Turbidity(NTU)	11.70

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	11:14	12.91	1166.95	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		11.70
Appendix I	Metals	150	150		11.70
Appendix I	VOC	240	240		11.70
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1179.86	Before purging	4/6/2023	11:14	12.91	1166.95		0.0	no
Well Depth	37.14	After purging				1179.86			
		Top of Screen after construction				1152.72			
						27.14	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1142.72			
		Bottom of Well	4/6/2023		36.80	1143.06			
						0.34	feet sedimentation		
		Before Sample				1179.86	App I		
		Before Sample				1179.86	App II		
		Recovery				1179.86			
		Recovery				1179.86			
		Recovery				1179.86			

IDNR Form 542-1322

Monitoring Well: MW-12 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1181.55
Well Depth	21.51
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	1181.55
Well Depth	21.51
Top Screen	1170.04
Bottom Screen	1160.04
Bottom Well	1160.04
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	15.00
Top sample	1166.55
Bottom sample	1162.55
Turbidity(NTU)	3.77

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	11:31	11.68	1169.87	

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		3.77
Appendix I	Metals	150	150		3.77
Appendix I	VOC	240	240		3.77
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	BIS	1-Qt			
Supplemental					
Total			400	0	

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

TOC	1181.55	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	21.51	Before purging	4/6/2023	11:31	11.68	1169.87		0.0	no
		After purging				1181.55			
		Top of Screen after construction				1170.04			
						11.51	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1160.04			
		Bottom of Well	4/6/2023		21.20	1160.35			
						0.31	feet sedimentation		
		Before Sample				1181.55	App I		
		Before Sample				1181.55	BIS		
		Recovery				1181.55			
		Recovery				1181.55			
		Recovery				1181.55			

IDNR Form 542-1322

Monitoring Well: MW-14 (b)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1209.87
Well Depth	23.18
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	1209.87
Well Depth	23.18
Top Screen	1196.69
Bottom Screen	1186.69
Bottom Well	1186.69
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	16.00
Top sample	1193.87
Bottom sample	1189.87
Turbidity(NTU)	3.52

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	9:28	6.09	1203.78	

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		3.52
Appendix I	Metals	150	150		3.52
Appendix I	VOC	240	240		3.52
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1209.87								
Well Depth	23.18	Before purging	4/6/2023	9:28	6.09	1203.78		0.0	No
		After purging				1209.87			
		Top of Screen after construction				1196.69			
						13.18	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1186.69			
		Bottom of Well	4/6/2023		22.90	1186.97			
						0.28	feet sedimentation		
		Before Sample				1209.87			
		Before Sample				1209.87			
		Recovery				1209.87			
		Recovery				1209.87			
		Recovery				1209.87			

IDNR Form 542-1322

Monitoring Well: MW-15 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1183.46
Well Depth	30.20
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	1183.46
Well Depth	30.20
Top Screen	1163.26
Bottom Screen	1153.26
Bottom Well	1153.26
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	24.00
Top sample	1159.46
Bottom sample	1155.46
Turbidity(NTU)	10.70

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	11:49	9.15	1174.31	

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		10.70
Appendix I	Metals	150	150		10.70
Appendix I	VOC	240	240		10.70
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	Bis	1-Qt			
Supplemental					
Total			400	0	

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

TOC	1183.46	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	30.20	Before purging	4/6/2023	11:49	9.15	1174.31		0.0	Yes
		After purging				1183.46			
		Top of Screen after construction				1163.26			
						20.20	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1153.26			
		Bottom of Well	4/6/2023		30.20	1153.26			
						0.00	feet sedimentation		
		Before Sample				1183.46	App I		
		Before Sample				1183.46	Bis		
		Recovery				1183.46			
		Recovery				1183.46			
		Recovery				1183.46			

IDNR Form 542-1322

Monitoring Well: MW-16 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1185.93
Well Depth	30.43
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	1185.93
Well Depth	30.43
Top Screen	1165.50
Bottom Screen	1155.50
Bottom Well	1155.50
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	24.00
Top sample	1161.93
Bottom sample	1157.93
Turbidity(NTU)	1.83

Date	Time	Water Level	Water Elevation	Notes
4/6/2023	12:09	17.3	1168.63	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		1.83
Appendix I	Metals	150	150		1.83
Appendix I	VOC	240	240		1.83
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	Bis	1-Qt	945		
Supplemental					
Total			1345	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1185.93								
Well Depth	30.43	Before purging	4/6/2023	12:09	17.3	1168.63	0	0.0	No
		After purging				1185.93			
		Top of Screen after construction				1165.50			
						20.43	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1155.50			
		Bottom of Well	4/6/2023		30.40	1155.53			
						0.03	feet sedimentation		
		Before Sample				1185.93	App II		
		Before Sample				1185.93	Bis		
		Recovery				1185.93			
		Recovery				1185.93			
		Recovery				1185.93			

Floyd-Mitchell-Chickasaw Counties Sanitary Landfill
PERMIT # 66-SDP-01-73P

10/10/2023 Sampled by: Todd Whipple Weather conditions: Calm, Sunny 29-48 degrees

IDNR Form 542-1322

Monitoring Well: MW-2 (dg)

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

GENERAL INFORMATION

TOC	1180.67
Well Depth	32.85
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	1180.67
Well Depth	32.85
Top Screen	1162.82
Bottom Screen	1147.82
Bottom Well	1147.82
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	27.00
Top sample	1153.67
Bottom sample	1149.67
Turbidity(NTU)	3.96

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	9:12	6.12	1174.55	

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		3.96
Appendix I	Metals	150	150		3.96
Appendix I	VOC	240	240		3.96
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	Bis	1-Qt			
Supplemental					
Total			400	0	

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

TOC	1180.67	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	32.85	Before purging	10/10/2023	9:12	6.12	1174.55	0	0.0	No
		After purging				1180.67			
		Top of Screen after construction				1162.82			
						17.85	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1147.82			
		Bottom of Well	10/10/2023		32.80	1147.87			
						0.05	feet sedimentation		
		Before Sample				1180.67	App II		
		Before Sample				1180.67	Bis		
		Recovery				1180.67			
		Recovery				1180.67			
		Recovery				1180.67			

IDNR Form 542-1322

Monitoring Well: MW-3 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1189.79
Well Depth	22.55
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	1189.79
Well Depth	22.55
Top Screen	1182.24
Bottom Screen	1167.24
Bottom Well	1167.24
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	17.00
Top sample	1172.79
Bottom sample	1168.79
Turbidity(NTU)	3.61

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	8:53	16.85	1172.94	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		3.61
Appendix I	Metals	150	150		3.61
Appendix I	VOC	240	240		3.61
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1189.79								
Well Depth	22.55	Before purging	10/10/2023	8:53	16.85	1172.94		0.0	No
		After purging				1189.79			
		Top of Screen after construction				1182.24			
						7.55	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1167.24			
		Bottom of Well	10/10/2023		22.60	1167.19			
						-0.05	feet sedimentation		
		Before Sample				1189.79	App I		
		Before Sample				1189.79	App II		
		Recovery				1189.79			
		Recovery				1189.79			
		Recovery				1189.79			

IDNR Form 542-1322

Monitoring Well: MW-4 (b)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1209.46
Well Depth	32.38
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	1209.46
Well Depth	32.38
Top Screen	1192.08
Bottom Screen	1177.08
Bottom Well	1177.08
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	27.00
Top sample	1182.46
Bottom sample	1178.46
Turbidity(NTU)	3.78

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	11:59	11.59	1197.87	

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		3.78
Appendix I	Metals	150	150		3.78
Appendix I	VOC	240	240		3.78
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	BIS	1-Qt			
Supplemental					
Total			400	0	

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

TOC	1209.46	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	32.38	Before purging	10/10/2023	11:59	11.59	1197.87		0.0	No
		After purging				1209.46			
		Top of Screen after construction				1192.08			
						17.38	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1177.08			
		Bottom of Well	10/10/2023		32.80	1176.66			
						-0.42	feet sedimentation		
		Before Sample				1209.46	App I		
		Before Sample				1209.46	BIS		
		Recovery				1209.46			
		Recovery				1209.46			
		Recovery				1209.46			

IDNR Form 542-1322

Monitoring Well: MW-5 (b)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1209.87
Well Depth	31.65
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1209.87
Well Depth	31.65
Top Screen	1193.22
Bottom Screen	1178.22
Bottom Well	1178.22
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1183.87
Bottom sample	1179.87
Turbidity(NTU)	4.08

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	11:45	12.19	1197.68	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		4.08
Appendix I	Metals	150	150		4.08
Appendix I	VOC	240	240		4.08
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

TOC	1209.87	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	31.65	Before purging	10/10/2023	11:45	12.19	1197.68		0.0	No
		After purging				1209.87			
		Top of Screen after construction				1193.22			
						16.65	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1178.22			
		Bottom of Well	10/10/2023		31.70	1178.17			
						-0.05	feet sedimentation		
		Before Sample				1209.87			
		Before Sample				1209.87			
		Recovery				1209.87			
		Recovery				1209.87			
		Recovery				1209.87			

IDNR Form 542-1322

Monitoring Well: MW-6 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1201.7
Well Depth	32.70
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	1201.7
Well Depth	32.70
Top Screen	1184.00
Bottom Screen	1169.00
Bottom Well	1169.00
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1175.70
Bottom sample	1171.70
Turbidity(NTU)	22.29

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	10:56	12.35	1189.35	

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		22.29
Appendix I	Metals	150	150		22.29
Appendix I	VOC	240	240		22.29
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	BIS	1-Qt	945		
Supplemental					
Total			1345	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1201.7								
Well Depth	32.70	Before purging	10/10/2023	10:56	12.35	1189.35		0.0	No
		After purging				1201.70			
		Top of Screen after construction				1184.00			
						17.70	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1169.00			
		Bottom of Well	10/10/2023		32.60	1169.10			
						0.10	feet sedimentation		
		Before Sample				1201.70	App I		
		Before Sample				1201.70	BIS		
		Recovery				1201.70			
		Recovery				1201.70			
		Recovery				1201.70			

IDNR Form 542-1322

Monitoring Well: MW-7 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1197.57
Well Depth	22.66
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	1197.57
Well Depth	22.66
Top Screen	1189.91
Bottom Screen	1174.91
Bottom Well	1174.91
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	16.50
Top sample	1181.07
Bottom sample	1177.07
Turbidity(NTU)	1.31

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	10:37	10.71	1186.86	

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		1.31
Appendix I	Metals	150	150		1.31
Appendix I	VOC	240	240		1.31
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1197.57								
Well Depth	22.66	Before purging	10/10/2023	10:37	10.71	1186.86		0.0	No
		After purging				1197.57			
		Top of Screen after construction				1189.91			
						7.66	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1174.91			
		Bottom of Well	10/10/2023		22.40	1175.17			
						0.26	feet sedimentation		
		Before Sample				1197.57	App I		
		Before Sample				1197.57	App II		
		Recovery				1197.57			
		Recovery				1197.57			
		Recovery				1197.57			

IDNR Form 542-1322

Monitoring Well: MW-9 (b)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1207.51
Well Depth	32.62
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	1207.51
Well Depth	32.62
Top Screen	1184.89
Bottom Screen	1174.89
Bottom Well	1174.89
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1181.51
Bottom sample	1177.51
Turbidity(NTU)	1.90

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	7:26	8.31	1199.2	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		1.90
Appendix I	Metals	150	150		1.90
Appendix I	VOC	240	240		1.90
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1207.51								
Well Depth	32.62	Before purging	10/10/2023	7:26	8.31	1199.20		0.0	no
		After purging				1207.51			
		Top of Screen after construction				1184.89			
						22.62	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1174.89			
		Bottom of Well	10/10/2023		32.50	1175.01			
						0.12	feet sedimentation		
		Before Sample				1207.51			
		Before Sample				1207.51			
		Recovery				1207.51			
		Recovery				1207.51			
		Recovery				1207.51			

IDNR Form 542-1322

Monitoring Well: MW-11 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1179.86
Well Depth	37.14
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	1179.86
Well Depth	37.14
Top Screen	1152.72
Bottom Screen	1142.72
Bottom Well	1142.72
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	31.00
Top sample	1148.86
Bottom sample	1144.86
Turbidity(NTU)	1.75

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	9:26	11.3	1168.56	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		1.75
Appendix I	Metals	150	150		1.75
Appendix I	VOC	240	240		1.75
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1179.86								
Well Depth	37.14	Before purging	10/10/2023	9:26	11.30	1168.56		0.0	no
		After purging				1179.86			
		Top of Screen after construction				1152.72			
						27.14	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1142.72			
		Bottom of Well	10/10/2023		36.80	1143.06			
						0.34	feet sedimentation		
		Before Sample				1179.86	App I		
		Before Sample				1179.86	App II		
		Recovery				1179.86			
		Recovery				1179.86			
		Recovery				1179.86			

IDNR Form 542-1322

Monitoring Well: MW-12 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1181.55
Well Depth	21.51
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	1181.55
Well Depth	21.51
Top Screen	1170.04
Bottom Screen	1160.04
Bottom Well	1160.04
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	15.50
Top sample	1166.05
Bottom sample	1162.05
Turbidity(NTU)	3.03

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	9:43	15.30	1166.25	

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		3.03
Appendix I	Metals	150	150		3.03
Appendix I	VOC	240	240		3.03
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	BIS	1-Qt			
Supplemental					
Total			400	0	

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

TOC	1181.55	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	21.51	Before purging	10/10/2023	9:43	15.30	1166.25		0.0	no
		After purging				1181.55			
		Top of Screen after construction				1170.04			
						11.51	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1160.04			
		Bottom of Well	10/10/2023		21.20	1160.35			
						0.31	feet sedimentation		
		Before Sample				1181.55	App I		
		Before Sample				1181.55	BIS		
		Recovery				1181.55			
		Recovery				1181.55			
		Recovery				1181.55			

IDNR Form 542-1322

Monitoring Well: MW-14 (b)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1209.87
Well Depth	23.18
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	1209.87
Well Depth	23.18
Top Screen	1196.69
Bottom Screen	1186.69
Bottom Well	1186.69
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	17.50
Top sample	1192.37
Bottom sample	1188.37
Turbidity(NTU)	2.49

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	11:16	10.1	1199.77	

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		2.49
Appendix I	Metals	150	150		2.49
Appendix I	VOC	240	240		2.49
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental		1-Qt			
Supplemental					
Total			400	0	

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

		4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1209.87	Before purging	10/10/2023	11:16	10.10	1199.77		0.0	No
Well Depth	23.18	After purging				1209.87			
		Top of Screen after construction				1196.69			
						13.18	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1186.69			
		Bottom of Well	10/10/2023		22.90	1186.97			
						0.28	feet sedimentation		
		Before Sample				1209.87			
		Before Sample				1209.87			
		Recovery				1209.87			
		Recovery				1209.87			
		Recovery				1209.87			

IDNR Form 542-1322

Monitoring Well: MW-15 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1183.46
Well Depth	30.20
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	1183.46
Well Depth	30.20
Top Screen	1163.26
Bottom Screen	1153.26
Bottom Well	1153.26
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	24.50
Top sample	1158.96
Bottom sample	1154.96
Turbidity(NTU)	2.58

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	10:02	9.81	1173.65	

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		2.58
Appendix I	Metals	150	150		2.58
Appendix I	VOC	240	240		2.58
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	Bis	1-Qt			
Supplemental					
Total			400	0	

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

TOC	1183.46	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	30.20	Before purging	10/10/2023	10:02	9.81	1173.65		0.0	Yes
		After purging				1183.46			
		Top of Screen after construction				1163.26			
						20.20	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1153.26			
		Bottom of Well	10/10/2023		30.20	1153.26			
						0.00	feet sedimentation		
		Before Sample				1183.46	App I		
		Before Sample				1183.46	Bis		
		Recovery				1183.46			
		Recovery				1183.46			
		Recovery				1183.46			

IDNR Form 542-1322

Monitoring Well: MW-16 (dg)

Primary Sampling Method: No-Purge for Appendix I

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

GENERAL INFORMATION

TOC	1185.93
Well Depth	30.43
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	1185.93
Well Depth	30.43
Top Screen	1165.50
Bottom Screen	1155.50
Bottom Well	1155.50
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	24.50
Top sample	1161.43
Bottom sample	1157.43
Turbidity(NTU)	3.53

Date	Time	Water Level	Water Elevation	Notes
10/10/2023	10:18	12.75	1173.18	

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		3.53
Appendix I	Metals	150	150		3.53
Appendix I	VOC	240	240		3.53
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Supplemental	Bis	1-Qt			
Supplemental					
Total			400	0	

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

TOC	1185.93	4" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	30.43	Before purging	10/10/2023	10:18	12.75	1173.18	0	0.0	No
		After purging				1185.93			
		Top of Screen after construction				1165.50			
						20.43	feet above (+) or below (-) top screen		
		Bottom of Well after construction				1155.50			
		Bottom of Well	10/10/2023		30.40	1155.53			
						0.03	feet sedimentation		
		Before Sample				1185.93	App II		
		Before Sample				1185.93	Bis		
		Recovery				1185.93			
		Recovery				1185.93			
		Recovery				1185.93			

Appendix B

Statistical Reports

Appendix B.1 – Spring Statistical Evaluation Report

GROUND WATER STATISTICS

FOR THE

FLOYD-MITCHELL-CHICKASAW COUNTIES

SANITARY LANDFILL

First Semi-Annual Monitoring Event in 2023

Prepared for:
Floyd-Mitchell-Chickasaw Counties Solid Waste Management Agency
3354 330th Street
Mitchell County, IA

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

May 2023

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 2023 at the Floyd-Mitchell-Chickasaw Counties Sanitary Landfill near Elma, in Mitchell 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. Interwell statistics were used for comparisons of current data to background data at Floyd-Mitchell-Chickasaw Counties Sanitary Landfill. The statistical plan conforms with IAC 567, Chapter 113.10 and the USEPA statistical guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance"*, March 2009).

Ground Water Monitoring Program

The groundwater monitoring network for Floyd-Mitchell-Chickasaw Counties Sanitary Landfill includes downgradient detection sample points MW-11, MW-12, MW-15, MW-16, SW-1, and SW-2. Upgradient sample points along the western border of the Expansion Area include MW-9 and MW-14. Monitoring wells MW-4 and MW-5 were approved by the IDNR as additional background wells in the revised permit (August 2020). 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 2023 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. Both of these methods were previously applied to the Floyd-Mitchell-Chickasaw Counties Landfill data using the DUMPStat® statistical program. The Expansion Area upgradient wells have not been monitored regularly so there was insufficient background data available to do upgradient versus downgradient comparisons previously. 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 background data used in this statistical analysis includes the ground water data collected from ground water wells MW-4, MW-5,MW-9, and MW-14 during the period from October 2014 through the current data. A summary of the background data from monitoring wells MW-4, MW-5,MW-9, and MW-14, used to determine the site prediction limits, is listed in Attachment B, Table 1 “Upgradient Data”. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances.

Table 2 “Most Current Downgradient Monitoring Data”, summarizes the current data from downgradient sample points MW-11, MW-12, MW-15, and MW-16 compared to the site prediction limits. Prediction

limit exceedances are flagged with asterisks. For the first semi-annual 2023 monitoring data, there were no site prediction limit exceedances detected.

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. Barium was detected at a frequency of 50% or greater in the upgradient wells so barium was tested for normality. The remainder of the metals are rarely detected (less than 50%) in the upgradient wells so nonparametric prediction limits were used in those cases.

Table 4 summarizes the results of the Shapiro-Wilk test. The background barium data has a normal distribution 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.

Volatile Organic Compounds

Volatile Organic Compounds (VOCs) are generally man-made compounds not present in ambient ground water. If VOCs are detected above their statistical limit (i.e., the laboratory PQL or reporting limit), a verification resample will be conducted at the next scheduled sampling event. A statistical exceedance will be indicated if the VOC detection is confirmed by the subsequent monitoring. There were no VOCs detected in the ground water at Floyd-Mitchell-Chickasaw Counties Landfill during the first semi-annual monitoring event in 2023. Historical detections are summarized in Attachment C.

CONCLUSIONS

This report summarizes the statistical analyses used to evaluate the ground water data obtained during the first semi-annual monitoring event in 2023 at Floyd-Mitchell-Chickasaw Counties Landfill. The groundwater monitoring network for Floyd-Mitchell-Chickasaw Counties Sanitary Landfill includes wells MW-11, MW-12, MW-15, MW-16, SW-1, SW-2, MW-4 (upgradient), MW-5 (upgradient), MW-9 (upgradient), and MW-14 (upgradient). 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.

The ground water data obtained during the first semi-annual monitoring event in 2023 was compared to background using prediction limits. There were no site prediction limit exceedances detected. There were no VOCs detected in the ground water at Floyd-Mitchell-Chickasaw Counties Landfill during the first semi-annual monitoring event in 2023.

Attachment A

Summary of the Data obtained during the First Semi-Annual Monitoring Event in 2023

Table 1

Analytical Data Summary for 4/6/2023

Constituents	Units	MW-11	MW-12	MW-14	MW-15	MW-16	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-9
(3 4)-methylphenol	ug/L										<8	<8	
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L										<1	<1	
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L										<8	<8	
1,2,4-trichlorobenzene	ug/L										<1	<1	
1,2-dibromo-3-chloropropane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L										<8	<8	
1,3,5-trinitrobenzene	ug/L										<8	<8	
1,3-dichlorobenzene	ug/L										<1	<1	
1,3-dichloropropane	ug/L										<1	<1	
1,3-dinitrobenzene	ug/L										<8	<8	
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L										<8	<8	
1,4-phenylenediamine	ug/L										<8	<8	
1-naphthylamine	ug/L										<8	<8	
2,2-dichloropropane	ug/L										<1	<1	
2,3,4,6-tetrachlorophenol	ug/L										<8	<8	
2,4,5-t	ug/L										<.5	<.5	
2,4,5-tp (silvex)	ug/L										<.5	<.5	
2,4,5-trichlorophenol	ug/L										<8	<8	
2,4,6-trichlorophenol	ug/L										<8	<8	
2,4-d	ug/L										<2	<2	
2,4-dichlorophenol	ug/L										<8	<8	
2,4-dimethylphenol	ug/L										<8	<8	
2,4-dinitrophenol	ug/L										<8	<8	
2,4-dinitrotoluene	ug/L										<8	<8	
2,6-dichlorophenol	ug/L										<8	<8	
2,6-dinitrotoluene	ug/L										<8	<8	
2-acetylaminofluorene	ug/L										<8	<8	
2-butanone (mek)	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<10
2-chloronaphthalene	ug/L										<8	<8	
2-chlorophenol	ug/L										<8	<8	
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L										<8	<8	
2-methylphenol	ug/L										<8	<8	
2-naphthylamine	ug/L										<8	<8	
2-nitroaniline	ug/L										<8	<8	
2-nitrophenol	ug/L										<8	<8	
3,3´-dichlorobenzidine	ug/L										<8	<8	
3,3'-dimethylbenzidine	ug/L										<8	<8	
3-methylcholanthrene	ug/L										<8	<8	
3-nitroaniline	ug/L										<8	<8	
4,4´-ddd	ug/L										<.05	<.05	
4,4´-dde	ug/L										<.05	<.05	
4,4´-ddt	ug/L										<.05	<.05	
4,6-dinitro-2-methylphenol	ug/L										<8	<8	
4-aminobiphenyl	ug/L										<8	<8	
4-bromophenyl phenyl ether	ug/L										<8	<8	
4-chloro-3-methylphenol	ug/L										<8	<8	
4-chloroaniline	ug/L										<8	<8	
4-chlorophenyl phenyl ether	ug/L										<8	<8	
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	ug/L										<8	<8	
4-nitrophenol	ug/L										<8	<8	
5-nitro-o-toluidine	ug/L										<8	<8	
7,12-dimethylbenz(a)anthracene	ug/L										<8	<8	
Acenaphthene	ug/L										<8	<8	
Acenaphthylene	ug/L										<8	<8	
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetonitrile	ug/L										<10	<10	
Acetophenone	ug/L										<8	<8	
Acrolein	ug/L										<10	<10	
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	ug/L										<.05	<.05	
Allyl chloride	ug/L										<1	<1	
Alpha-bhc	ug/L										<.05	<.05	
Anthracene	ug/L										<8	<8	

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

Table 1

Analytical Data Summary for 4/6/2023

Constituents	Units	MW-11	MW-12	MW-14	MW-15	MW-16	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-9
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	ug/L										<.1	<.1	
Arochlor 1221	ug/L										<.2	<.2	
Arochlor 1232	ug/L										<.2	<.2	
Arochlor 1242	ug/L										<.2	<.2	
Arochlor 1248	ug/L										<.2	<.2	
Arochlor 1254	ug/L										<.1	<.1	
Arochlor 1260	ug/L										<.1	<.1	
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	4.1	<4.0	4.5	<4.0	5.3	<4.0	<4.0
Azobenzene	ug/L										<8	<8	
Barium, total	ug/L	17.4	123.0	117.0	18.0	38.0	33.2	84.3	162.0	206.0	24.5	31.3	96.1
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L										<8	<8	
Benzo(a)pyrene	ug/L										<8	<8	
Benzo(b)fluoranthene	ug/L										<8	<8	
Benzo(g,h,i)perylene	ug/L										<8	<8	
Benzo(k)fluoranthene	ug/L										<8	<8	
Benzyl alcohol	ug/L										<8	<8	
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	ug/L										<.05	<.05	
Bis (2-chloroethoxy) methane	ug/L										<8	<8	
Bis(2-chloroethyl) ether	ug/L										<8	<8	
Bis(2-chloroisopropyl) ether	ug/L										<8	<8	
Bis(2-ethylhexyl) phthalate	ug/L					<6					7	<6	
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L										<8	<8	
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	1.1	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	ug/L										<.1	<.1	
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	ug/L										<8	<8	
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene	ug/L										<1	<1	
Chromium, total	ug/L	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	8.3	<8.0	<8.0	<8.0	<8.0
Chrysene	ug/L										<8	<8	
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	.6	<.4	<.4	<.4	<.4	2.8	<.4	3.5	2.7	.7	<.4	<.4
Copper, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	9.1	9.6	<4.0	<4.0	<4.0
Cyanide, total	mg/L										<.005	<.005	
Delta-bhc	ug/L										<.05	<.05	
Diallate	ug/L										<8	<8	
Dibenzo(a,h)anthracene	ug/L										<8	<8	
Dibenzofuran	ug/L										<8	<8	
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L										<1	<1	
Dieldrin	ug/L										<.05	<.05	
Diethyl phthalate	ug/L										<8	<8	
Dimethoate	ug/L										<.4	<.4	
Dimethylphthalate	ug/L										<8	<8	
Di-n-butyl phthalate	ug/L										<8	<8	
Di-n-octyl phthalate	ug/L										<8	<8	
Dinoseb	ug/L										<.5	<.5	
Diphenylamine	ug/L										<8	<8	
Disulfoton	ug/L										<.4	<.4	
Endosulfan i	ug/L										<.05	<.05	
Endosulfan ii	ug/L										<.05	<.05	
Endosulfan sulfate	ug/L										<.05	<.05	
Endrin	ug/L										<.05	<.05	
Endrin aldehyde	ug/L										<.05	<.05	
Ethyl methacrylate	ug/L										<10	<10	
Ethyl methanesulfonate	ug/L										<8	<8	
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	ug/L										<.4	<.4	
Fluoranthene	ug/L										<8	<8	
Fluorene	ug/L										<8	<8	
Gamma-bhc (lindane)	ug/L										<.05	<.05	
Heptachlor	ug/L										<.05	<.05	
Heptachlor epoxide	ug/L										<.05	<.05	
Hexachlorobenzene	ug/L										<.05	<.05	

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

Table 1

Analytical Data Summary for 4/6/2023

Constituents	Units	MW-11	MW-12	MW-14	MW-15	MW-16	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-9
Hexachlorobutadiene	ug/L										<8	<8	
Hexachlorocyclopentadiene	ug/L										<8	<8	
Hexachloroethane	ug/L										<8	<8	
Hexachloropropene	ug/L										<8	<8	
Indeno(1,2,3-cd)pyrene	ug/L										<8	<8	
Isobutanol	mg/L										<1	<1	
Isodrin	ug/L										<8	<8	
Isophorone	ug/L										<8	<8	
Isosafrole	ug/L										<8	<8	
Kepone	ug/L										<8	<8	
Lead, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	7.6	6.2	<4.0	<4.0	<4.0
Mercury, total	ug/L										<.5	<.5	
Methacrylonitrile	ug/L										<1	<1	
Methapyrilene	ug/L										<8	<8	
Methoxychlor	ug/L										<.05	<.05	
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<1
Methyl methacrylate	ug/L										<1	<1	
Methyl methanesulfonate	ug/L										<8	<8	
Methyl parathion	ug/L										<.4	<.4	
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/L										<8	<8	
Nickel, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	9.8	13.1	<4.0	<4.0	<4.0
Nitrobenzene	ug/L										<8	<8	
N-nitrosodiethylamine	ug/L										<8	<8	
N-nitrosodimethylamine	ug/L										<8	<8	
N-nitrosodi-n-butylamine	ug/L										<8	<8	
N-nitroso-di-n-propylamine	ug/L										<8	<8	
N-nitrosodiphenylamine	ug/L										<8	<8	
N-nitrosomethylethylamine	ug/L										<8	<8	
N-nitrosopiperidine	ug/L										<8	<8	
N-nitrosopyrrolidine	ug/L										<8	<8	
O,o,o-triethyl phosphorothioate	ug/L										<.4	<.4	
O-toluidine	ug/L										<8	<8	
Parathion	ug/L										<.4	<.4	
P-dimethylaminoazobenzene	ug/L										<8	<8	
Pentachlorobenzene	ug/L										<8	<8	
Pentachloronitrobenzene (pcnb)	ug/L										<8	<8	
Pentachlorophenol	ug/L										<8	<8	
Phenacetin	ug/L										<8	<8	
Phenanthrene	ug/L										<8	<8	
Phenol	ug/L										<8	<8	
Phorate	ug/L										<.4	<.4	
Pronamide	ug/L										<8	<8	
Propionitrile	ug/L										<10	<10	
Pyrene	ug/L										<8	<8	
Safrole	ug/L										<8	<8	
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total	mg/L										<.3	<.1	
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Thionazin	ug/L										<.4	<.4	
Tin, total	ug/L										<20	<20	
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	ug/L										<.2	<.2	
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<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	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	627.0	411.0	<20.0	<20.0	21.3

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

Attachment B

Summary Tables and Graphs for the Interwell Comparisons

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-14	10/14/2014		2.5000		
Antimony, total	ug/L	MW-14	01/12/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	07/21/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	04/06/2023	ND	2.0000		
Arsenic, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Barium, total	ug/L	MW-14	10/14/2014		184.0000		
Barium, total	ug/L	MW-14	01/12/2015		169.0000		
Barium, total	ug/L	MW-14	04/13/2015		143.0000		
Barium, total	ug/L	MW-14	07/21/2015		141.0000		
Barium, total	ug/L	MW-14	09/23/2015		185.0000		
Barium, total	ug/L	MW-14	04/12/2016		121.0000		
Barium, total	ug/L	MW-14	10/11/2016		125.0000		
Barium, total	ug/L	MW-14	04/20/2017		140.0000		
Barium, total	ug/L	MW-14	10/12/2017		170.0000		
Barium, total	ug/L	MW-14	04/23/2018		126.0000		
Barium, total	ug/L	MW-14	10/12/2018		128.0000		
Barium, total	ug/L	MW-14	04/16/2019		114.0000		
Barium, total	ug/L	MW-14	10/17/2019		155.0000		
Barium, total	ug/L	MW-14	04/09/2020		117.0000		
Barium, total	ug/L	MW-14	10/08/2020		137.0000		
Barium, total	ug/L	MW-14	04/15/2021		120.0000		
Barium, total	ug/L	MW-14	10/28/2021		102.0000		
Barium, total	ug/L	MW-14	04/13/2022		107.0000		
Barium, total	ug/L	MW-14	10/19/2022		133.0000		
Barium, total	ug/L	MW-14	04/06/2023		117.0000		
Beryllium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/09/2020	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-14	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Cadmium, total	ug/L	MW-14	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-14	01/12/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	07/21/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/23/2018		5.3000		
Cadmium, total	ug/L	MW-14	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/06/2023	ND	0.8000		
Chromium, total	ug/L	MW-14	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-14	01/12/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	07/21/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	04/06/2023	ND	8.0000		
Cobalt, total	ug/L	MW-14	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-14	01/12/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	07/21/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-14	04/06/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Copper, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Copper, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-14	04/20/2017	ND	4.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Copper, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-14	10/19/2022		7.0000		
Copper, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Lead, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Lead, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Nickel, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	04/13/2015		5.1000		
Selenium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-14	10/11/2016		5.5000		
Selenium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-14	10/19/2022		5.5000		
Selenium, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-14	01/12/2015	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	
Silver, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Silver, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Thallium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Thallium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Thallium, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Thallium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Thallium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Thallium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Thallium, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Thallium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Thallium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Thallium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Thallium, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Thallium, total	ug/L	MW-14	04/16/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	10/17/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	04/09/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	10/08/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	04/15/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	10/28/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	04/13/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	10/19/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	04/06/2023	ND	2.0000	4.0000	**
Vanadium, total	ug/L	MW-14	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-14	01/12/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	07/21/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	10/14/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	01/12/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/13/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	07/21/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	09/23/2015	ND	20.0000		
Zinc, total	ug/L	MW-14	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/20/2017	ND	20.0000		
Zinc, total	ug/L	MW-14	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/23/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/12/2018		16.1000		
Zinc, total	ug/L	MW-14	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-14	10/17/2019	ND	20.0000		
Zinc, total	ug/L	MW-14	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	04/15/2021	ND	20.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-14	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	04/06/2023	ND	20.0000		
Antimony, total	ug/L	MW-4	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-4	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-4	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-4	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-4	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-4	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-4	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-4	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-4	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-4	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-4	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-4	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-4	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-4	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-4	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-4	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-4	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-4	04/06/2023	ND	2.0000		
Arsenic, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/06/2023		4.5000		
Barium, total	ug/L	MW-4	10/14/2014		141.0000		
Barium, total	ug/L	MW-4	04/13/2015		103.0000		
Barium, total	ug/L	MW-4	09/23/2015		92.5000		
Barium, total	ug/L	MW-4	04/12/2016		66.2000		
Barium, total	ug/L	MW-4	10/11/2016		77.7000		
Barium, total	ug/L	MW-4	04/20/2017		128.0000		
Barium, total	ug/L	MW-4	10/12/2017		83.8000		
Barium, total	ug/L	MW-4	04/23/2018		116.0000		
Barium, total	ug/L	MW-4	10/12/2018		111.0000		
Barium, total	ug/L	MW-4	04/16/2019		71.2000		
Barium, total	ug/L	MW-4	10/17/2019		137.0000		
Barium, total	ug/L	MW-4	04/09/2020		65.3000		
Barium, total	ug/L	MW-4	10/08/2020		75.2000		
Barium, total	ug/L	MW-4	04/15/2021		49.6000		
Barium, total	ug/L	MW-4	10/28/2021		73.2000		
Barium, total	ug/L	MW-4	04/13/2022		63.6000		
Barium, total	ug/L	MW-4	10/19/2022		81.8000		
Barium, total	ug/L	MW-4	04/06/2023		162.0000		
Beryllium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/13/2022	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	
Beryllium, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Cadmium, total	ug/L	MW-4	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-4	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/06/2023	ND	0.8000		
Chromium, total	ug/L	MW-4	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-4	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-4	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-4	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-4	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-4	04/20/2017		9.1000		
Chromium, total	ug/L	MW-4	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-4	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-4	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-4	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-4	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-4	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-4	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-4	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-4	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-4	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-4	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-4	04/06/2023		8.3000		
Cobalt, total	ug/L	MW-4	10/14/2014		2.1000		
Cobalt, total	ug/L	MW-4	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-4	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-4	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/20/2017		3.3000		
Cobalt, total	ug/L	MW-4	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/23/2018		2.8000		
Cobalt, total	ug/L	MW-4	10/12/2018		1.4000		
Cobalt, total	ug/L	MW-4	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-4	10/17/2019		2.0000		
Cobalt, total	ug/L	MW-4	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-4	04/06/2023		3.5000		
Copper, total	ug/L	MW-4	10/14/2014		6.1000		
Copper, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-4	04/20/2017		5.5000		
Copper, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-4	10/17/2019		4.3000		
Copper, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-4	04/06/2023		9.1000		

* - 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-4	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-4	04/06/2023		7.6000		
Nickel, total	ug/L	MW-4	10/14/2014		6.2000		
Nickel, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Nickel, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Nickel, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-4	04/20/2017		9.5000		
Nickel, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-4	04/23/2018		4.5000		
Nickel, total	ug/L	MW-4	10/12/2018		4.7000		
Nickel, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-4	10/17/2019		6.0000		
Nickel, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-4	04/06/2023		9.8000		
Selenium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Selenium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Thallium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Thallium, total	ug/L	MW-4	04/13/2015	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	
Thallium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Thallium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Thallium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Thallium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Thallium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Thallium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Thallium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Thallium, total	ug/L	MW-4	04/16/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	10/17/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	04/09/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	10/08/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	04/15/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	10/28/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	04/13/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	10/19/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	04/06/2023	ND	2.0000	4.0000	**
Vanadium, total	ug/L	MW-4	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-4	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-4	10/14/2014		40.0000		
Zinc, total	ug/L	MW-4	01/12/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	04/13/2015		12.4000		
Zinc, total	ug/L	MW-4	09/23/2015		10.3000		
Zinc, total	ug/L	MW-4	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	10/11/2016		11.9000		
Zinc, total	ug/L	MW-4	01/17/2017		58.9000		
Zinc, total	ug/L	MW-4	04/20/2017		57.6000		
Zinc, total	ug/L	MW-4	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	04/23/2018		159.0000		
Zinc, total	ug/L	MW-4	10/12/2018		237.0000		
Zinc, total	ug/L	MW-4	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-4	10/17/2019		130.0000		
Zinc, total	ug/L	MW-4	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-4	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-4	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-4	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-4	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-4	10/19/2022		216.0000		
Zinc, total	ug/L	MW-4	04/06/2023		627.0000		*
Antimony, total	ug/L	MW-5	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-5	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-5	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-5	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-5	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-5	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-5	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-5	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-5	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-5	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-5	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-5	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-5	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-5	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-5	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-5	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-5	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-5	04/06/2023	ND	2.0000		
Arsenic, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/13/2015	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	
Arsenic, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Barium, total	ug/L	MW-5	10/14/2014		251.0000		
Barium, total	ug/L	MW-5	04/13/2015		272.0000		
Barium, total	ug/L	MW-5	09/23/2015		330.0000		
Barium, total	ug/L	MW-5	11/24/2015		328.0000		
Barium, total	ug/L	MW-5	04/12/2016		167.0000		
Barium, total	ug/L	MW-5	10/11/2016		262.0000		
Barium, total	ug/L	MW-5	04/20/2017		338.0000		
Barium, total	ug/L	MW-5	10/12/2017		276.0000		
Barium, total	ug/L	MW-5	04/23/2018		206.0000		
Barium, total	ug/L	MW-5	10/12/2018		212.0000		
Barium, total	ug/L	MW-5	04/16/2019		193.0000		
Barium, total	ug/L	MW-5	10/17/2019		296.0000		
Barium, total	ug/L	MW-5	04/09/2020		268.0000		
Barium, total	ug/L	MW-5	10/08/2020		268.0000		
Barium, total	ug/L	MW-5	04/15/2021		71.8000		*
Barium, total	ug/L	MW-5	10/28/2021		175.0000		
Barium, total	ug/L	MW-5	04/13/2022		180.0000		
Barium, total	ug/L	MW-5	10/19/2022		250.0000		
Barium, total	ug/L	MW-5	04/06/2023		206.0000		
Beryllium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Cadmium, total	ug/L	MW-5	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-5	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/06/2023		1.1000		
Chromium, total	ug/L	MW-5	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-5	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-5	09/23/2015	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-5	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-5	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-5	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-5	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-5	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-5	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-5	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-5	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-5	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-5	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-5	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-5	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-5	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-5	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-5	04/06/2023	ND	8.0000		
Cobalt, total	ug/L	MW-5	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-5	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/09/2020		3.4000		
Cobalt, total	ug/L	MW-5	10/08/2020		0.6000		
Cobalt, total	ug/L	MW-5	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-5	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-5	04/13/2022		0.4000		
Cobalt, total	ug/L	MW-5	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-5	04/06/2023		2.7000		
Copper, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Copper, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-5	04/06/2023		9.6000		
Lead, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-5	04/06/2023		6.2000		
Nickel, total	ug/L	MW-5	10/14/2014		5.9000		
Nickel, total	ug/L	MW-5	04/13/2015		6.3000		
Nickel, total	ug/L	MW-5	09/23/2015		5.7000		
Nickel, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-5	10/11/2016	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-5	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-5	04/09/2020		6.8000		
Nickel, total	ug/L	MW-5	10/08/2020		6.6000		
Nickel, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-5	10/19/2022		5.4000		
Nickel, total	ug/L	MW-5	04/06/2023		13.1000		*
Selenium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Selenium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Thallium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Thallium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Thallium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Thallium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Thallium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Thallium, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Thallium, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Thallium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Thallium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Thallium, total	ug/L	MW-5	04/16/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	10/17/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	04/09/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	10/08/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	04/15/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	10/28/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	04/13/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	10/19/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	04/06/2023	ND	2.0000	4.0000	**
Vanadium, total	ug/L	MW-5	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-5	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/12/2017	ND	20.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Vanadium, total	ug/L	MW-5	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-5	10/14/2014		24.7000		
Zinc, total	ug/L	MW-5	04/13/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	09/23/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/20/2017		16.5000		
Zinc, total	ug/L	MW-5	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/23/2018		15.2000		
Zinc, total	ug/L	MW-5	10/12/2018		20.3000		
Zinc, total	ug/L	MW-5	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-5	10/17/2019		83.1000		*
Zinc, total	ug/L	MW-5	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-5	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-5	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-5	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-5	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-5	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-5	04/06/2023		411.0000		*
Antimony, total	ug/L	MW-9	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-9	01/12/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	04/14/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	07/21/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	09/22/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-9	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-9	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-9	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-9	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-9	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-9	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-9	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-9	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-9	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-9	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-9	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-9	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-9	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-9	04/06/2023	ND	2.0000		
Arsenic, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Barium, total	ug/L	MW-9	10/14/2014		114.0000		
Barium, total	ug/L	MW-9	01/12/2015		115.0000		
Barium, total	ug/L	MW-9	04/14/2015		138.0000		
Barium, total	ug/L	MW-9	07/21/2015		111.0000		
Barium, total	ug/L	MW-9	09/22/2015		114.0000		

* - 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-9	04/12/2016		99.2000		
Barium, total	ug/L	MW-9	10/11/2016		106.0000		
Barium, total	ug/L	MW-9	04/20/2017		116.0000		
Barium, total	ug/L	MW-9	10/12/2017		105.0000		
Barium, total	ug/L	MW-9	04/23/2018		110.0000		
Barium, total	ug/L	MW-9	10/12/2018		106.0000		
Barium, total	ug/L	MW-9	04/16/2019		106.0000		
Barium, total	ug/L	MW-9	10/17/2019		113.0000		
Barium, total	ug/L	MW-9	04/09/2020		93.9000		
Barium, total	ug/L	MW-9	10/08/2020		98.7000		
Barium, total	ug/L	MW-9	04/15/2021		93.2000		
Barium, total	ug/L	MW-9	10/28/2021		91.9000		
Barium, total	ug/L	MW-9	04/13/2022		105.0000		
Barium, total	ug/L	MW-9	10/19/2022		102.0000		
Barium, total	ug/L	MW-9	04/06/2023		96.1000		
Beryllium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Cadmium, total	ug/L	MW-9	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-9	01/12/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/14/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	07/21/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	09/22/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/16/2019		1.2000		
Cadmium, total	ug/L	MW-9	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/19/2022		1.3000		
Cadmium, total	ug/L	MW-9	04/06/2023	ND	0.8000		
Chromium, total	ug/L	MW-9	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-9	01/12/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	04/14/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	07/21/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	09/22/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-9	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-9	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-9	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-9	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-9	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-9	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-9	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-9	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-9	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-9	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-9	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-9	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-9	10/19/2022	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-9	04/06/2023	ND	8.0000		
Cobalt, total	ug/L	MW-9	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-9	01/12/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/14/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	07/21/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	09/22/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-9	04/06/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Copper, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Copper, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Copper, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Copper, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Copper, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Lead, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Lead, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Lead, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Lead, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Lead, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Nickel, total	ug/L	MW-9	01/12/2015		4.0000		
Nickel, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-9	10/17/2019	ND	4.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Nickel, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-9	10/28/2021		4.2000		
Nickel, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Silver, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Silver, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Silver, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Silver, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Thallium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Thallium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Thallium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Thallium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Thallium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Thallium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Thallium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Thallium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Thallium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Thallium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Thallium, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Thallium, total	ug/L	MW-9	04/16/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	10/17/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	04/09/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	10/08/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	04/15/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	10/28/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	04/13/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	10/19/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	04/06/2023	ND	2.0000	4.0000	**
Vanadium, total	ug/L	MW-9	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-9	01/12/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/14/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	07/21/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	09/22/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/11/2016	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-9	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-9	10/14/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	01/12/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/14/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	07/21/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	09/23/2015	ND	20.0000		
Zinc, total	ug/L	MW-9	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/20/2017	ND	20.0000		
Zinc, total	ug/L	MW-9	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/23/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	10/12/2018		9.0000		
Zinc, total	ug/L	MW-9	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-9	10/17/2019		29.9000		
Zinc, total	ug/L	MW-9	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-9	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-9	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-9	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-9	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-9	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-9	04/06/2023		21.3000		

* - 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 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	ug/L	MW-11	04/06/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-11	04/06/2023	ND	4.0000		4.5000
Barium, total	ug/L	MW-11	04/06/2023		17.4000		309.1243
Beryllium, total	ug/L	MW-11	04/06/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-11	04/06/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-11	04/06/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-11	04/06/2023		0.6000		3.5000
Copper, total	ug/L	MW-11	04/06/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-11	04/06/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-11	04/06/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-11	04/06/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-11	04/06/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-11	04/06/2023	ND	2.0000		4.0000
Vanadium, total	ug/L	MW-11	04/06/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-11	04/06/2023	ND	20.0000		237.0000
Antimony, total	ug/L	MW-12	04/06/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-12	04/06/2023	ND	4.0000		4.5000
Barium, total	ug/L	MW-12	04/06/2023		123.0000		309.1243
Beryllium, total	ug/L	MW-12	04/06/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-12	04/06/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-12	04/06/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-12	04/06/2023	ND	0.4000		3.5000
Copper, total	ug/L	MW-12	04/06/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-12	04/06/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-12	04/06/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-12	04/06/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-12	04/06/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-12	04/06/2023	ND	2.0000		4.0000
Vanadium, total	ug/L	MW-12	04/06/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-12	04/06/2023	ND	20.0000		237.0000
Antimony, total	ug/L	MW-15	04/06/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-15	04/06/2023	ND	4.0000		4.5000
Barium, total	ug/L	MW-15	04/06/2023		18.0000		309.1243
Beryllium, total	ug/L	MW-15	04/06/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-15	04/06/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-15	04/06/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-15	04/06/2023	ND	0.4000		3.5000
Copper, total	ug/L	MW-15	04/06/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-15	04/06/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-15	04/06/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-15	04/06/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-15	04/06/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-15	04/06/2023	ND	2.0000		4.0000
Vanadium, total	ug/L	MW-15	04/06/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-15	04/06/2023	ND	20.0000		237.0000
Antimony, total	ug/L	MW-16	04/06/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-16	04/06/2023	ND	4.0000		4.5000
Barium, total	ug/L	MW-16	04/06/2023		38.0000		309.1243
Beryllium, total	ug/L	MW-16	04/06/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-16	04/06/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-16	04/06/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-16	04/06/2023	ND	0.4000		3.5000
Copper, total	ug/L	MW-16	04/06/2023	ND	4.0000	**	9.6000
Lead, total	ug/L	MW-16	04/06/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-16	04/06/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-16	04/06/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-16	04/06/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-16	04/06/2023	ND	2.0000		4.0000
Vanadium, total	ug/L	MW-16	04/06/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-16	04/06/2023	ND	20.0000		237.0000

* - 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 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, total	1	76	0.013	2	98	0.020
Arsenic, total	1	76	0.013	7	99	0.071
Barium, total	76	76	1.000	98	98	1.000
Beryllium, total	0	76	0.000	0	98	0.000
Cadmium, total	4	76	0.053	10	99	0.101
Chromium, total	2	76	0.026	12	98	0.122
Cobalt, total	10	76	0.132	22	98	0.224
Copper, total	6	76	0.079	32	99	0.323
Lead, total	2	76	0.026	19	98	0.194
Nickel, total	14	75	0.187	42	101	0.416
Selenium, total	3	76	0.039	4	98	0.041
Silver, total	0	76	0.000	0	98	0.000
Thallium, total	0	76	0.000	3	98	0.031
Vanadium, total	0	76	0.000	7	98	0.071
Zinc, total	18	75	0.240	41	100	0.410

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	1	76	0.013									nonpar
Arsenic, total	1	76	0.013									nonpar
Barium, total	76	76	1.000	2.167	0.698					2.326	normal	normal
Beryllium, total	0	76	0.000									nonpar
Cadmium, total	4	76	0.053									nonpar
Chromium, total	2	76	0.026									nonpar
Cobalt, total	10	76	0.132	0.132	0.200					2.326	normal	nonpar
Copper, total	6	76	0.079	0.105	0.895					2.326	normal	nonpar
Lead, total	2	76	0.026									nonpar
Nickel, total	14	75	0.187	0.124	0.164					2.326	normal	nonpar
Selenium, total	3	76	0.039	0.495	0.495					2.326	normal	nonpar
Silver, total	0	76	0.000									nonpar
Thallium, total	0	76	0.000									nonpar
Vanadium, total	0	76	0.000									nonpar
Zinc, total	18	75	0.240	0.132	0.220					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	1	76					2.5000	nonpar		0.99
Arsenic, total	ug/L	1	76					4.5000	nonpar		0.99
Barium, total	ug/L	76	76	145.3171	68.4620	0.0100	2.3927	309.1243	normal		
Beryllium, total	ug/L	0	76					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	4	76					5.3000	nonpar		0.99
Chromium, total	ug/L	2	76					9.1000	nonpar		0.99
Cobalt, total	ug/L	10	76					3.5000	nonpar		0.99
Copper, total	ug/L	6	76					9.6000	nonpar		0.99
Lead, total	ug/L	2	76					7.6000	nonpar		0.99
Nickel, total	ug/L	14	75					9.8000	nonpar		0.99
Selenium, total	ug/L	3	76					5.5000	nonpar		0.99
Silver, total	ug/L	0	76					4.0000	nonpar	***	0.99
Thallium, total	ug/L	0	76					4.0000	nonpar	***	0.99
Vanadium, total	ug/L	0	76					20.0000	nonpar	***	0.99
Zinc, total	ug/L	18	75					237.0000	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
Barium, total	ug/L	MW-5	04/15/2021	71.8000		10/14/2014-04/06/2023	19	0.5503
Nickel, total	ug/L	MW-5	04/06/2023	13.1000		10/14/2014-04/06/2023	18	0.5643
Zinc, total	ug/L	MW-5	10/17/2019	83.1000		10/14/2014-04/06/2023	18	0.5798
Zinc, total	ug/L	MW-5	04/06/2023	411.0000		10/14/2014-04/06/2023	18	0.5798

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.

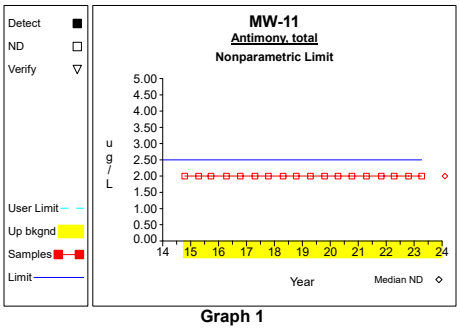
Table 8

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

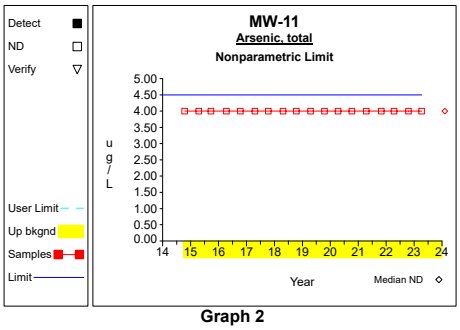
Constituent	Units	Well	Date		Result		Pred. Limit
Copper, total	ug/L	MW-16	10/17/2019	ND	4.0000		9.6000
Copper, total	ug/L	MW-16	04/09/2020	ND	4.0000		9.6000
Copper, total	ug/L	MW-16	10/08/2020	ND	4.0000		9.6000
Copper, total	ug/L	MW-16	04/15/2021	ND	4.0000		9.6000
Copper, total	ug/L	MW-16	10/28/2021	ND	4.0000		9.6000
Copper, total	ug/L	MW-16	04/13/2022	ND	4.0000		9.6000
Copper, total	ug/L	MW-16	10/19/2022		19.1000	*	9.6000
Copper, total	ug/L	MW-16	04/06/2023	ND	4.0000		9.6000

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

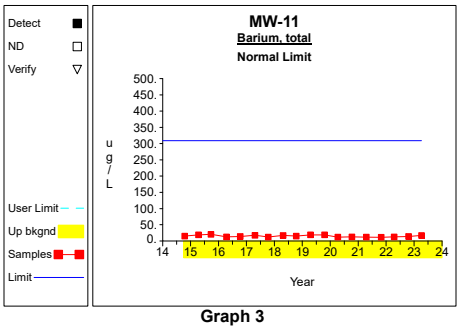
Up vs. Down Prediction Limits



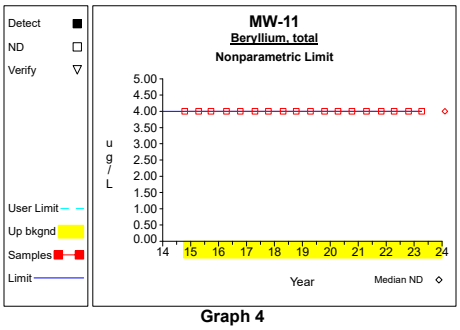
Graph 1



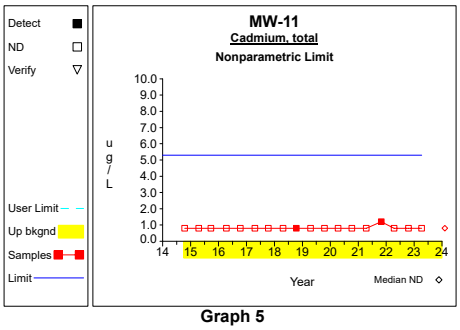
Graph 2



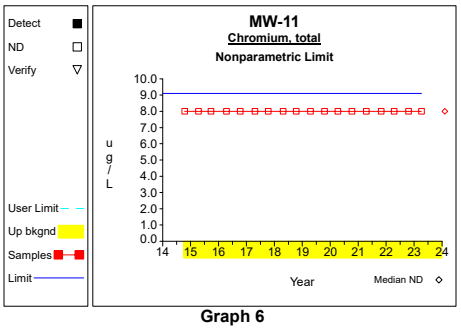
Graph 3



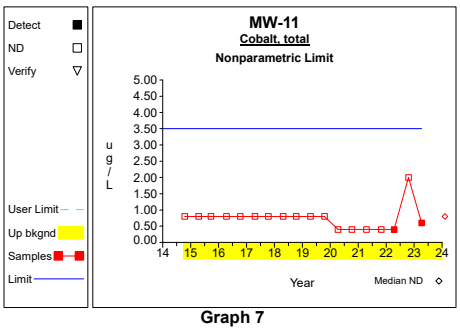
Graph 4



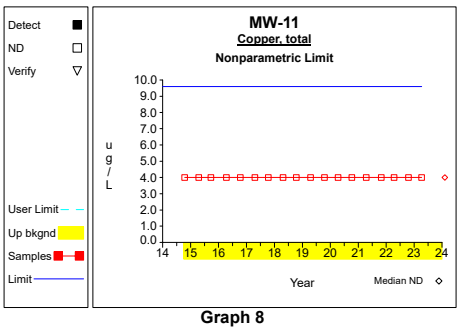
Graph 5



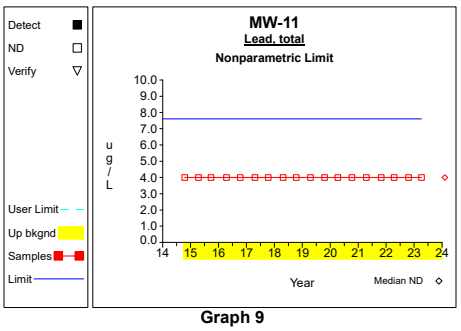
Graph 6



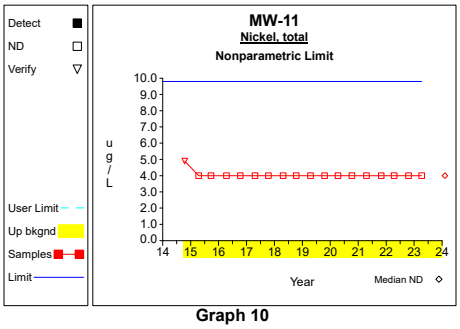
Graph 7



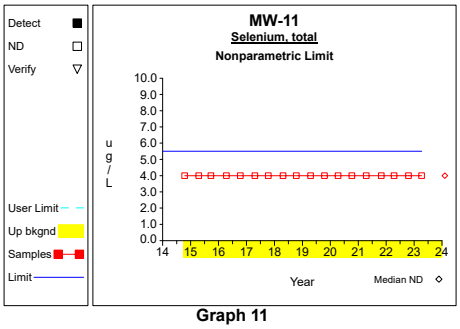
Graph 8



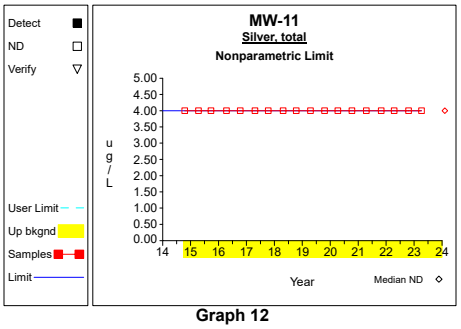
Graph 9



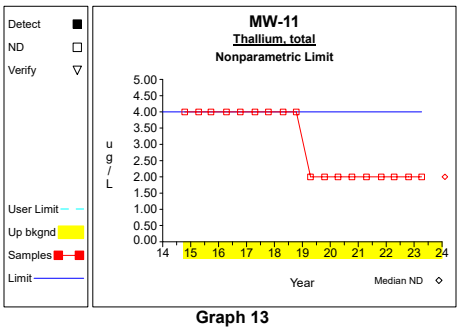
Graph 10



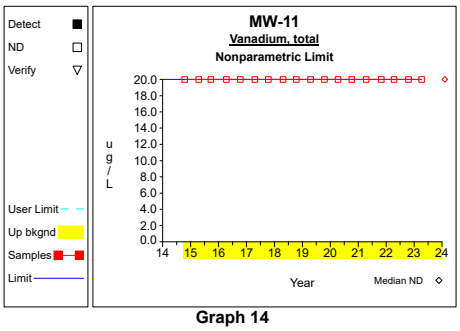
Graph 11



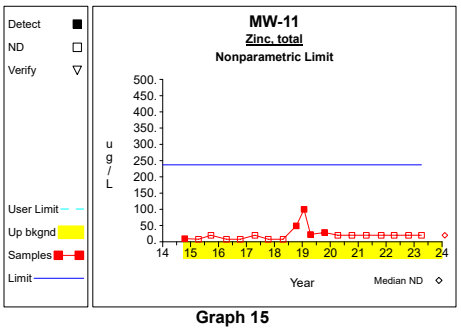
Graph 12



Graph 13



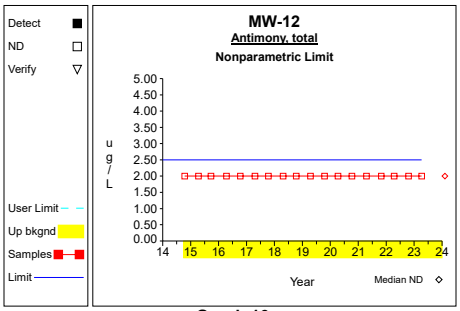
Graph 14



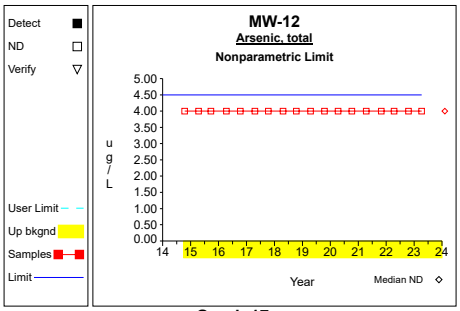
Graph 15

Prepared by: Otter Creek Environmental

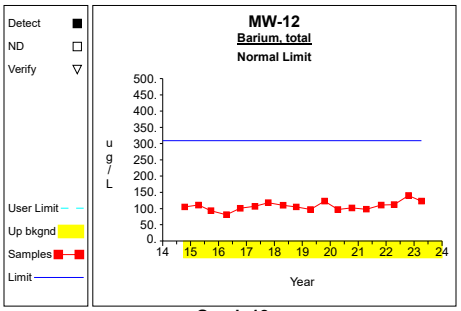
Up vs. Down Prediction Limits



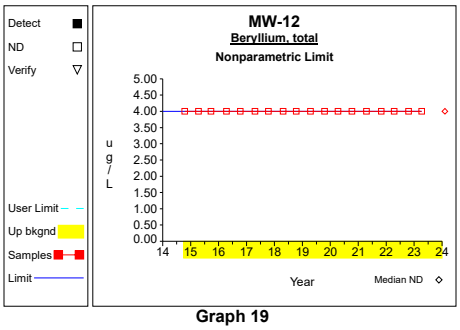
Graph 16



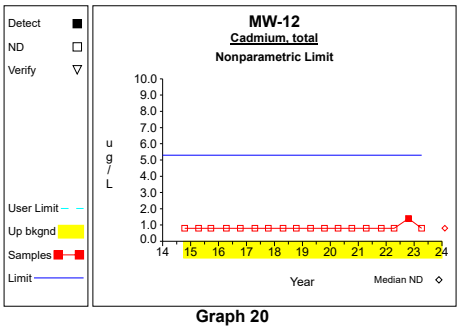
Graph 17



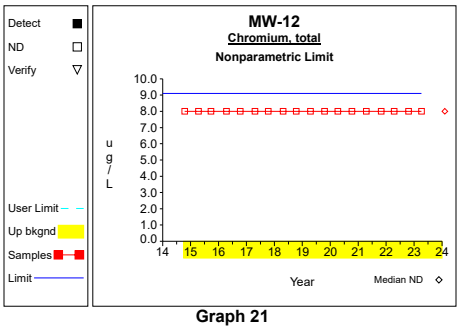
Graph 18



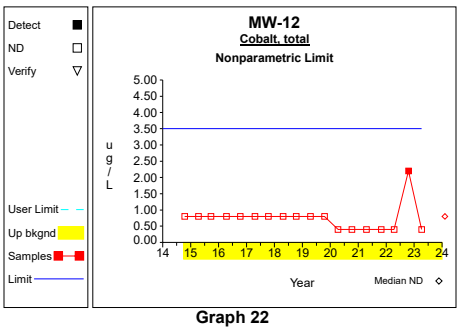
Graph 19



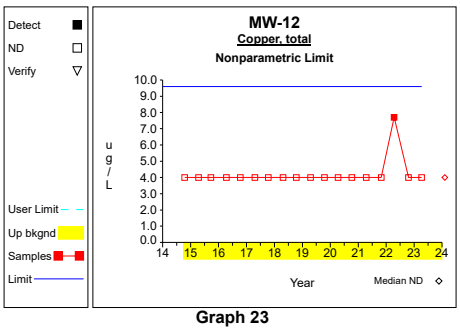
Graph 20



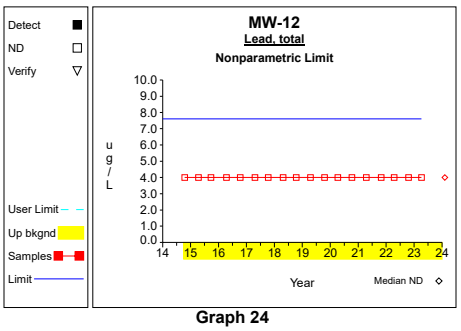
Graph 21



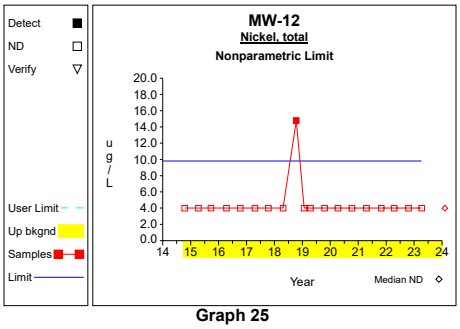
Graph 22



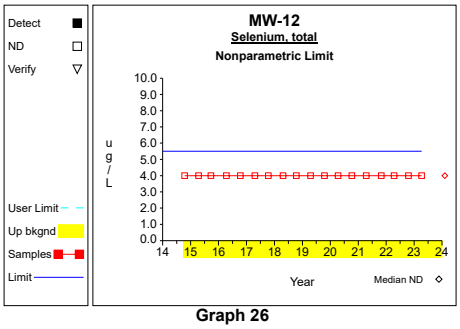
Graph 23



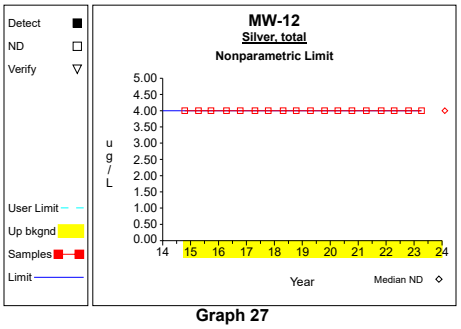
Graph 24



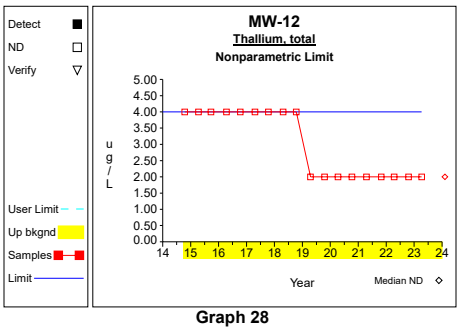
Graph 25



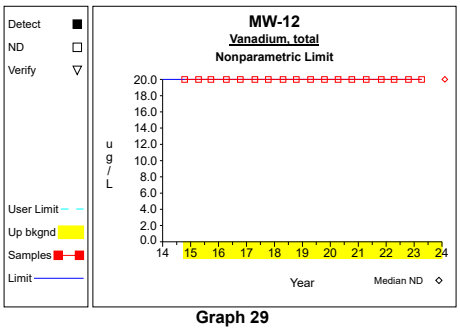
Graph 26



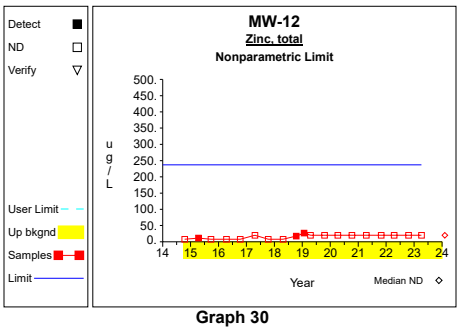
Graph 27



Graph 28

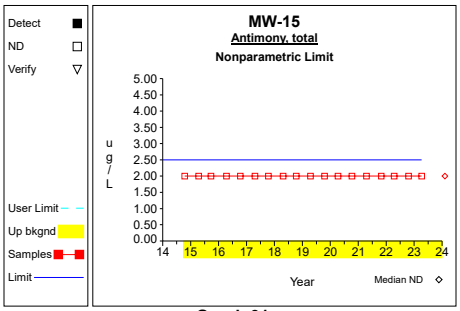


Graph 29

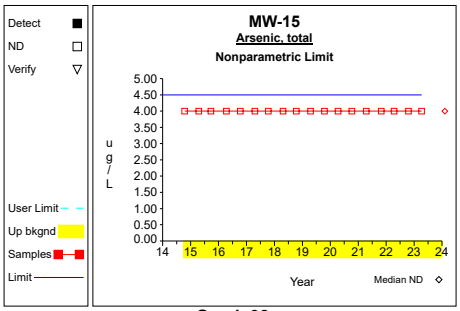


Graph 30

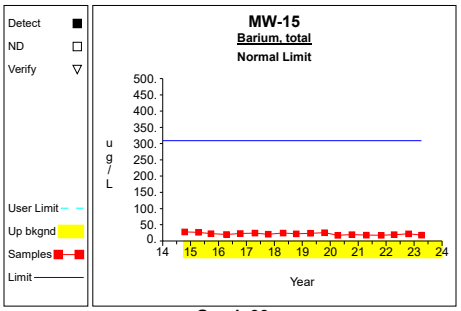
Up vs. Down Prediction Limits



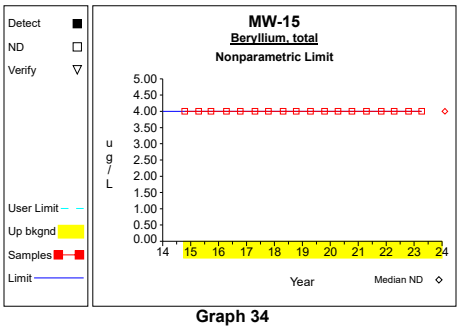
Graph 31



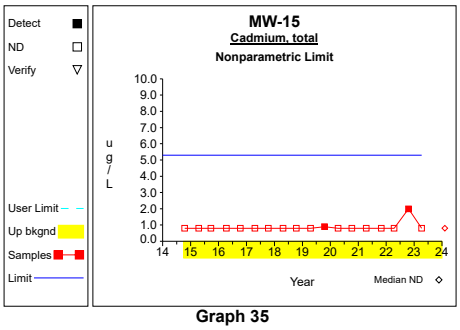
Graph 32



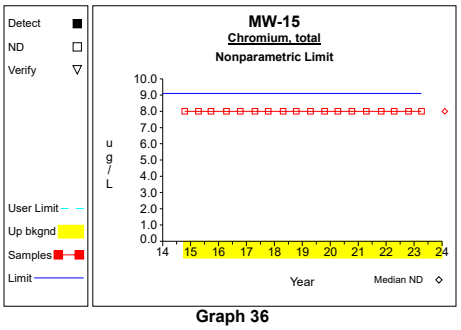
Graph 33



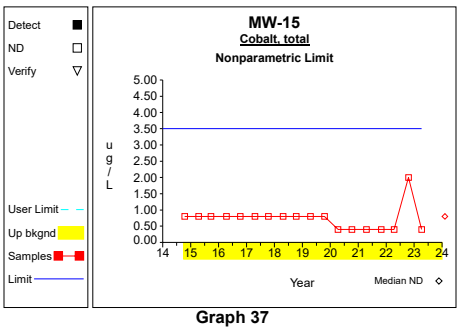
Graph 34



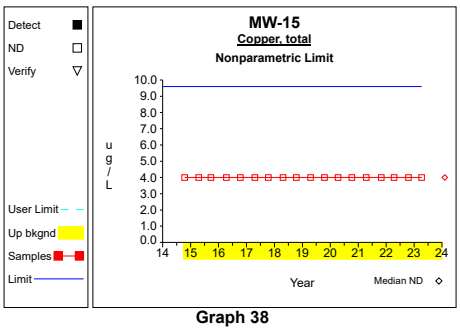
Graph 35



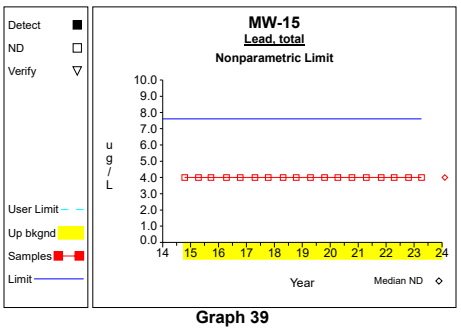
Graph 36



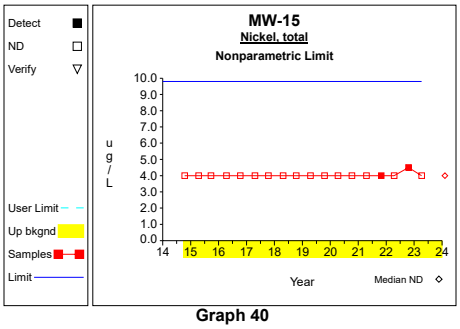
Graph 37



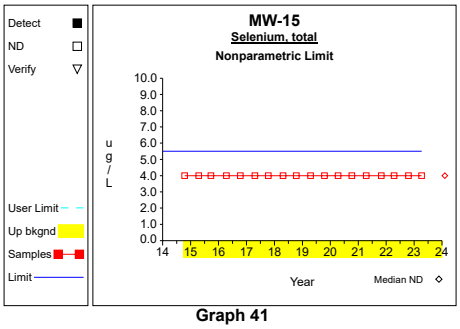
Graph 38



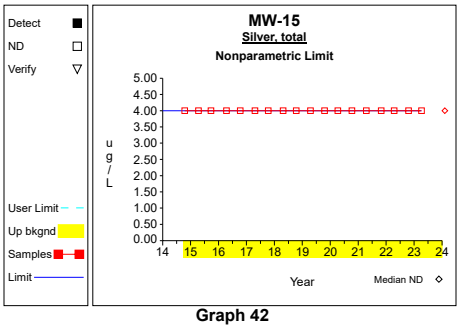
Graph 39



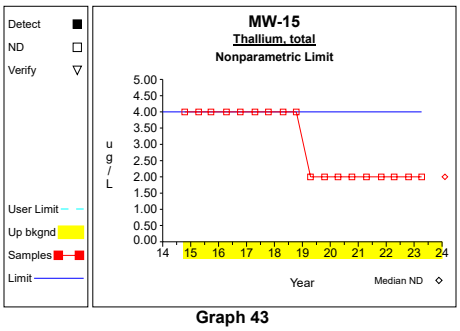
Graph 40



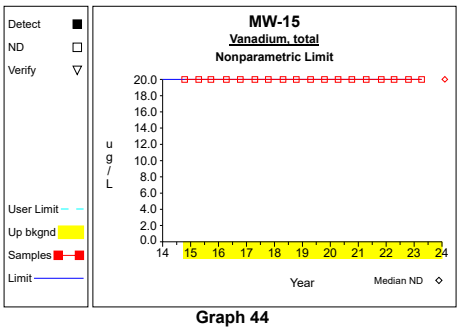
Graph 41



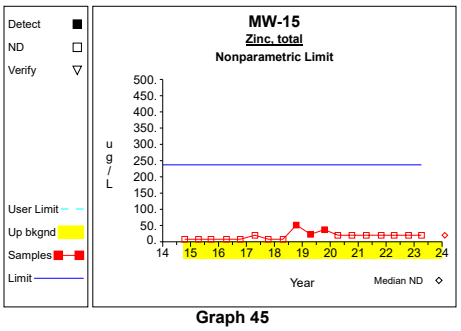
Graph 42



Graph 43



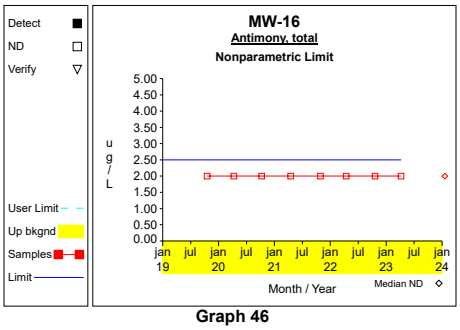
Graph 44



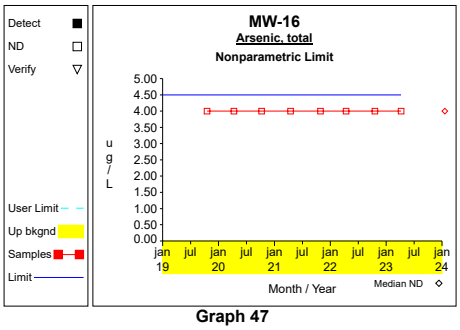
Graph 45

Prepared by: Otter Creek Environmental

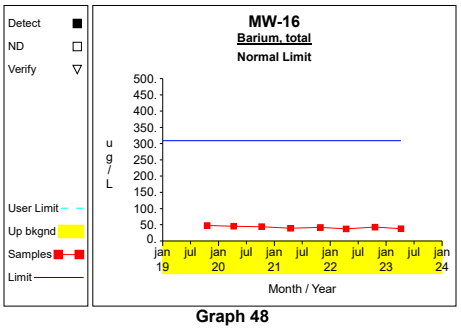
Up vs. Down Prediction Limits



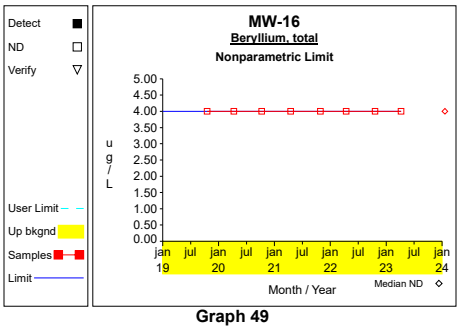
Graph 46



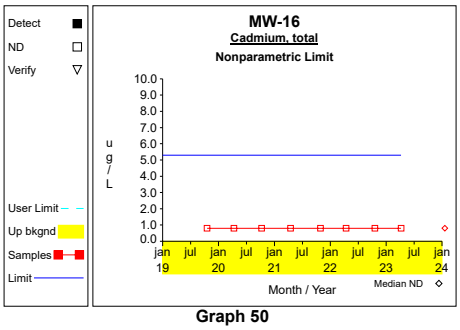
Graph 47



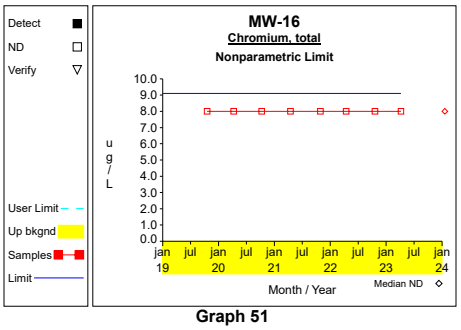
Graph 48



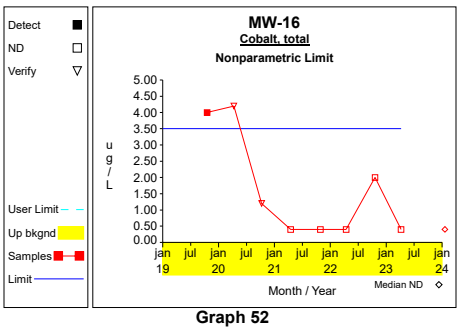
Graph 49



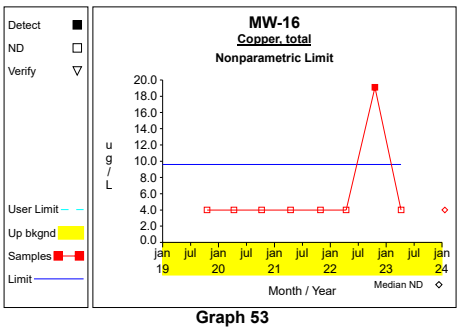
Graph 50



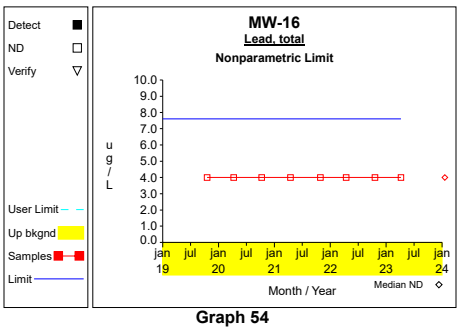
Graph 51



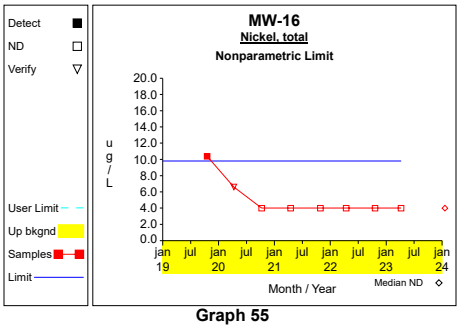
Graph 52



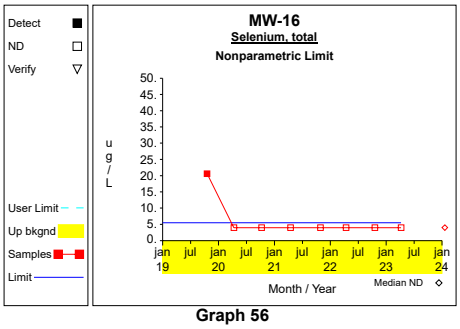
Graph 53



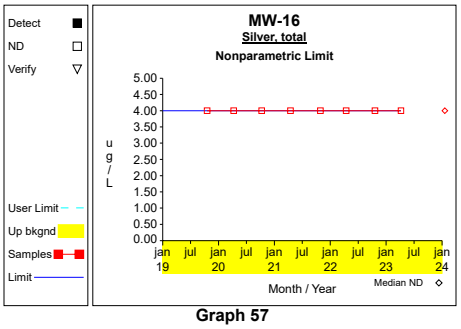
Graph 54



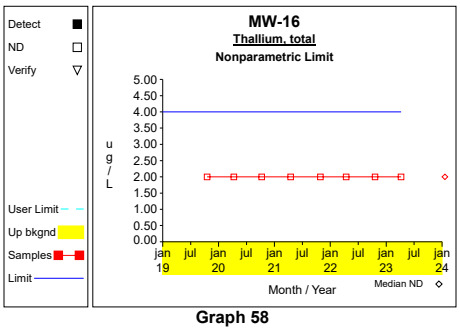
Graph 55



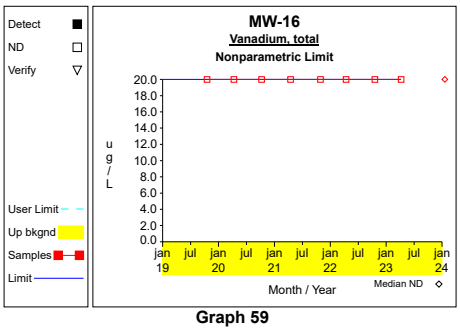
Graph 56



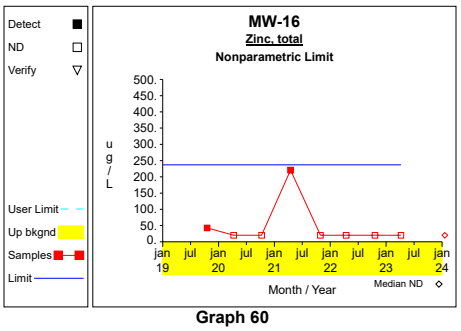
Graph 57



Graph 58



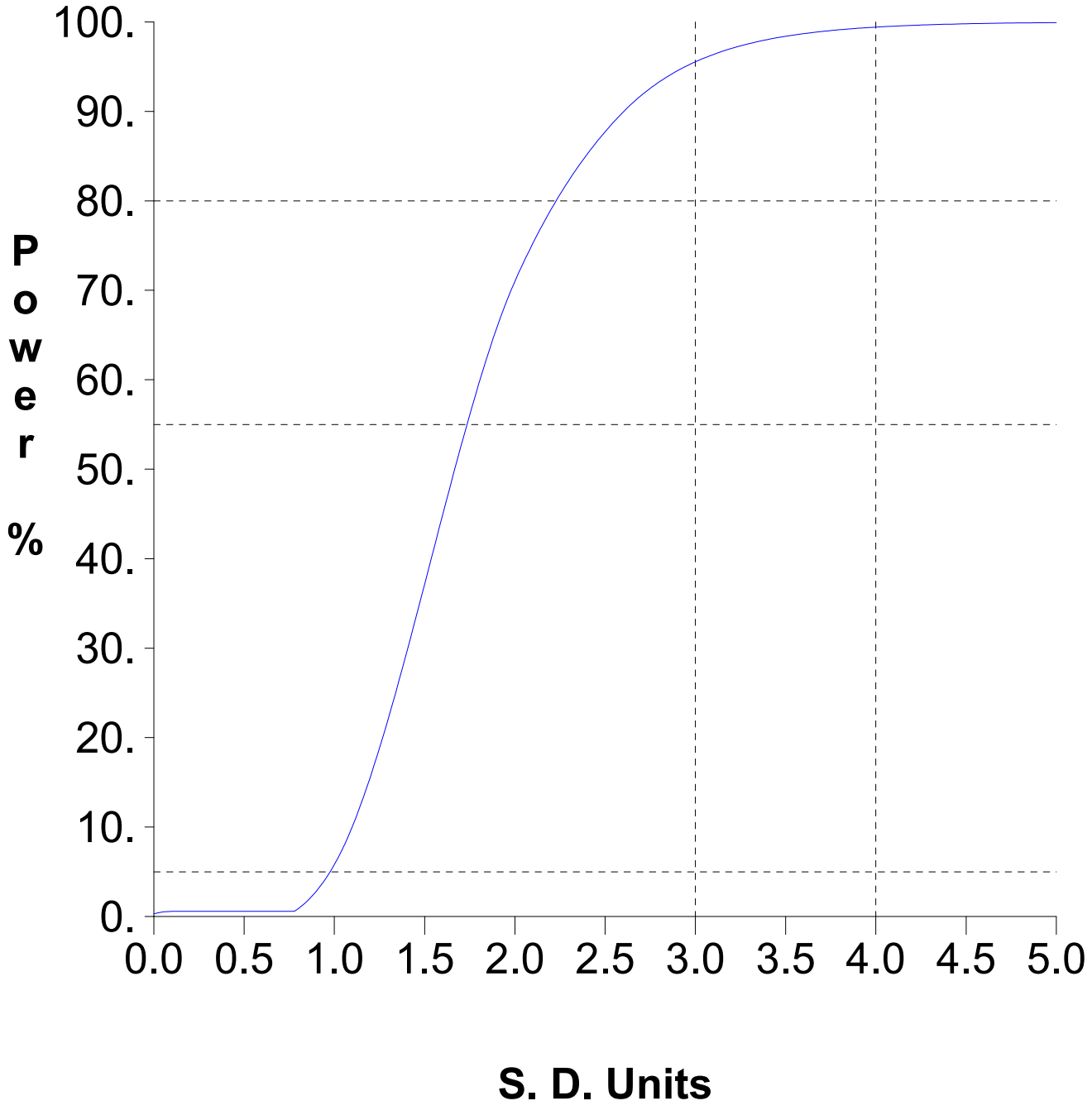
Graph 59



Graph 60

False Positive and False Negative Rates for Current

Upgradient vs. Downgradient Monitoring Program



Attachment C

Historical Organic Compound Detections

Table 1

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Diethyl phthalate	MW-11	4/08/2014		8	8	ug/L
Diethyl phthalate	MW-11	4/08/2014		8	8	ug/L
Methyl parathion	MW-11	10/14/2014		2.9	.4	ug/L
Phorate	MW-11	10/14/2014		.9	.4	ug/L
Thionazin	MW-11	10/14/2014		.5	.4	ug/L
Bis(2-ethylhexyl) phthalate	MW-12	4/16/2019		16	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-12	4/09/2020		16	6	ug/L
Acetone	MW-14	5/24/2010		44.9	10.0	ug/L
Acetone	MW-14	10/12/2017		11.8	10.0	ug/L
Toluene	MW-14	5/24/2010		3.2	1.0	ug/L
Xylenes, total	MW-14	5/24/2010		4.9	2.0	ug/L
Acetone	MW-15	10/12/2017		10.8	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/21/2013		50	8	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	4/14/2015		11	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/11/2016		19	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/12/2017		15	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/12/2018		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	4/16/2019		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/17/2019		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/08/2020		8	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/28/2021		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/19/2022		19	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/12/2017		35	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/17/2019		25	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/28/2021		12	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	4/13/2022		11	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-3	10/17/2019		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-4	4/23/2018		11	6	ug/L
Acetone	MW-5	10/12/2017		12.2	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	4/23/2018		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	7/05/2018		8	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	10/17/2019		10	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	4/06/2023		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-7	4/15/2009		10	8	ug/L
Acetone	MW-9	5/24/2010		45.1	10.0	ug/L
Acetone	MW-9	10/12/2017		11.2	10.0	ug/L
Toluene	MW-9	5/24/2010		3.6	1.0	ug/L
Xylenes, total	MW-9	5/24/2010		5.6	2.0	ug/L
2-butanone (mek)	SW-1	10/12/2018		7.7	5.0	ug/L
Acetone	SW-1	4/20/2017		15.7	10.0	ug/L
Acetone	SW-1	10/12/2018		27.2	10.0	ug/L
Phorate	SW-2	10/14/2014		.4	.4	ug/L

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

GROUND WATER STATISTICS

FOR THE

FLOYD-MITCHELL-CHICKASAW COUNTIES

CLOSED SANITARY LANDFILL

First Semi-Annual Monitoring Event in 2023

Prepared for:
Floyd-Mitchell-Chickasaw Counties Solid Waste Management Agency
3354 330th Street
Mitchell County, IA

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

May 2023

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 2023 at the Floyd-Mitchell-Chickasaw Counties Closed Sanitary Landfill near Elma, in Mitchell 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. Interwell statistics were used for comparisons of current data to background data at Floyd-Mitchell-Chickasaw Counties Closed Sanitary Landfill. The statistical plan conforms with IAC 567, Chapter 113.10 and the USEPA statistical guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance"*, March 2009).

Ground Water Monitoring Program

The groundwater monitoring network for Floyd-Mitchell-Chickasaw Counties Closed Sanitary Landfill includes detection sample points MW-2, MW-3, MW-6, and MW-7. Upgradient sample points along the western border of the Expansion Area include MW-9 and MW-14. Monitoring wells MW-4 and MW-5 were approved by the IDNR as additional background wells in the revised permit (August 2020). 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 2023 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. Both of these methods were previously applied to the Floyd-Mitchell-Chickasaw Counties Closed Landfill data using the DUMPStat® statistical program. The Expansion Area upgradient wells have not been monitored regularly so there was insufficient background data available to do upgradient versus downgradient comparisons previously. 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 background data used in this statistical analysis includes the ground water data collected from ground water wells MW-4, MW-5,MW-9, and MW-14 during the period from October 2014 through the current data. A summary of the background data from monitoring wells MW-4, MW-5,MW-9, and MW-14, used to determine the site prediction limits, is listed in Attachment B, Table 1 “Upgradient Data”. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances.

Table 2 “Most Current Downgradient Monitoring Data”, summarizes the current data from downgradient sample points MW-2, MW-3, MW-6, and MW-7 compared to the site prediction limits. Prediction limit

exceedances are flagged with asterisks. For the first semi-annual 2023 monitoring data, the site prediction limit exceedances detected are summarized below.

Trace Metal Prediction Limit Exceedances during the First Semi-Annual Monitoring Event in 2023

Well	Trace Metal Detected	Result, µg/L	Prediction Limit, µg/L	Prediction Limit Type	Verified/ Awaiting verification
MW-6	Arsenic	5.3	4.5000	Nonparametric	Verified

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

Table 4 summarizes the results of the Shapiro-Wilk test. The background barium data has a normal distribution 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 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 – Unified Guidance, USEPA, March 2009 (Attachment C). The analysis was conducted to evaluate whether verified concentrations are significantly above the water quality standard. The 95% lower confidence limit (LCL) for the mean of the historical data was used to evaluate whether the regulated unit is in compliance with the ground-water protection standards under 40 CFR 264 (e.g. whether the verified constituent is detected at a significant level above the GWPS). An exceedance is verified if the LCL is above the Regulatory GWPS.

The calculated 95% LCLs 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.

There were no VOCs detected in the ground water at Floyd-Mitchell-Chickasaw Counties Landfill during the first semi-annual monitoring event in 2023. There was a detection of bis(2-ethylhexyl)phthalate (7.0 µg/L) at MW-6. The laboratory reporting limit for bis(2-ethylhexyl)phthalate is 6.0 µg/L. Bis(2-ethylhexyl)phthalate was last detected at MW-6 in October 2019. Historical VOC detections are summarized in Attachment D.

The bis(2-ethylhexyl)phthalate detections were evaluated against the GWPS using confidence limits. The calculated 95% LCLs 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 2023 at Floyd-Mitchell-Chickasaw Counties Closed Landfill. The groundwater monitoring network for Floyd-Mitchell-Chickasaw Counties Closed Sanitary Landfill includes wells MW-2, MW-3, MW-4 (upgradient), MW-5 (upgradient), MW-6, MW-7, MW-9 (upgradient), and MW-14 (upgradient). 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.

The ground water data obtained during the first semi-annual monitoring event in 2023 was compared to background using prediction limits. There is a verified site prediction limit exceedance detected for arsenic at MW-6. There is a detection of bis(2-ethylhexyl)phthalate at MW-6 awaiting verification.

Attachment A

Summary of the Data obtained during the First Semi-Annual Monitoring Event in 2023

Table 1

Analytical Data Summary for 4/6/2023

Constituents	Units	MW-11	MW-12	MW-14	MW-15	MW-16	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-9
(3 4)-methylphenol	ug/L										<8	<8	
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L										<1	<1	
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L										<8	<8	
1,2,4-trichlorobenzene	ug/L										<1	<1	
1,2-dibromo-3-chloropropane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L										<8	<8	
1,3,5-trinitrobenzene	ug/L										<8	<8	
1,3-dichlorobenzene	ug/L										<1	<1	
1,3-dichloropropane	ug/L										<1	<1	
1,3-dinitrobenzene	ug/L										<8	<8	
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L										<8	<8	
1,4-phenylenediamine	ug/L										<8	<8	
1-naphthylamine	ug/L										<8	<8	
2,2-dichloropropane	ug/L										<1	<1	
2,3,4,6-tetrachlorophenol	ug/L										<8	<8	
2,4,5-t	ug/L										<.5	<.5	
2,4,5-tp (silvex)	ug/L										<.5	<.5	
2,4,5-trichlorophenol	ug/L										<8	<8	
2,4,6-trichlorophenol	ug/L										<8	<8	
2,4-d	ug/L										<2	<2	
2,4-dichlorophenol	ug/L										<8	<8	
2,4-dimethylphenol	ug/L										<8	<8	
2,4-dinitrophenol	ug/L										<8	<8	
2,4-dinitrotoluene	ug/L										<8	<8	
2,6-dichlorophenol	ug/L										<8	<8	
2,6-dinitrotoluene	ug/L										<8	<8	
2-acetylaminofluorene	ug/L										<8	<8	
2-butanone (mek)	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<10
2-chloronaphthalene	ug/L										<8	<8	
2-chlorophenol	ug/L										<8	<8	
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L										<8	<8	
2-methylphenol	ug/L										<8	<8	
2-naphthylamine	ug/L										<8	<8	
2-nitroaniline	ug/L										<8	<8	
2-nitrophenol	ug/L										<8	<8	
3,3´-dichlorobenzidine	ug/L										<8	<8	
3,3'-dimethylbenzidine	ug/L										<8	<8	
3-methylcholanthrene	ug/L										<8	<8	
3-nitroaniline	ug/L										<8	<8	
4,4´-ddd	ug/L										<.05	<.05	
4,4´-dde	ug/L										<.05	<.05	
4,4´-ddt	ug/L										<.05	<.05	
4,6-dinitro-2-methylphenol	ug/L										<8	<8	
4-aminobiphenyl	ug/L										<8	<8	
4-bromophenyl phenyl ether	ug/L										<8	<8	
4-chloro-3-methylphenol	ug/L										<8	<8	
4-chloroaniline	ug/L										<8	<8	
4-chlorophenyl phenyl ether	ug/L										<8	<8	
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	ug/L										<8	<8	
4-nitrophenol	ug/L										<8	<8	
5-nitro-o-toluidine	ug/L										<8	<8	
7,12-dimethylbenz(a)anthracene	ug/L										<8	<8	
Acenaphthene	ug/L										<8	<8	
Acenaphthylene	ug/L										<8	<8	
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetonitrile	ug/L										<10	<10	
Acetophenone	ug/L										<8	<8	
Acrolein	ug/L										<10	<10	
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	ug/L										<.05	<.05	
Allyl chloride	ug/L										<1	<1	
Alpha-bhc	ug/L										<.05	<.05	
Anthracene	ug/L										<8	<8	

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

Table 1

Analytical Data Summary for 4/6/2023

Constituents	Units	MW-11	MW-12	MW-14	MW-15	MW-16	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-9
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	ug/L										<.1	<.1	
Arochlor 1221	ug/L										<.2	<.2	
Arochlor 1232	ug/L										<.2	<.2	
Arochlor 1242	ug/L										<.2	<.2	
Arochlor 1248	ug/L										<.2	<.2	
Arochlor 1254	ug/L										<.1	<.1	
Arochlor 1260	ug/L										<.1	<.1	
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	4.1	<4.0	4.5	<4.0	5.3	<4.0	<4.0
Azobenzene	ug/L										<8	<8	
Barium, total	ug/L	17.4	123.0	117.0	18.0	38.0	33.2	84.3	162.0	206.0	24.5	31.3	96.1
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L										<8	<8	
Benzo(a)pyrene	ug/L										<8	<8	
Benzo(b)fluoranthene	ug/L										<8	<8	
Benzo(g,h,i)perylene	ug/L										<8	<8	
Benzo(k)fluoranthene	ug/L										<8	<8	
Benzyl alcohol	ug/L										<8	<8	
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	ug/L										<.05	<.05	
Bis (2-chloroethoxy) methane	ug/L										<8	<8	
Bis(2-chloroethyl) ether	ug/L										<8	<8	
Bis(2-chloroisopropyl) ether	ug/L										<8	<8	
Bis(2-ethylhexyl) phthalate	ug/L					<6					7	<6	
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L										<8	<8	
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	1.1	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	ug/L										<.1	<.1	
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	ug/L										<8	<8	
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene	ug/L										<1	<1	
Chromium, total	ug/L	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	8.3	<8.0	<8.0	<8.0	<8.0
Chrysene	ug/L										<8	<8	
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	.6	<.4	<.4	<.4	<.4	2.8	<.4	3.5	2.7	.7	<.4	<.4
Copper, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	9.1	9.6	<4.0	<4.0	<4.0
Cyanide, total	mg/L										<.005	<.005	
Delta-bhc	ug/L										<.05	<.05	
Diallate	ug/L										<8	<8	
Dibenzo(a,h)anthracene	ug/L										<8	<8	
Dibenzofuran	ug/L										<8	<8	
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L										<1	<1	
Dieldrin	ug/L										<.05	<.05	
Diethyl phthalate	ug/L										<8	<8	
Dimethoate	ug/L										<.4	<.4	
Dimethylphthalate	ug/L										<8	<8	
Di-n-butyl phthalate	ug/L										<8	<8	
Di-n-octyl phthalate	ug/L										<8	<8	
Dinoseb	ug/L										<.5	<.5	
Diphenylamine	ug/L										<8	<8	
Disulfoton	ug/L										<.4	<.4	
Endosulfan i	ug/L										<.05	<.05	
Endosulfan ii	ug/L										<.05	<.05	
Endosulfan sulfate	ug/L										<.05	<.05	
Endrin	ug/L										<.05	<.05	
Endrin aldehyde	ug/L										<.05	<.05	
Ethyl methacrylate	ug/L										<10	<10	
Ethyl methanesulfonate	ug/L										<8	<8	
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	ug/L										<.4	<.4	
Fluoranthene	ug/L										<8	<8	
Fluorene	ug/L										<8	<8	
Gamma-bhc (lindane)	ug/L										<.05	<.05	
Heptachlor	ug/L										<.05	<.05	
Heptachlor epoxide	ug/L										<.05	<.05	
Hexachlorobenzene	ug/L										<.05	<.05	

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

Table 1

Analytical Data Summary for 4/6/2023

Constituents	Units	MW-11	MW-12	MW-14	MW-15	MW-16	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-9
Hexachlorobutadiene	ug/L										<8	<8	
Hexachlorocyclopentadiene	ug/L										<8	<8	
Hexachloroethane	ug/L										<8	<8	
Hexachloropropene	ug/L										<8	<8	
Indeno(1,2,3-cd)pyrene	ug/L										<8	<8	
Isobutanol	mg/L										<1	<1	
Isodrin	ug/L										<8	<8	
Isophorone	ug/L										<8	<8	
Isosafrole	ug/L										<8	<8	
Kepone	ug/L										<8	<8	
Lead, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	7.6	6.2	<4.0	<4.0	<4.0
Mercury, total	ug/L										<.5	<.5	
Methacrylonitrile	ug/L										<1	<1	
Methapyrilene	ug/L										<8	<8	
Methoxychlor	ug/L										<.05	<.05	
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<1
Methyl methacrylate	ug/L										<1	<1	
Methyl methanesulfonate	ug/L										<8	<8	
Methyl parathion	ug/L										<.4	<.4	
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/L										<8	<8	
Nickel, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	9.8	13.1	<4.0	<4.0	<4.0
Nitrobenzene	ug/L										<8	<8	
N-nitrosodiethylamine	ug/L										<8	<8	
N-nitrosodimethylamine	ug/L										<8	<8	
N-nitrosodi-n-butylamine	ug/L										<8	<8	
N-nitroso-di-n-propylamine	ug/L										<8	<8	
N-nitrosodiphenylamine	ug/L										<8	<8	
N-nitrosomethylethylamine	ug/L										<8	<8	
N-nitrosopiperidine	ug/L										<8	<8	
N-nitrosopyrrolidine	ug/L										<8	<8	
O,o,o-triethyl phosphorothioate	ug/L										<.4	<.4	
O-toluidine	ug/L										<8	<8	
Parathion	ug/L										<.4	<.4	
P-dimethylaminoazobenzene	ug/L										<8	<8	
Pentachlorobenzene	ug/L										<8	<8	
Pentachloronitrobenzene (pcnb)	ug/L										<8	<8	
Pentachlorophenol	ug/L										<8	<8	
Phenacetin	ug/L										<8	<8	
Phenanthrene	ug/L										<8	<8	
Phenol	ug/L										<8	<8	
Phorate	ug/L										<.4	<.4	
Pronamide	ug/L										<8	<8	
Propionitrile	ug/L										<10	<10	
Pyrene	ug/L										<8	<8	
Safrole	ug/L										<8	<8	
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total	mg/L										<.3	<.1	
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Thionazin	ug/L										<.4	<.4	
Tin, total	ug/L										<20	<20	
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	ug/L										<.2	<.2	
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<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	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	627.0	411.0	<20.0	<20.0	21.3

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

Attachment B

Summary Tables and Graphs for the Interwell Comparisons

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-14	10/14/2014		2.5000		
Antimony, total	ug/L	MW-14	01/12/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	07/21/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	04/06/2023	ND	2.0000		
Arsenic, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Barium, total	ug/L	MW-14	10/14/2014		184.0000		
Barium, total	ug/L	MW-14	01/12/2015		169.0000		
Barium, total	ug/L	MW-14	04/13/2015		143.0000		
Barium, total	ug/L	MW-14	07/21/2015		141.0000		
Barium, total	ug/L	MW-14	09/23/2015		185.0000		
Barium, total	ug/L	MW-14	04/12/2016		121.0000		
Barium, total	ug/L	MW-14	10/11/2016		125.0000		
Barium, total	ug/L	MW-14	04/20/2017		140.0000		
Barium, total	ug/L	MW-14	10/12/2017		170.0000		
Barium, total	ug/L	MW-14	04/23/2018		126.0000		
Barium, total	ug/L	MW-14	10/12/2018		128.0000		
Barium, total	ug/L	MW-14	04/16/2019		114.0000		
Barium, total	ug/L	MW-14	10/17/2019		155.0000		
Barium, total	ug/L	MW-14	04/09/2020		117.0000		
Barium, total	ug/L	MW-14	10/08/2020		137.0000		
Barium, total	ug/L	MW-14	04/15/2021		120.0000		
Barium, total	ug/L	MW-14	10/28/2021		102.0000		
Barium, total	ug/L	MW-14	04/13/2022		107.0000		
Barium, total	ug/L	MW-14	10/19/2022		133.0000		
Barium, total	ug/L	MW-14	04/06/2023		117.0000		
Beryllium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/09/2020	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-14	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Cadmium, total	ug/L	MW-14	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-14	01/12/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	07/21/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/23/2018		5.3000		
Cadmium, total	ug/L	MW-14	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/06/2023	ND	0.8000		
Chromium, total	ug/L	MW-14	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-14	01/12/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	07/21/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	04/06/2023	ND	8.0000		
Cobalt, total	ug/L	MW-14	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-14	01/12/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	07/21/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-14	04/06/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Copper, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Copper, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-14	04/20/2017	ND	4.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Copper, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-14	10/19/2022		7.0000		
Copper, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Lead, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Lead, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Nickel, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	04/13/2015		5.1000		
Selenium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-14	10/11/2016		5.5000		
Selenium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-14	10/19/2022		5.5000		
Selenium, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-14	01/12/2015	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	
Silver, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Silver, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Thallium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Thallium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Thallium, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Thallium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Thallium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Thallium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Thallium, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Thallium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Thallium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Thallium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Thallium, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Thallium, total	ug/L	MW-14	04/16/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	10/17/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	04/09/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	10/08/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	04/15/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	10/28/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	04/13/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	10/19/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-14	04/06/2023	ND	2.0000	4.0000	**
Vanadium, total	ug/L	MW-14	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-14	01/12/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	07/21/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	10/14/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	01/12/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/13/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	07/21/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	09/23/2015	ND	20.0000		
Zinc, total	ug/L	MW-14	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/20/2017	ND	20.0000		
Zinc, total	ug/L	MW-14	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/23/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/12/2018		16.1000		
Zinc, total	ug/L	MW-14	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-14	10/17/2019	ND	20.0000		
Zinc, total	ug/L	MW-14	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	04/15/2021	ND	20.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-14	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	04/06/2023	ND	20.0000		
Antimony, total	ug/L	MW-4	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-4	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-4	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-4	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-4	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-4	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-4	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-4	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-4	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-4	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-4	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-4	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-4	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-4	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-4	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-4	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-4	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-4	04/06/2023	ND	2.0000		
Arsenic, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/06/2023		4.5000		
Barium, total	ug/L	MW-4	10/14/2014		141.0000		
Barium, total	ug/L	MW-4	04/13/2015		103.0000		
Barium, total	ug/L	MW-4	09/23/2015		92.5000		
Barium, total	ug/L	MW-4	04/12/2016		66.2000		
Barium, total	ug/L	MW-4	10/11/2016		77.7000		
Barium, total	ug/L	MW-4	04/20/2017		128.0000		
Barium, total	ug/L	MW-4	10/12/2017		83.8000		
Barium, total	ug/L	MW-4	04/23/2018		116.0000		
Barium, total	ug/L	MW-4	10/12/2018		111.0000		
Barium, total	ug/L	MW-4	04/16/2019		71.2000		
Barium, total	ug/L	MW-4	10/17/2019		137.0000		
Barium, total	ug/L	MW-4	04/09/2020		65.3000		
Barium, total	ug/L	MW-4	10/08/2020		75.2000		
Barium, total	ug/L	MW-4	04/15/2021		49.6000		
Barium, total	ug/L	MW-4	10/28/2021		73.2000		
Barium, total	ug/L	MW-4	04/13/2022		63.6000		
Barium, total	ug/L	MW-4	10/19/2022		81.8000		
Barium, total	ug/L	MW-4	04/06/2023		162.0000		
Beryllium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/13/2022	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	
Beryllium, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Cadmium, total	ug/L	MW-4	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-4	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/06/2023	ND	0.8000		
Chromium, total	ug/L	MW-4	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-4	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-4	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-4	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-4	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-4	04/20/2017		9.1000		
Chromium, total	ug/L	MW-4	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-4	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-4	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-4	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-4	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-4	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-4	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-4	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-4	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-4	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-4	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-4	04/06/2023		8.3000		
Cobalt, total	ug/L	MW-4	10/14/2014		2.1000		
Cobalt, total	ug/L	MW-4	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-4	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-4	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/20/2017		3.3000		
Cobalt, total	ug/L	MW-4	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/23/2018		2.8000		
Cobalt, total	ug/L	MW-4	10/12/2018		1.4000		
Cobalt, total	ug/L	MW-4	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-4	10/17/2019		2.0000		
Cobalt, total	ug/L	MW-4	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-4	04/06/2023		3.5000		
Copper, total	ug/L	MW-4	10/14/2014		6.1000		
Copper, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-4	04/20/2017		5.5000		
Copper, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-4	10/17/2019		4.3000		
Copper, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-4	04/06/2023		9.1000		

* - 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-4	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-4	04/06/2023		7.6000		
Nickel, total	ug/L	MW-4	10/14/2014		6.2000		
Nickel, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Nickel, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Nickel, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-4	04/20/2017		9.5000		
Nickel, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-4	04/23/2018		4.5000		
Nickel, total	ug/L	MW-4	10/12/2018		4.7000		
Nickel, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-4	10/17/2019		6.0000		
Nickel, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-4	04/06/2023		9.8000		
Selenium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Selenium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Thallium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Thallium, total	ug/L	MW-4	04/13/2015	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	
Thallium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Thallium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Thallium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Thallium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Thallium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Thallium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Thallium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Thallium, total	ug/L	MW-4	04/16/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	10/17/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	04/09/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	10/08/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	04/15/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	10/28/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	04/13/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	10/19/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-4	04/06/2023	ND	2.0000	4.0000	**
Vanadium, total	ug/L	MW-4	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-4	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-4	10/14/2014		40.0000		
Zinc, total	ug/L	MW-4	01/12/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	04/13/2015		12.4000		
Zinc, total	ug/L	MW-4	09/23/2015		10.3000		
Zinc, total	ug/L	MW-4	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	10/11/2016		11.9000		
Zinc, total	ug/L	MW-4	01/17/2017		58.9000		
Zinc, total	ug/L	MW-4	04/20/2017		57.6000		
Zinc, total	ug/L	MW-4	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	04/23/2018		159.0000		
Zinc, total	ug/L	MW-4	10/12/2018		237.0000		
Zinc, total	ug/L	MW-4	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-4	10/17/2019		130.0000		
Zinc, total	ug/L	MW-4	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-4	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-4	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-4	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-4	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-4	10/19/2022		216.0000		
Zinc, total	ug/L	MW-4	04/06/2023		627.0000		*
Antimony, total	ug/L	MW-5	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-5	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-5	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-5	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-5	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-5	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-5	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-5	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-5	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-5	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-5	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-5	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-5	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-5	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-5	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-5	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-5	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-5	04/06/2023	ND	2.0000		
Arsenic, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/13/2015	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	
Arsenic, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Barium, total	ug/L	MW-5	10/14/2014		251.0000		
Barium, total	ug/L	MW-5	04/13/2015		272.0000		
Barium, total	ug/L	MW-5	09/23/2015		330.0000		
Barium, total	ug/L	MW-5	11/24/2015		328.0000		
Barium, total	ug/L	MW-5	04/12/2016		167.0000		
Barium, total	ug/L	MW-5	10/11/2016		262.0000		
Barium, total	ug/L	MW-5	04/20/2017		338.0000		
Barium, total	ug/L	MW-5	10/12/2017		276.0000		
Barium, total	ug/L	MW-5	04/23/2018		206.0000		
Barium, total	ug/L	MW-5	10/12/2018		212.0000		
Barium, total	ug/L	MW-5	04/16/2019		193.0000		
Barium, total	ug/L	MW-5	10/17/2019		296.0000		
Barium, total	ug/L	MW-5	04/09/2020		268.0000		
Barium, total	ug/L	MW-5	10/08/2020		268.0000		
Barium, total	ug/L	MW-5	04/15/2021		71.8000		*
Barium, total	ug/L	MW-5	10/28/2021		175.0000		
Barium, total	ug/L	MW-5	04/13/2022		180.0000		
Barium, total	ug/L	MW-5	10/19/2022		250.0000		
Barium, total	ug/L	MW-5	04/06/2023		206.0000		
Beryllium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Cadmium, total	ug/L	MW-5	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-5	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/06/2023		1.1000		
Chromium, total	ug/L	MW-5	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-5	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-5	09/23/2015	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-5	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-5	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-5	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-5	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-5	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-5	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-5	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-5	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-5	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-5	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-5	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-5	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-5	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-5	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-5	04/06/2023	ND	8.0000		
Cobalt, total	ug/L	MW-5	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-5	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/09/2020		3.4000		
Cobalt, total	ug/L	MW-5	10/08/2020		0.6000		
Cobalt, total	ug/L	MW-5	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-5	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-5	04/13/2022		0.4000		
Cobalt, total	ug/L	MW-5	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-5	04/06/2023		2.7000		
Copper, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Copper, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-5	04/06/2023		9.6000		
Lead, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-5	04/06/2023		6.2000		
Nickel, total	ug/L	MW-5	10/14/2014		5.9000		
Nickel, total	ug/L	MW-5	04/13/2015		6.3000		
Nickel, total	ug/L	MW-5	09/23/2015		5.7000		
Nickel, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-5	10/11/2016	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-5	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-5	04/09/2020		6.8000		
Nickel, total	ug/L	MW-5	10/08/2020		6.6000		
Nickel, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-5	10/19/2022		5.4000		
Nickel, total	ug/L	MW-5	04/06/2023		13.1000		*
Selenium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Selenium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Thallium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Thallium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Thallium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Thallium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Thallium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Thallium, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Thallium, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Thallium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Thallium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Thallium, total	ug/L	MW-5	04/16/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	10/17/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	04/09/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	10/08/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	04/15/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	10/28/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	04/13/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	10/19/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-5	04/06/2023	ND	2.0000	4.0000	**
Vanadium, total	ug/L	MW-5	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-5	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/12/2017	ND	20.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Vanadium, total	ug/L	MW-5	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-5	10/14/2014		24.7000		
Zinc, total	ug/L	MW-5	04/13/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	09/23/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/20/2017		16.5000		
Zinc, total	ug/L	MW-5	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/23/2018		15.2000		
Zinc, total	ug/L	MW-5	10/12/2018		20.3000		
Zinc, total	ug/L	MW-5	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-5	10/17/2019		83.1000		*
Zinc, total	ug/L	MW-5	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-5	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-5	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-5	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-5	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-5	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-5	04/06/2023		411.0000		*
Antimony, total	ug/L	MW-9	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-9	01/12/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	04/14/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	07/21/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	09/22/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-9	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-9	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-9	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-9	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-9	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-9	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-9	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-9	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-9	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-9	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-9	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-9	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-9	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-9	04/06/2023	ND	2.0000		
Arsenic, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Barium, total	ug/L	MW-9	10/14/2014		114.0000		
Barium, total	ug/L	MW-9	01/12/2015		115.0000		
Barium, total	ug/L	MW-9	04/14/2015		138.0000		
Barium, total	ug/L	MW-9	07/21/2015		111.0000		
Barium, total	ug/L	MW-9	09/22/2015		114.0000		

* - 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-9	04/12/2016		99.2000		
Barium, total	ug/L	MW-9	10/11/2016		106.0000		
Barium, total	ug/L	MW-9	04/20/2017		116.0000		
Barium, total	ug/L	MW-9	10/12/2017		105.0000		
Barium, total	ug/L	MW-9	04/23/2018		110.0000		
Barium, total	ug/L	MW-9	10/12/2018		106.0000		
Barium, total	ug/L	MW-9	04/16/2019		106.0000		
Barium, total	ug/L	MW-9	10/17/2019		113.0000		
Barium, total	ug/L	MW-9	04/09/2020		93.9000		
Barium, total	ug/L	MW-9	10/08/2020		98.7000		
Barium, total	ug/L	MW-9	04/15/2021		93.2000		
Barium, total	ug/L	MW-9	10/28/2021		91.9000		
Barium, total	ug/L	MW-9	04/13/2022		105.0000		
Barium, total	ug/L	MW-9	10/19/2022		102.0000		
Barium, total	ug/L	MW-9	04/06/2023		96.1000		
Beryllium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Cadmium, total	ug/L	MW-9	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-9	01/12/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/14/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	07/21/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	09/22/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/16/2019		1.2000		
Cadmium, total	ug/L	MW-9	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/19/2022		1.3000		
Cadmium, total	ug/L	MW-9	04/06/2023	ND	0.8000		
Chromium, total	ug/L	MW-9	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-9	01/12/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	04/14/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	07/21/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	09/22/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-9	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-9	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-9	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-9	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-9	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-9	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-9	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-9	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-9	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-9	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-9	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-9	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-9	10/19/2022	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-9	04/06/2023	ND	8.0000		
Cobalt, total	ug/L	MW-9	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-9	01/12/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/14/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	07/21/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	09/22/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-9	04/06/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Copper, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Copper, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Copper, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Copper, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Copper, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Lead, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Lead, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Lead, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Lead, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Lead, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Nickel, total	ug/L	MW-9	01/12/2015		4.0000		
Nickel, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-9	10/17/2019	ND	4.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Nickel, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-9	10/28/2021		4.2000		
Nickel, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Silver, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Silver, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Silver, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Silver, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Thallium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Thallium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Thallium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Thallium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Thallium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Thallium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Thallium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Thallium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Thallium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Thallium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Thallium, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Thallium, total	ug/L	MW-9	04/16/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	10/17/2019	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	04/09/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	10/08/2020	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	04/15/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	10/28/2021	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	04/13/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	10/19/2022	ND	2.0000	4.0000	**
Thallium, total	ug/L	MW-9	04/06/2023	ND	2.0000	4.0000	**
Vanadium, total	ug/L	MW-9	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-9	01/12/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/14/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	07/21/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	09/22/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/11/2016	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-9	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-9	10/14/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	01/12/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/14/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	07/21/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	09/23/2015	ND	20.0000		
Zinc, total	ug/L	MW-9	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/20/2017	ND	20.0000		
Zinc, total	ug/L	MW-9	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/23/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	10/12/2018		9.0000		
Zinc, total	ug/L	MW-9	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-9	10/17/2019		29.9000		
Zinc, total	ug/L	MW-9	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-9	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-9	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-9	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-9	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-9	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-9	04/06/2023		21.3000		

* - 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 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	ug/L	MW-2	04/06/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-2	04/06/2023		4.1000		4.5000
Barium, total	ug/L	MW-2	04/06/2023		33.2000		309.1243
Beryllium, total	ug/L	MW-2	04/06/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-2	04/06/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-2	04/06/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-2	04/06/2023		2.8000	**	3.5000
Copper, total	ug/L	MW-2	04/06/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-2	04/06/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-2	04/06/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-2	04/06/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-2	04/06/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-2	04/06/2023	ND	2.0000		4.0000
Vanadium, total	ug/L	MW-2	04/06/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-2	04/06/2023	ND	20.0000		237.0000
Antimony, total	ug/L	MW-3	04/06/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-3	04/06/2023	ND	4.0000		4.5000
Barium, total	ug/L	MW-3	04/06/2023		84.3000		309.1243
Beryllium, total	ug/L	MW-3	04/06/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-3	04/06/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-3	04/06/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-3	04/06/2023	ND	0.4000		3.5000
Copper, total	ug/L	MW-3	04/06/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-3	04/06/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-3	04/06/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-3	04/06/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-3	04/06/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-3	04/06/2023	ND	2.0000		4.0000
Vanadium, total	ug/L	MW-3	04/06/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-3	04/06/2023	ND	20.0000		237.0000
Antimony, total	ug/L	MW-6	04/06/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-6	04/06/2023		5.3000	***	4.5000
Barium, total	ug/L	MW-6	04/06/2023		24.5000		309.1243
Beryllium, total	ug/L	MW-6	04/06/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-6	04/06/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-6	04/06/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-6	04/06/2023		0.7000	**	3.5000
Copper, total	ug/L	MW-6	04/06/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-6	04/06/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-6	04/06/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-6	04/06/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-6	04/06/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-6	04/06/2023	ND	2.0000		4.0000
Vanadium, total	ug/L	MW-6	04/06/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-6	04/06/2023	ND	20.0000		237.0000
Antimony, total	ug/L	MW-7	04/06/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-7	04/06/2023	ND	4.0000		4.5000
Barium, total	ug/L	MW-7	04/06/2023		31.3000		309.1243
Beryllium, total	ug/L	MW-7	04/06/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-7	04/06/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-7	04/06/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-7	04/06/2023	ND	0.4000		3.5000
Copper, total	ug/L	MW-7	04/06/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-7	04/06/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-7	04/06/2023	ND	4.0000	**	9.8000
Selenium, total	ug/L	MW-7	04/06/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-7	04/06/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-7	04/06/2023	ND	2.0000		4.0000
Vanadium, total	ug/L	MW-7	04/06/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-7	04/06/2023	ND	20.0000		237.0000

* - 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 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, total	1	76	0.013	0	96	0.000
Arsenic, total	1	76	0.013	29	118	0.246
Barium, total	76	76	1.000	132	132	1.000
Beryllium, total	0	76	0.000	0	96	0.000
Cadmium, total	4	76	0.053	9	105	0.086
Chromium, total	2	76	0.026	2	96	0.021
Cobalt, total	10	76	0.132	47	106	0.443
Copper, total	6	76	0.079	14	105	0.133
Lead, total	2	76	0.026	8	105	0.076
Nickel, total	14	75	0.187	69	133	0.519
Selenium, total	3	76	0.039	0	96	0.000
Silver, total	0	76	0.000	0	96	0.000
Thallium, total	0	76	0.000	0	96	0.000
Vanadium, total	0	76	0.000	1	96	0.010
Zinc, total	18	75	0.240	53	116	0.457

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	1	76	0.013									nonpar
Arsenic, total	1	76	0.013									nonpar
Barium, total	76	76	1.000	2.167	0.698					2.326	normal	normal
Beryllium, total	0	76	0.000									nonpar
Cadmium, total	4	76	0.053									nonpar
Chromium, total	2	76	0.026									nonpar
Cobalt, total	10	76	0.132	0.132	0.200					2.326	normal	nonpar
Copper, total	6	76	0.079	0.105	0.895					2.326	normal	nonpar
Lead, total	2	76	0.026									nonpar
Nickel, total	14	75	0.187	0.124	0.164					2.326	normal	nonpar
Selenium, total	3	76	0.039	0.495	0.495					2.326	normal	nonpar
Silver, total	0	76	0.000									nonpar
Thallium, total	0	76	0.000									nonpar
Vanadium, total	0	76	0.000									nonpar
Zinc, total	18	75	0.240	0.132	0.220					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	1	76					2.5000	nonpar		0.99
Arsenic, total	ug/L	1	76					4.5000	nonpar		0.99
Barium, total	ug/L	76	76	145.3171	68.4620	0.0100	2.3927	309.1243	normal		
Beryllium, total	ug/L	0	76					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	4	76					5.3000	nonpar		0.99
Chromium, total	ug/L	2	76					9.1000	nonpar		0.99
Cobalt, total	ug/L	10	76					3.5000	nonpar		0.99
Copper, total	ug/L	6	76					9.6000	nonpar		0.99
Lead, total	ug/L	2	76					7.6000	nonpar		0.99
Nickel, total	ug/L	14	75					9.8000	nonpar		0.99
Selenium, total	ug/L	3	76					5.5000	nonpar		0.99
Silver, total	ug/L	0	76					4.0000	nonpar	***	0.99
Thallium, total	ug/L	0	76					4.0000	nonpar	***	0.99
Vanadium, total	ug/L	0	76					20.0000	nonpar	***	0.99
Zinc, total	ug/L	18	75					237.0000	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
Barium, total	ug/L	MW-5	04/15/2021	71.8000		10/14/2014-04/06/2023	19	0.5503
Nickel, total	ug/L	MW-5	04/06/2023	13.1000		10/14/2014-04/06/2023	18	0.5643
Zinc, total	ug/L	MW-5	10/17/2019	83.1000		10/14/2014-04/06/2023	18	0.5798
Zinc, total	ug/L	MW-5	04/06/2023	411.0000		10/14/2014-04/06/2023	18	0.5798

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
Cobalt, total	ug/L	MW-2	04/15/2009		10.4000	*	3.5000
Cobalt, total	ug/L	MW-2	06/17/2009	ND	4.0000		3.5000
Cobalt, total	ug/L	MW-2	07/24/2009		4.6000	*	3.5000
Cobalt, total	ug/L	MW-2	10/19/2009		9.3000	*	3.5000
Cobalt, total	ug/L	MW-2	11/02/2009		4.6000	*	3.5000
Cobalt, total	ug/L	MW-2	04/19/2010		6.8000	*	3.5000
Cobalt, total	ug/L	MW-2	07/16/2010		15.0000	*	3.5000
Cobalt, total	ug/L	MW-2	09/22/2010		5.0000	*	3.5000
Cobalt, total	ug/L	MW-2	04/13/2011		7.5000	*	3.5000
Cobalt, total	ug/L	MW-2	09/28/2011		4.1000	*	3.5000
Cobalt, total	ug/L	MW-2	04/23/2012		7.5000	*	3.5000
Cobalt, total	ug/L	MW-2	09/24/2012	ND	4.0000		3.5000
Cobalt, total	ug/L	MW-2	04/24/2013		5.0000	*	3.5000
Cobalt, total	ug/L	MW-2	10/21/2013		4.0000	*	3.5000
Cobalt, total	ug/L	MW-2	04/08/2014	ND	4.0000		3.5000
Cobalt, total	ug/L	MW-2	10/14/2014	ND	0.8000		3.5000
Cobalt, total	ug/L	MW-2	04/14/2015		1.3000		3.5000
Cobalt, total	ug/L	MW-2	09/22/2015		4.3000	*	3.5000
Cobalt, total	ug/L	MW-2	04/12/2016		1.5000		3.5000
Cobalt, total	ug/L	MW-2	10/11/2016		2.6000		3.5000
Cobalt, total	ug/L	MW-2	04/20/2017		3.9000	*	3.5000
Cobalt, total	ug/L	MW-2	10/12/2017		5.5000	*	3.5000
Cobalt, total	ug/L	MW-2	04/23/2018		3.3000		3.5000
Cobalt, total	ug/L	MW-2	10/12/2018		2.4000		3.5000
Cobalt, total	ug/L	MW-2	04/16/2019		3.0000		3.5000
Cobalt, total	ug/L	MW-2	10/17/2019		0.8000		3.5000
Cobalt, total	ug/L	MW-2	04/09/2020		5.8000	*	3.5000
Cobalt, total	ug/L	MW-2	10/08/2020		4.2000	*	3.5000
Cobalt, total	ug/L	MW-2	04/15/2021		5.1000	*	3.5000
Cobalt, total	ug/L	MW-2	10/28/2021		1.7000		3.5000
Cobalt, total	ug/L	MW-2	04/13/2022		4.4000	*	3.5000
Cobalt, total	ug/L	MW-2	10/19/2022		4.0000	*	3.5000
Cobalt, total	ug/L	MW-2	04/06/2023		2.8000		3.5000
Arsenic, total	ug/L	MW-6	04/15/2009		11.5000	*	4.5000
Arsenic, total	ug/L	MW-6	06/17/2009		14.5000	*	4.5000
Arsenic, total	ug/L	MW-6	07/24/2009	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/19/2009		15.0000	*	4.5000
Arsenic, total	ug/L	MW-6	11/02/2009		8.7000	*	4.5000
Arsenic, total	ug/L	MW-6	04/19/2010		19.5000	*	4.5000
Arsenic, total	ug/L	MW-6	07/16/2010		10.2000	*	4.5000
Arsenic, total	ug/L	MW-6	09/22/2010		5.6000	*	4.5000
Arsenic, total	ug/L	MW-6	04/13/2011		10.0000	*	4.5000
Arsenic, total	ug/L	MW-6	09/28/2011		15.5000	*	4.5000
Arsenic, total	ug/L	MW-6	04/23/2012		29.4000	*	4.5000
Arsenic, total	ug/L	MW-6	09/24/2012		11.3000	*	4.5000
Arsenic, total	ug/L	MW-6	04/24/2013	ND	8.0000		4.5000
Arsenic, total	ug/L	MW-6	10/21/2013	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/08/2014		6.3000	*	4.5000
Arsenic, total	ug/L	MW-6	07/17/2014	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/14/2014	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/13/2015	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	09/23/2015		4.2000		4.5000
Arsenic, total	ug/L	MW-6	11/24/2015	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/12/2016	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/11/2016	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/20/2017	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/12/2017	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/23/2018	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/12/2018	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/16/2019	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/17/2019	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/09/2020	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/08/2020	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/15/2021	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/28/2021	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/13/2022	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/19/2022		8.1000	*	4.5000
Arsenic, total	ug/L	MW-6	04/06/2023		5.3000	*	4.5000
Cobalt, total	ug/L	MW-6	04/15/2009	ND	4.0000		3.5000
Cobalt, total	ug/L	MW-6	04/23/2012	ND	4.0000		3.5000
Cobalt, total	ug/L	MW-6	09/24/2012	ND	4.0000		3.5000

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

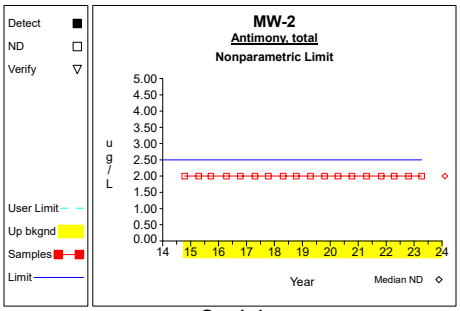
Table 8

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

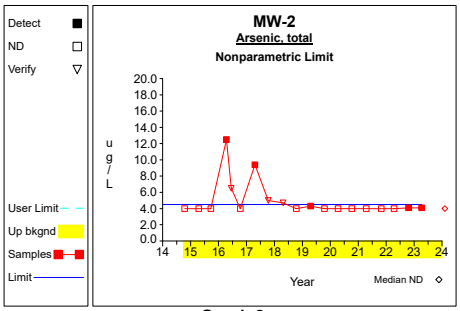
Constituent	Units	Well	Date		Result		Pred. Limit
Cobalt, total	ug/L	MW-6	04/24/2013	ND	4.0000		3.5000
Cobalt, total	ug/L	MW-6	10/21/2013	ND	4.0000		3.5000
Cobalt, total	ug/L	MW-6	04/08/2014	ND	4.0000		3.5000
Cobalt, total	ug/L	MW-6	10/14/2014		1.1000		3.5000
Cobalt, total	ug/L	MW-6	04/13/2015		0.8000		3.5000
Cobalt, total	ug/L	MW-6	09/23/2015		0.8000		3.5000
Cobalt, total	ug/L	MW-6	04/12/2016		2.3000		3.5000
Cobalt, total	ug/L	MW-6	10/11/2016		1.1000		3.5000
Cobalt, total	ug/L	MW-6	01/17/2017		6.3000	*	3.5000
Cobalt, total	ug/L	MW-6	04/20/2017		2.0000		3.5000
Cobalt, total	ug/L	MW-6	10/12/2017	ND	0.8000		3.5000
Cobalt, total	ug/L	MW-6	04/23/2018	ND	0.8000		3.5000
Cobalt, total	ug/L	MW-6	10/12/2018	ND	0.8000		3.5000
Cobalt, total	ug/L	MW-6	04/16/2019		0.8000		3.5000
Cobalt, total	ug/L	MW-6	10/17/2019	ND	0.8000		3.5000
Cobalt, total	ug/L	MW-6	04/09/2020		1.9000		3.5000
Cobalt, total	ug/L	MW-6	10/08/2020		1.0000		3.5000
Cobalt, total	ug/L	MW-6	04/15/2021	ND	0.4000		3.5000
Cobalt, total	ug/L	MW-6	10/28/2021		1.0000		3.5000
Cobalt, total	ug/L	MW-6	04/13/2022		1.1000		3.5000
Cobalt, total	ug/L	MW-6	10/19/2022		4.6000	*	3.5000
Cobalt, total	ug/L	MW-6	04/06/2023		0.7000		3.5000
Nickel, total	ug/L	MW-7	04/15/2009		12.3000	*	9.8000
Nickel, total	ug/L	MW-7	06/17/2009		12.9000	*	9.8000
Nickel, total	ug/L	MW-7	07/24/2009		14.6000	*	9.8000
Nickel, total	ug/L	MW-7	10/19/2009		8.9000		9.8000
Nickel, total	ug/L	MW-7	11/02/2009		9.9000	*	9.8000
Nickel, total	ug/L	MW-7	04/19/2010		11.6000	*	9.8000
Nickel, total	ug/L	MW-7	07/16/2010		17.6000	*	9.8000
Nickel, total	ug/L	MW-7	09/22/2010		9.0000		9.8000
Nickel, total	ug/L	MW-7	04/13/2011		25.2000	*	9.8000
Nickel, total	ug/L	MW-7	09/28/2011		20.7000	*	9.8000
Nickel, total	ug/L	MW-7	04/23/2012		17.1000	*	9.8000
Nickel, total	ug/L	MW-7	09/24/2012		12.9000	*	9.8000
Nickel, total	ug/L	MW-7	04/24/2013		17.3000	*	9.8000
Nickel, total	ug/L	MW-7	10/21/2013	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	04/08/2014	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	10/14/2014		8.5000		9.8000
Nickel, total	ug/L	MW-7	04/14/2015	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	09/23/2015		8.2000		9.8000
Nickel, total	ug/L	MW-7	04/12/2016	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	10/11/2016		8.1000		9.8000
Nickel, total	ug/L	MW-7	01/17/2017		12.5000	*	9.8000
Nickel, total	ug/L	MW-7	04/20/2017	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	10/12/2017	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	04/23/2018	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	10/12/2018	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	04/16/2019	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	10/17/2019	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	04/09/2020	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	10/08/2020		4.0000		9.8000
Nickel, total	ug/L	MW-7	04/15/2021	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	10/28/2021	ND	4.0000		9.8000
Nickel, total	ug/L	MW-7	04/13/2022		4.8000		9.8000
Nickel, total	ug/L	MW-7	10/19/2022		10.3000	*	9.8000
Nickel, total	ug/L	MW-7	04/06/2023	ND	4.0000		9.8000

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

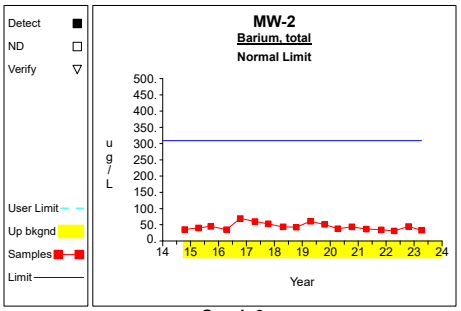
Up vs. Down Prediction Limits



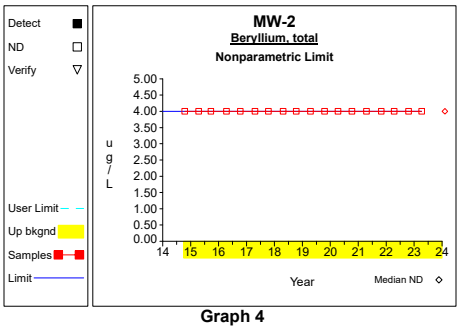
Graph 1



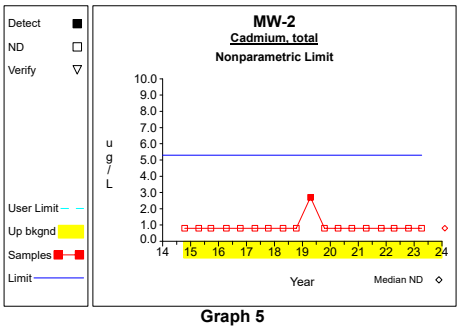
Graph 2



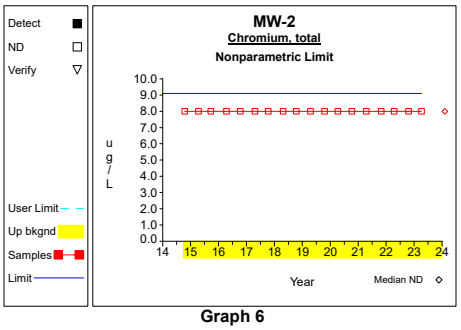
Graph 3



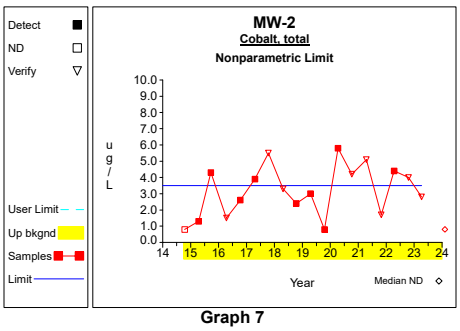
Graph 4



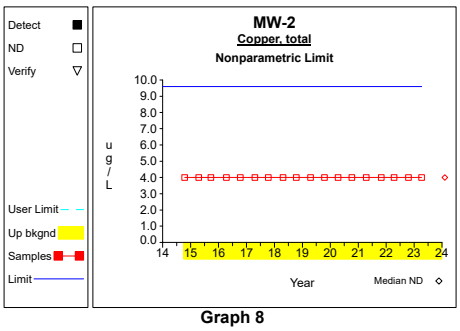
Graph 5



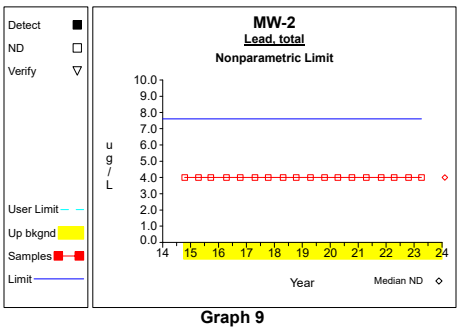
Graph 6



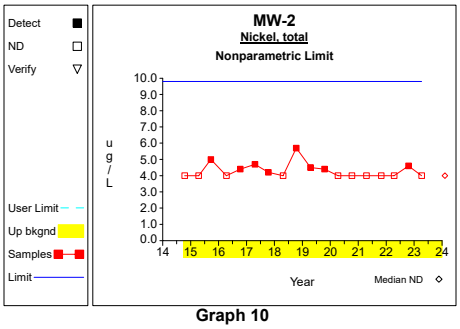
Graph 7



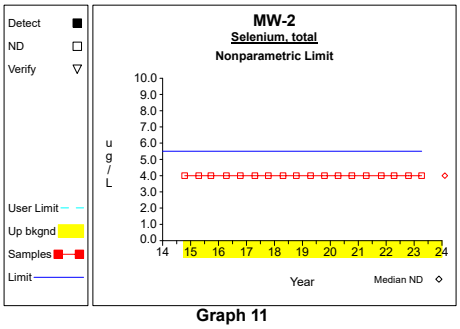
Graph 8



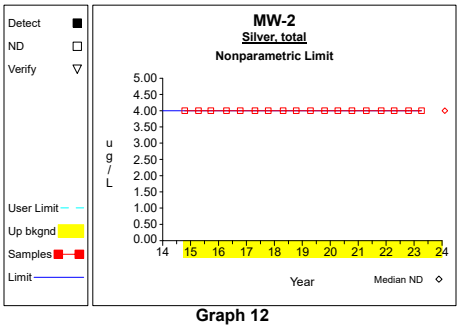
Graph 9



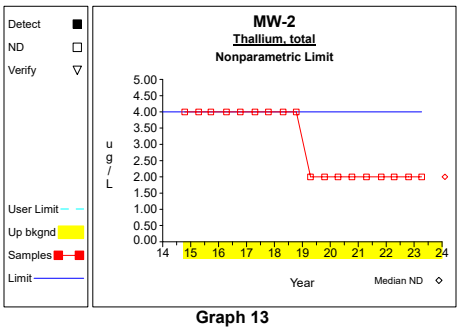
Graph 10



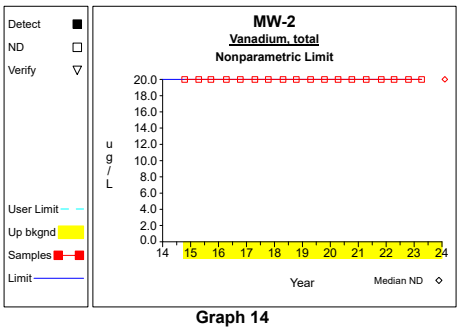
Graph 11



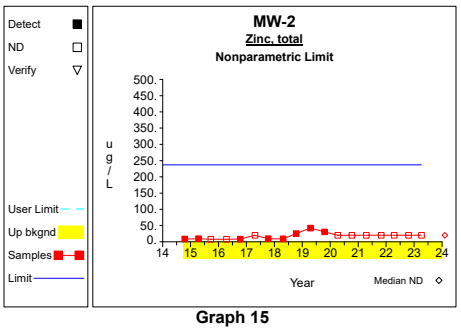
Graph 12



Graph 13



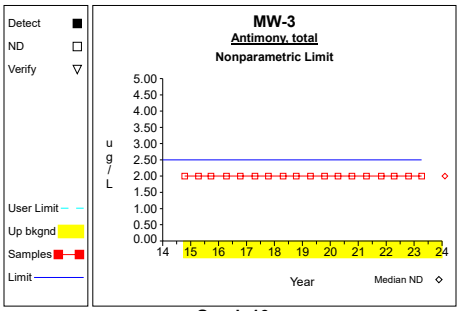
Graph 14



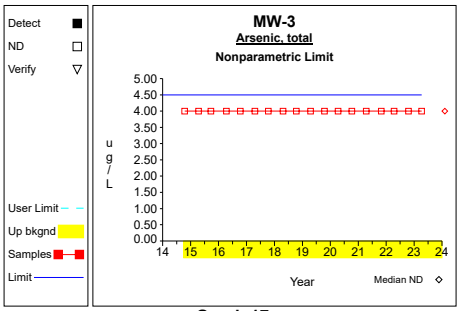
Graph 15

Prepared by: Otter Creek Environmental

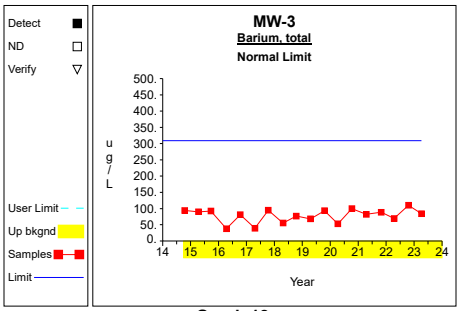
Up vs. Down Prediction Limits



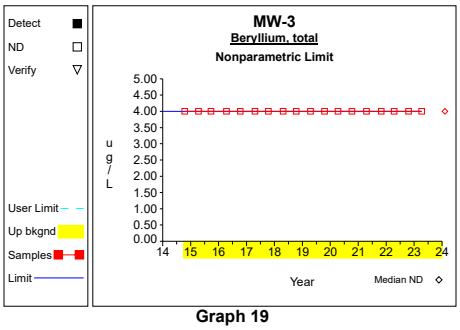
Graph 16



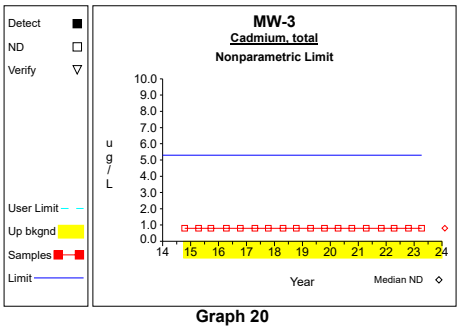
Graph 17



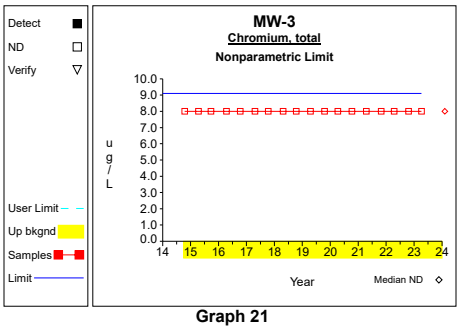
Graph 18



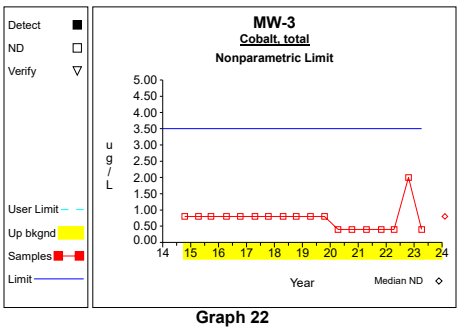
Graph 19



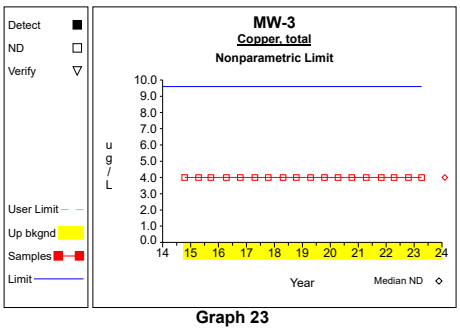
Graph 20



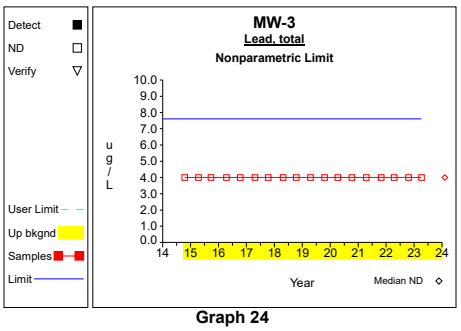
Graph 21



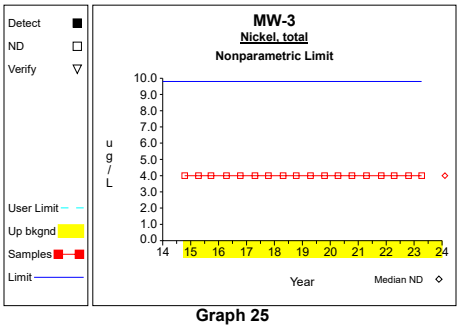
Graph 22



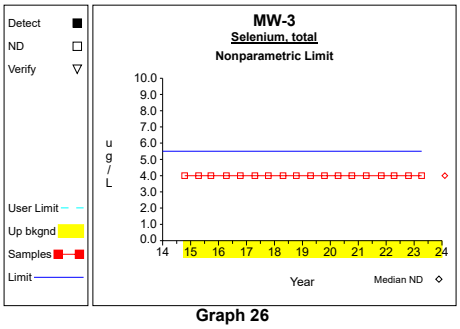
Graph 23



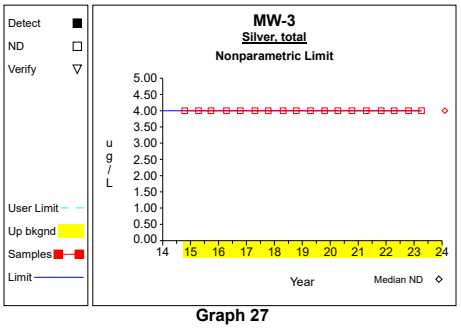
Graph 24



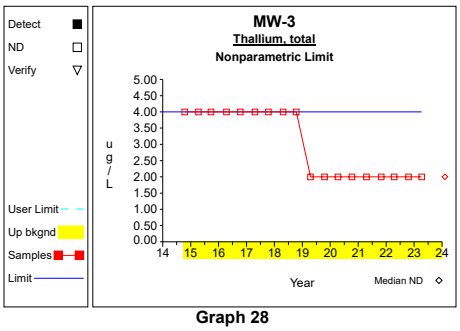
Graph 25



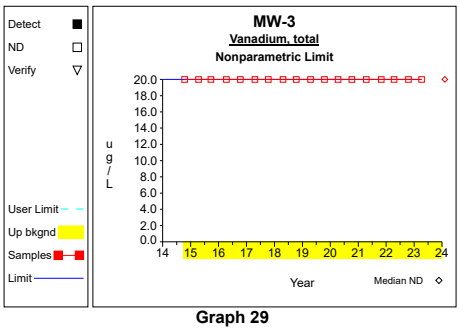
Graph 26



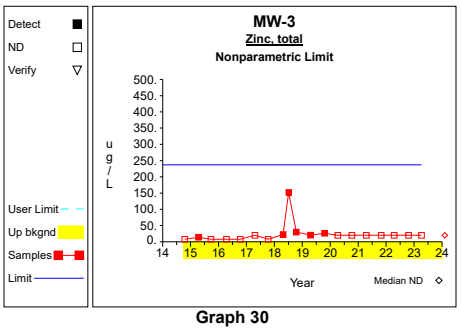
Graph 27



Graph 28



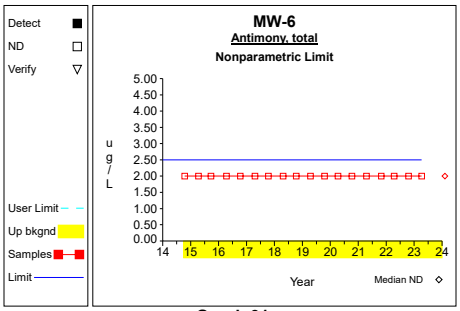
Graph 29



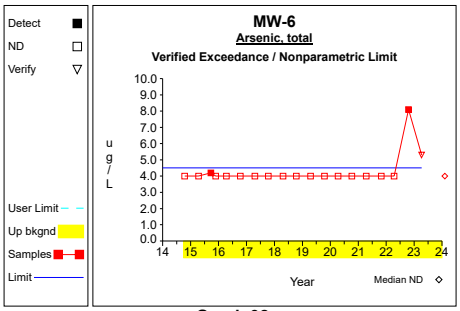
Graph 30

Prepared by: Otter Creek Environmental

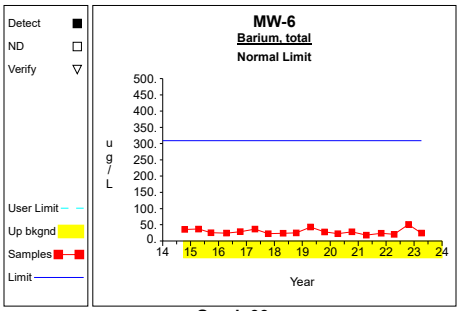
Up vs. Down Prediction Limits



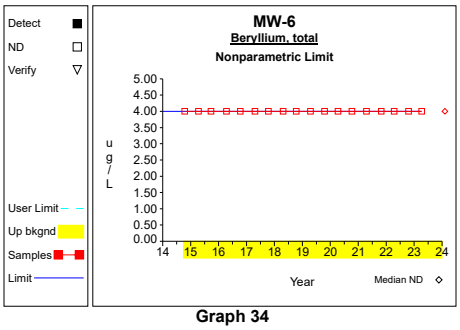
Graph 31



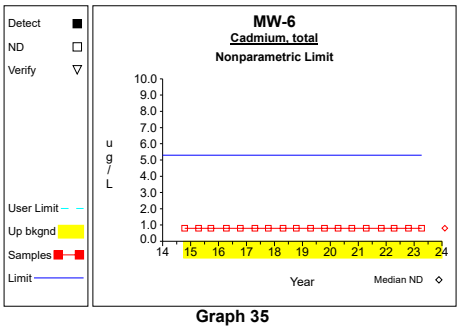
Graph 32



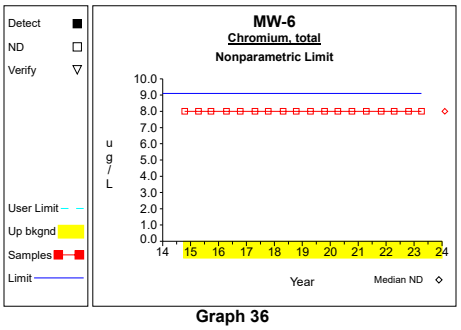
Graph 33



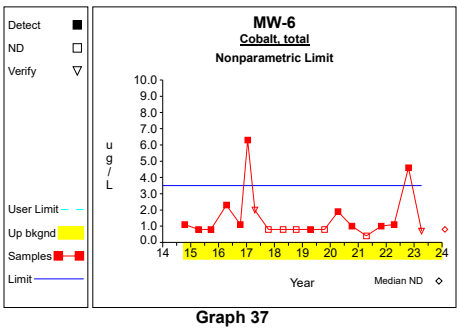
Graph 34



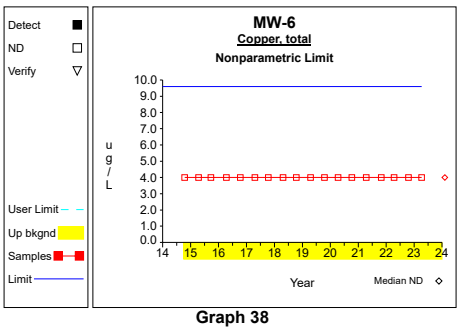
Graph 35



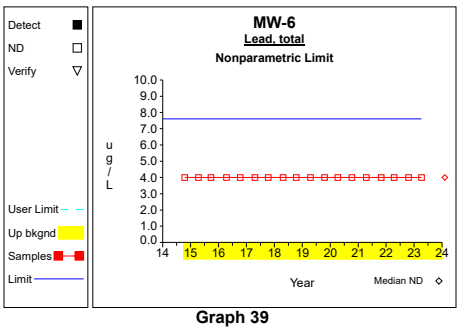
Graph 36



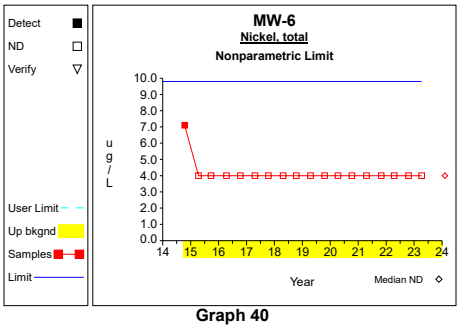
Graph 37



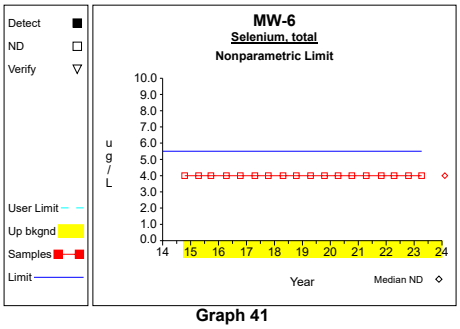
Graph 38



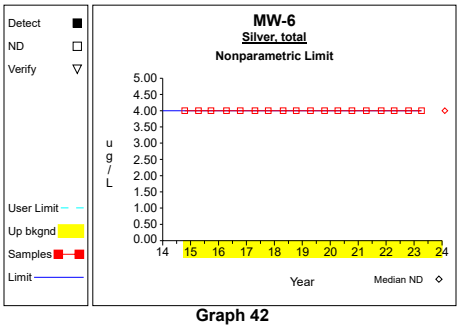
Graph 39



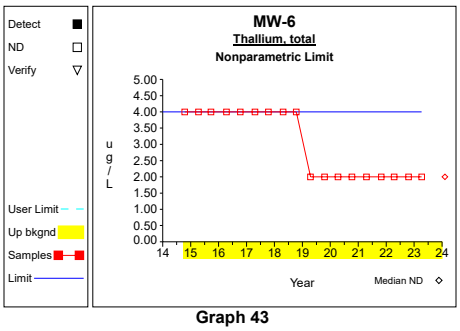
Graph 40



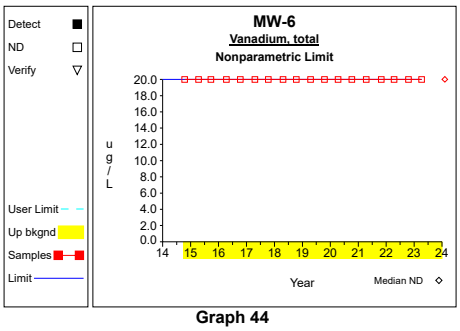
Graph 41



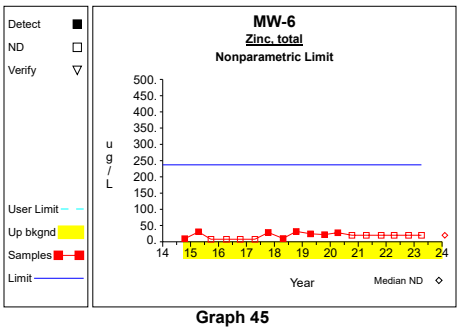
Graph 42



Graph 43

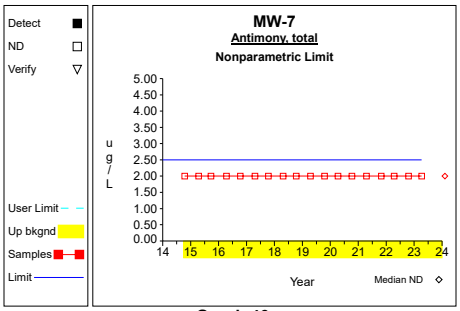


Graph 44

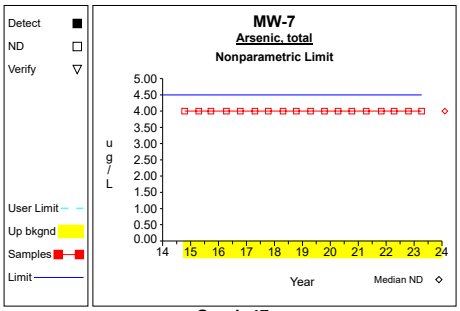


Graph 45

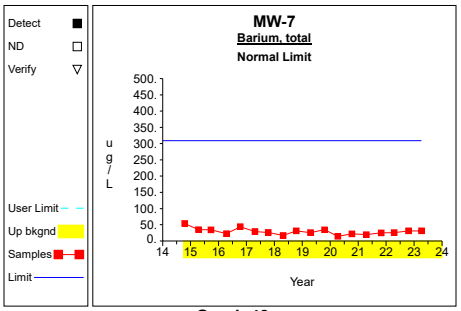
Up vs. Down Prediction Limits



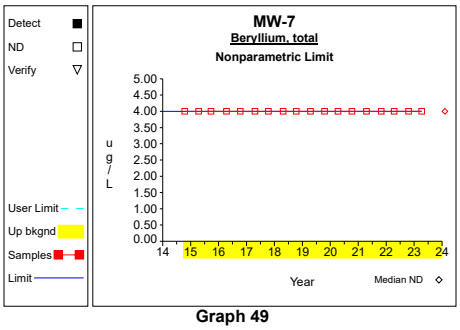
Graph 46



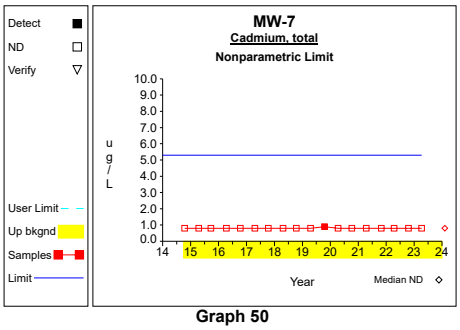
Graph 47



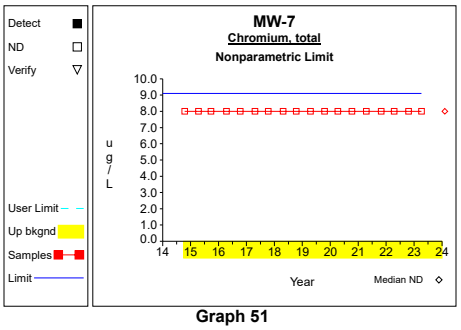
Graph 48



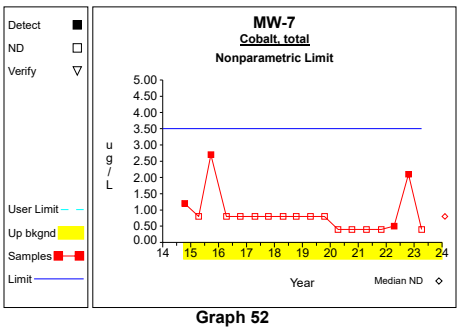
Graph 49



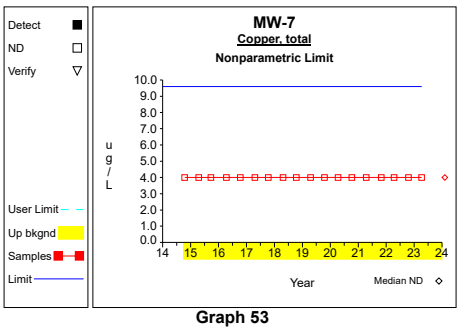
Graph 50



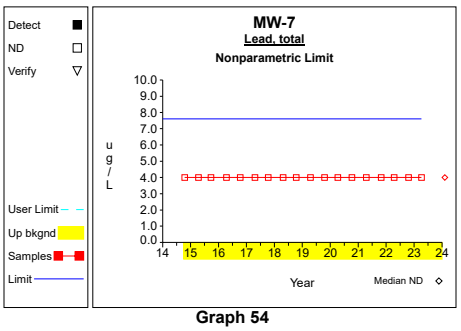
Graph 51



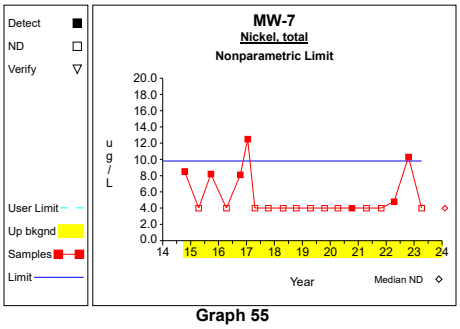
Graph 52



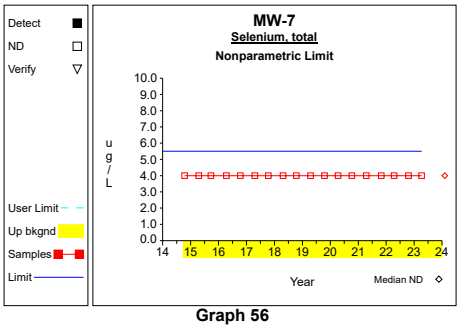
Graph 53



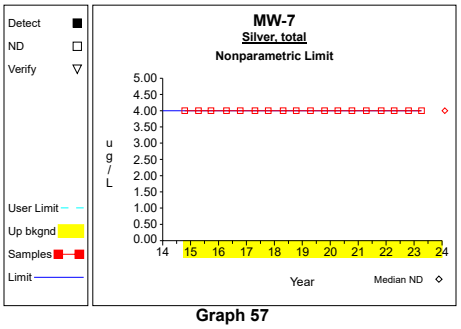
Graph 54



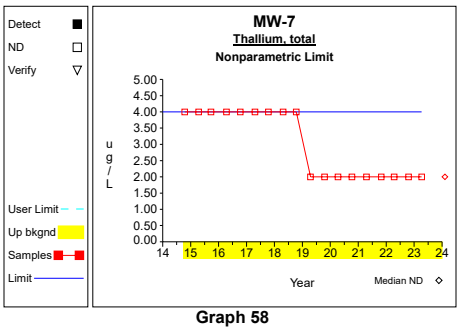
Graph 55



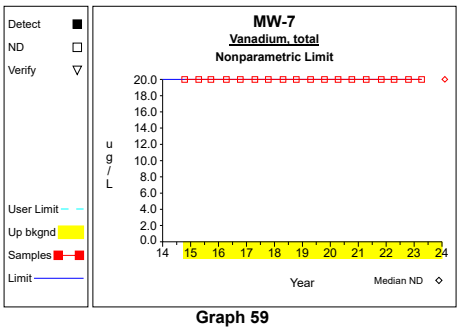
Graph 56



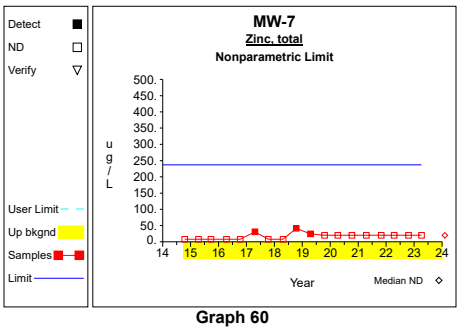
Graph 57



Graph 58



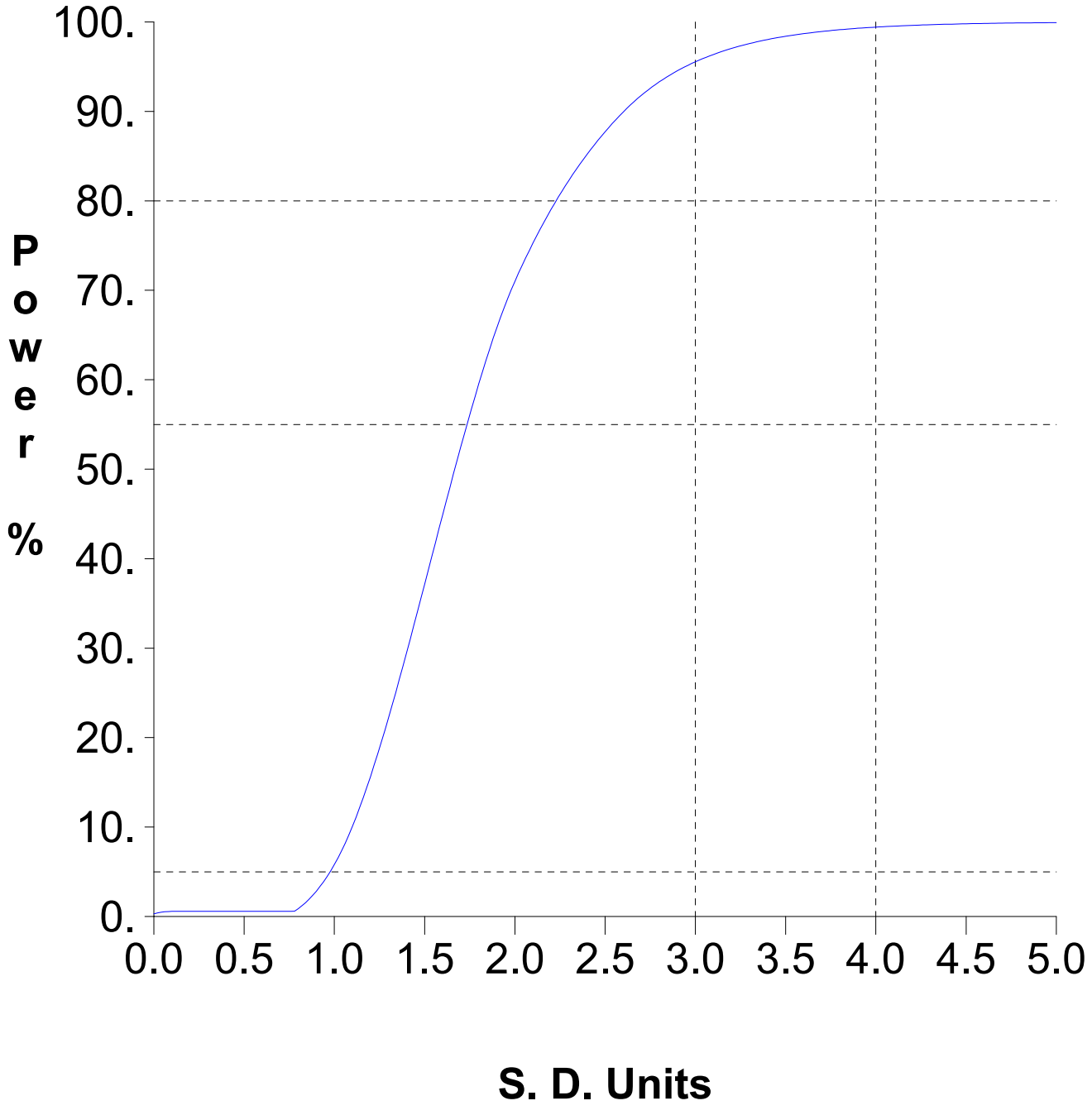
Graph 59



Graph 60

False Positive and False Negative Rates for Current

Upgradient vs. Downgradient Monitoring Program



Attachment C

Assessment Statistics

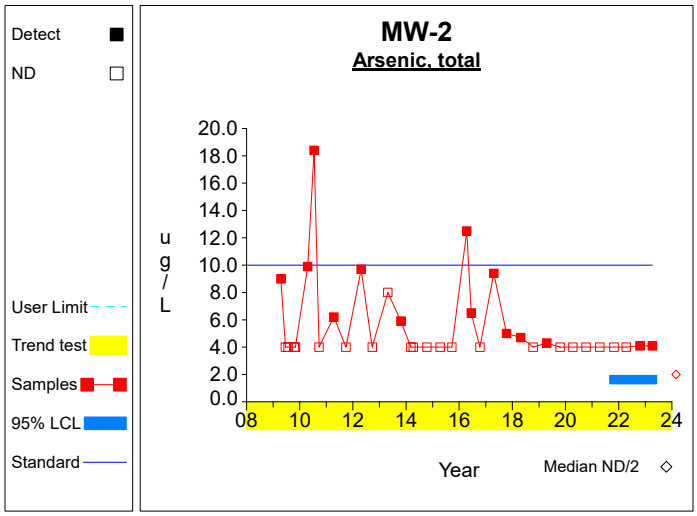
Table 1

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

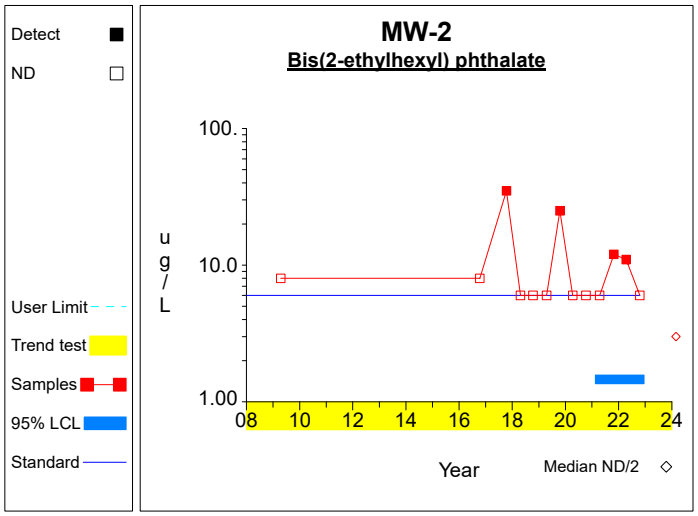
Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Arsenic, total	ug/L	MW-2	4	3.050	1.212	1.176	1.624	4.476	10.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-2	4	7.250	4.924	1.176	1.457	13.043	6.000		
Cobalt, total	ug/L	MW-2	4	3.225	1.223	1.176	1.786	4.664	2.100		
Nickel, total	ug/L	MW-2	4	2.650	1.300	1.176	1.121	4.179	100.000	dec	
Arsenic, total	ug/L	MW-3	4	2.000	0.000	1.176	2.000	2.000	10.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-3	3								*
Cobalt, total	ug/L	MW-3	4	0.400	0.000	1.176	0.400	0.400	2.100		
Nickel, total	ug/L	MW-3	4	2.000	0.000	1.176	2.000	2.000	100.000		
Arsenic, total	ug/L	MW-6	4	4.350	2.944	1.176	0.886	7.814	10.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-6	4	4.000	2.000	1.176	1.647	6.353	6.000		
Cobalt, total	ug/L	MW-6	4	1.850	1.841	1.176	0.000	4.016	2.100		
Nickel, total	ug/L	MW-6	4	2.000	0.000	1.176	2.000	2.000	100.000		
Arsenic, total	ug/L	MW-7	4	2.000	0.000	1.176	2.000	2.000	10.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-7	4	5.000	0.000	1.176	5.000	5.000	6.000		
Cobalt, total	ug/L	MW-7	4	0.850	0.835	1.176	0.000	1.832	2.100		
Nickel, total	ug/L	MW-7	4	4.775	3.913	1.176	0.173	9.377	100.000		

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

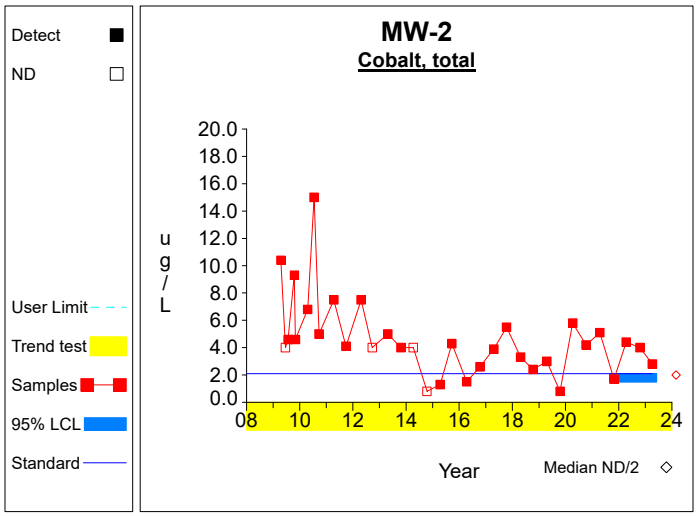
Confidence Limits (Assessment)



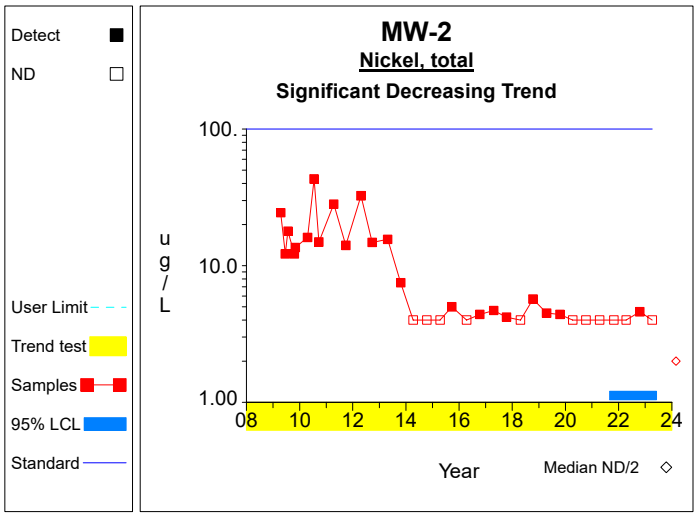
Graph 1



Graph 2

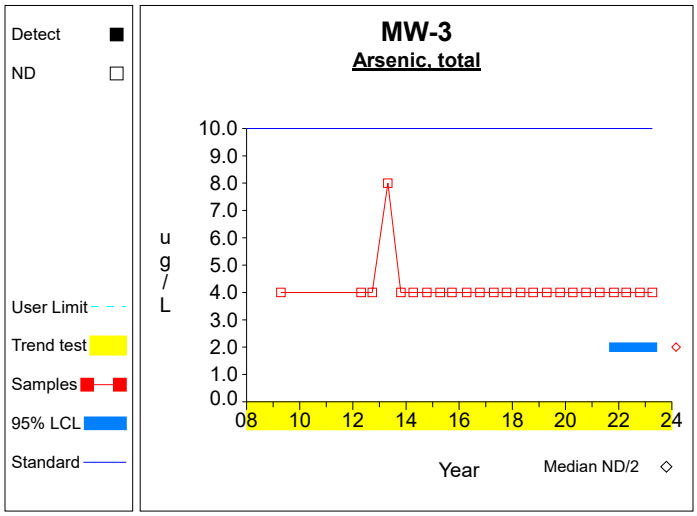


Graph 3

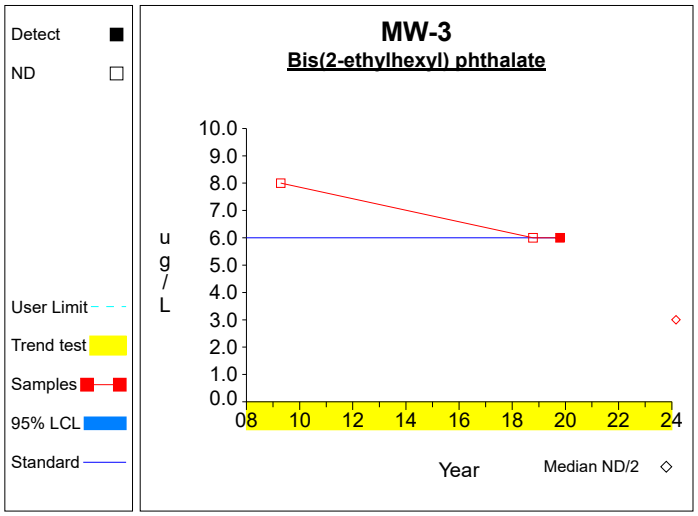


Graph 4

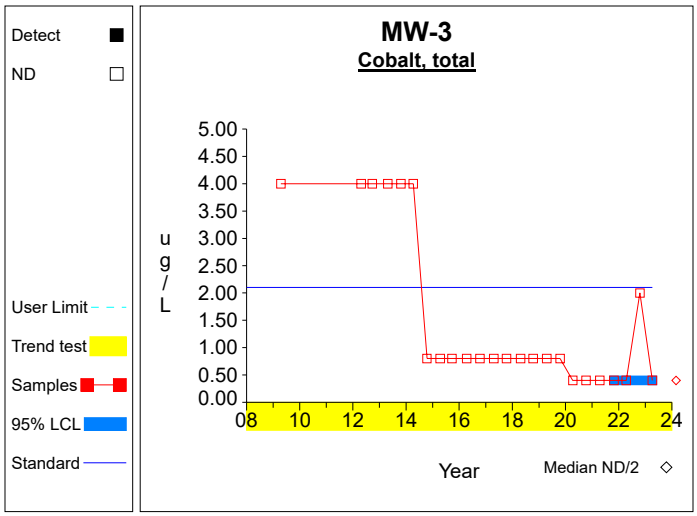
Confidence Limits (Assessment)



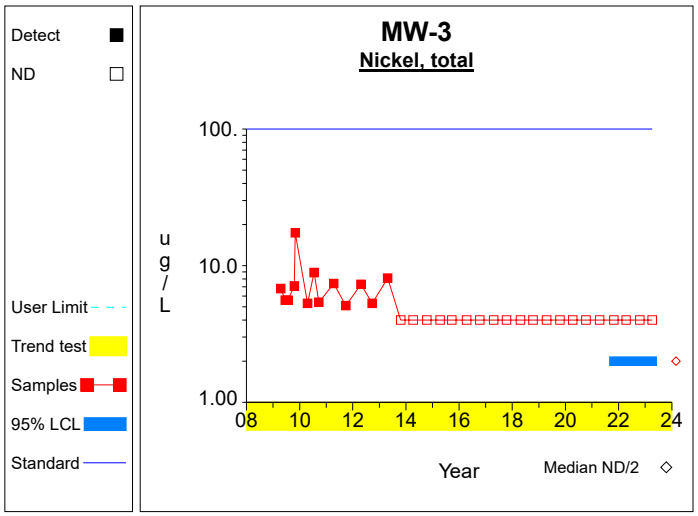
Graph 5



Graph 6

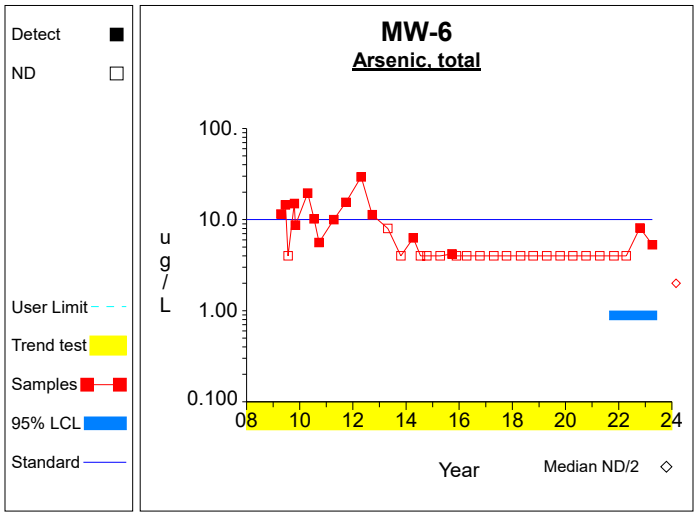


Graph 7

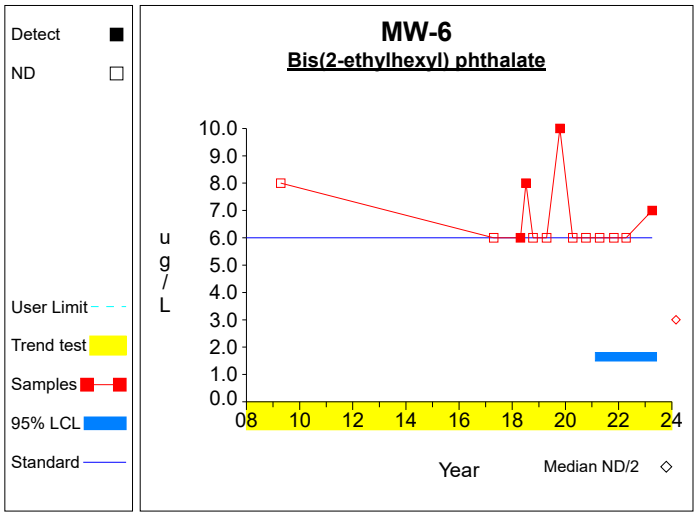


Graph 8

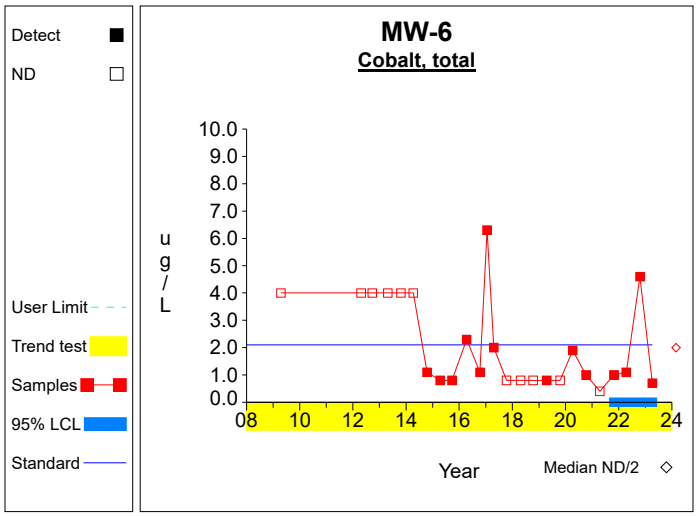
Confidence Limits (Assessment)



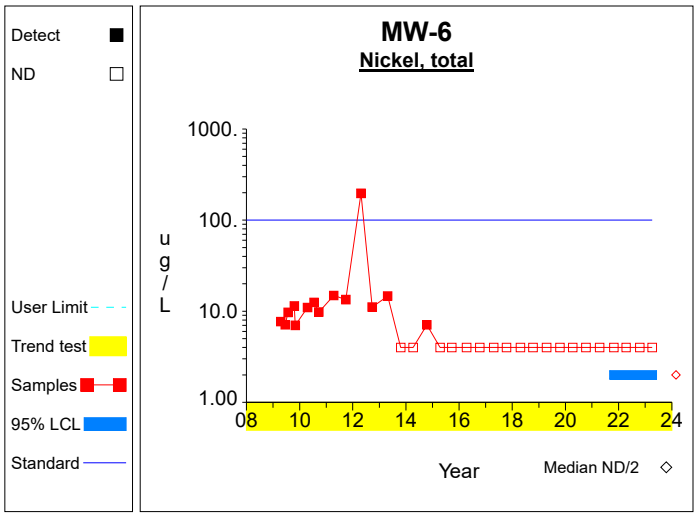
Graph 9



Graph 10

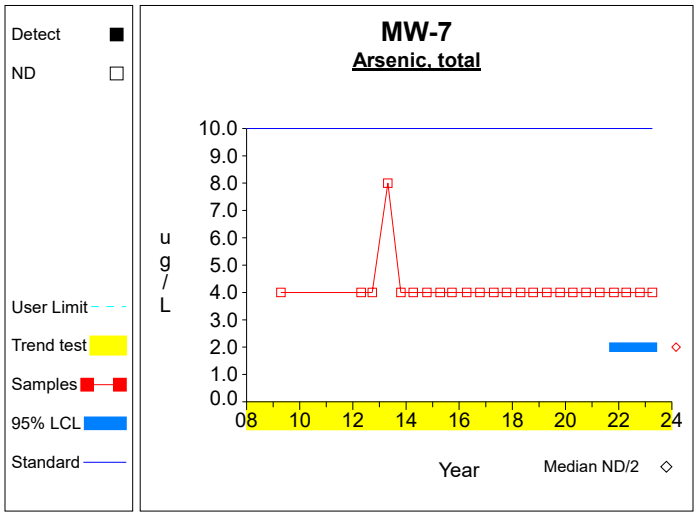


Graph 11

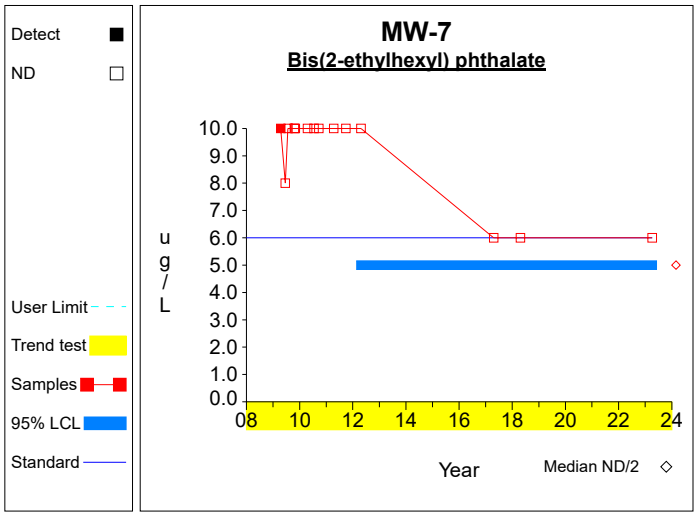


Graph 12

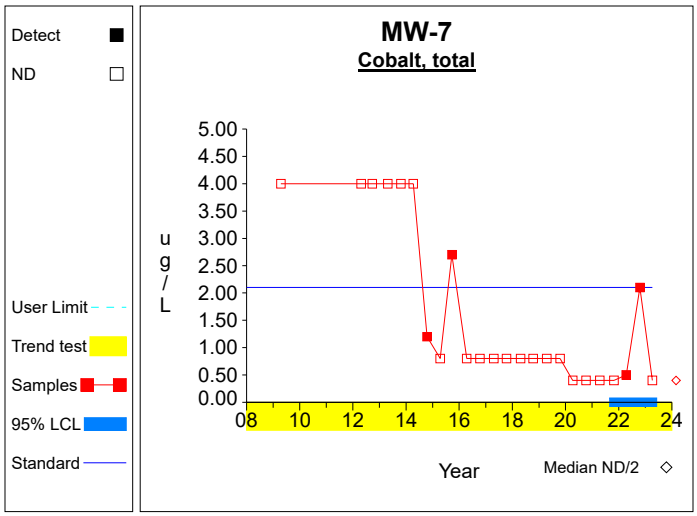
Confidence Limits (Assessment)



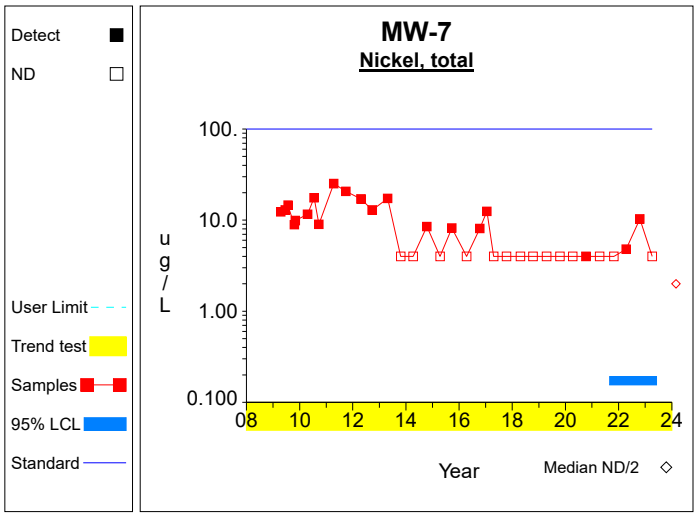
Graph 13



Graph 14



Graph 15



Graph 16

Attachment D

Historical Organic Compound Detections

Table 1

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Diethyl phthalate	MW-11	4/08/2014		8	8	ug/L
Diethyl phthalate	MW-11	4/08/2014		8	8	ug/L
Methyl parathion	MW-11	10/14/2014		2.9	.4	ug/L
Phorate	MW-11	10/14/2014		.9	.4	ug/L
Thionazin	MW-11	10/14/2014		.5	.4	ug/L
Bis(2-ethylhexyl) phthalate	MW-12	4/16/2019		16	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-12	4/09/2020		16	6	ug/L
Acetone	MW-14	5/24/2010		44.9	10.0	ug/L
Acetone	MW-14	10/12/2017		11.8	10.0	ug/L
Toluene	MW-14	5/24/2010		3.2	1.0	ug/L
Xylenes, total	MW-14	5/24/2010		4.9	2.0	ug/L
Acetone	MW-15	10/12/2017		10.8	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/21/2013		50	8	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	4/14/2015		11	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/11/2016		19	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/12/2017		15	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/12/2018		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	4/16/2019		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/17/2019		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/08/2020		8	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/28/2021		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/19/2022		19	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/12/2017		35	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/17/2019		25	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/28/2021		12	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	4/13/2022		11	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-3	10/17/2019		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-4	4/23/2018		11	6	ug/L
Acetone	MW-5	10/12/2017		12.2	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	4/23/2018		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	7/05/2018		8	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	10/17/2019		10	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	4/06/2023		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-7	4/15/2009		10	8	ug/L
Acetone	MW-9	5/24/2010		45.1	10.0	ug/L
Acetone	MW-9	10/12/2017		11.2	10.0	ug/L
Toluene	MW-9	5/24/2010		3.6	1.0	ug/L
Xylenes, total	MW-9	5/24/2010		5.6	2.0	ug/L
2-butanone (mek)	SW-1	10/12/2018		7.7	5.0	ug/L
Acetone	SW-1	4/20/2017		15.7	10.0	ug/L
Acetone	SW-1	10/12/2018		27.2	10.0	ug/L
Phorate	SW-2	10/14/2014		.4	.4	ug/L

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

Appendix B.2 – Fall Statistical Evaluation Report

GROUND WATER STATISTICS

FOR THE

FLOYD-MITCHELL-CHICKASAW COUNTIES

SANITARY LANDFILL

Second Semi-Annual Monitoring Event in 2023

Prepared for:
Floyd-Mitchell-Chickasaw Counties Solid Waste Management Agency
3354 330th Street
Mitchell County, IA

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

November 2023

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 2023 at the Floyd-Mitchell-Chickasaw Counties Sanitary Landfill near Elma, in Mitchell 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. Interwell statistics were used for comparisons of current data to background data at Floyd-Mitchell-Chickasaw Counties Sanitary Landfill. The statistical plan conforms with IAC 567, Chapter 113.10 and the USEPA statistical guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance"*, March 2009).

Ground Water Monitoring Program

The groundwater monitoring network for Floyd-Mitchell-Chickasaw Counties Sanitary Landfill includes downgradient detection sample points MW-11, MW-12, MW-15, MW-16, SW-1, and SW-2. Upgradient sample points along the western border of the Expansion Area include MW-9 and MW-14. Monitoring wells MW-4 and MW-5 were approved by the IDNR as additional background wells in the revised permit (August 2020). 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 2023 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. Both of these methods were previously applied to the Floyd-Mitchell-Chickasaw Counties Landfill data using the DUMPStat® statistical program. The Expansion Area upgradient wells have not been monitored regularly so there was insufficient background data available to do upgradient versus downgradient comparisons previously. 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 background data used in this statistical analysis includes the ground water data collected from ground water wells MW-4, MW-5,MW-9, and MW-14 during the period from October 2014 through the current data. A summary of the background data from monitoring wells MW-4, MW-5,MW-9, and MW-14, used to determine the site prediction limits, is listed in Attachment B, Table 1 “Upgradient Data”. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances.

Table 2 “Most Current Downgradient Monitoring Data”, summarizes the current data from downgradient sample points MW-11, MW-12, MW-15, and MW-16 compared to the site prediction limits. Prediction

limit exceedances are flagged with asterisks. For the second semi-annual 2023 monitoring data, there were no site prediction limit exceedances detected.

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. Barium was detected at a frequency of 50% or greater in the upgradient wells so barium was tested for normality. The remainder of the metals are rarely detected (less than 50%) in the upgradient wells so nonparametric prediction limits were used in those cases.

Table 4 summarizes the results of the Shapiro-Wilk test. The background barium data has a normal distribution 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.

Volatile Organic Compounds

Volatile Organic Compounds (VOCs) are generally man-made compounds not present in ambient ground water. If VOCs are detected above their statistical limit (i.e., the laboratory PQL or reporting limit), a verification resample will be conducted at the next scheduled sampling event. A statistical exceedance will be indicated if the VOC detection is confirmed by the subsequent monitoring. There were no VOCs detected in the ground water at Floyd-Mitchell-Chickasaw Counties Landfill during the second semi-annual monitoring event in 2023. Historical detections are summarized in Attachment C.

CONCLUSIONS

This report summarizes the statistical analyses used to evaluate the ground water data obtained during the second semi-annual monitoring event in 2023 at Floyd-Mitchell-Chickasaw Counties Landfill. The groundwater monitoring network for Floyd-Mitchell-Chickasaw Counties Sanitary Landfill includes wells MW-11, MW-12, MW-15, MW-16, SW-1, SW-2, MW-4 (upgradient), MW-5 (upgradient), MW-9 (upgradient), and MW-14 (upgradient). 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.

The ground water data obtained during the second semi-annual monitoring event in 2023 was compared to background using prediction limits. There were no site prediction limit exceedances detected. There were no VOCs detected in the ground water at Floyd-Mitchell-Chickasaw Counties Landfill during the second semi-annual monitoring event in 2023.

Attachment A

Summary of the Data obtained during the Second Semi-Annual Monitoring Event in 2023

Table 1

Analytical Data Summary for 10/10/2023

Constituents	Units	MW-11	MW-12	MW-14	MW-15	MW-16	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-9
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	ug/L	13.9	137.0	140.0	21.0	39.0	36.7	104.0	67.4	202.0	23.0	108.0	89.8
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bis(2-ethylhexyl) phthalate	ug/L										<6		
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	2.4	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.4	<.4	<.4	<.4	<.4	1.8	<.4	<.4	<.4	.5	<.4	<.4
Copper, total	ug/L	<4	<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	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4	<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	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4.0	<4.0	<4.0	9.5	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<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	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	27.4	<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-14	10/14/2014		2.5000		
Antimony, total	ug/L	MW-14	01/12/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	07/21/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	04/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-14	10/10/2023	ND	2.0000		
Arsenic, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Barium, total	ug/L	MW-14	10/14/2014		184.0000		
Barium, total	ug/L	MW-14	01/12/2015		169.0000		
Barium, total	ug/L	MW-14	04/13/2015		143.0000		
Barium, total	ug/L	MW-14	07/21/2015		141.0000		
Barium, total	ug/L	MW-14	09/23/2015		185.0000		
Barium, total	ug/L	MW-14	04/12/2016		121.0000		
Barium, total	ug/L	MW-14	10/11/2016		125.0000		
Barium, total	ug/L	MW-14	04/20/2017		140.0000		
Barium, total	ug/L	MW-14	10/12/2017		170.0000		
Barium, total	ug/L	MW-14	04/23/2018		126.0000		
Barium, total	ug/L	MW-14	10/12/2018		128.0000		
Barium, total	ug/L	MW-14	04/16/2019		114.0000		
Barium, total	ug/L	MW-14	10/17/2019		155.0000		
Barium, total	ug/L	MW-14	04/09/2020		117.0000		
Barium, total	ug/L	MW-14	10/08/2020		137.0000		
Barium, total	ug/L	MW-14	04/15/2021		120.0000		
Barium, total	ug/L	MW-14	10/28/2021		102.0000		
Barium, total	ug/L	MW-14	04/13/2022		107.0000		
Barium, total	ug/L	MW-14	10/19/2022		133.0000		
Barium, total	ug/L	MW-14	04/06/2023		117.0000		
Barium, total	ug/L	MW-14	10/10/2023		140.0000		
Beryllium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2018	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	
Beryllium, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Cadmium, total	ug/L	MW-14	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-14	01/12/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	07/21/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/23/2018		5.3000		
Cadmium, total	ug/L	MW-14	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/10/2023	ND	0.8000		
Chromium, total	ug/L	MW-14	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-14	01/12/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	07/21/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	04/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-14	10/10/2023	ND	8.0000		
Cobalt, total	ug/L	MW-14	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-14	01/12/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	07/21/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-14	04/06/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/10/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-14	10/14/2014	ND	4.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Copper, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Copper, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-14	10/19/2022		7.0000		
Copper, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Copper, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Lead, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Lead, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Lead, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Nickel, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	04/13/2015		5.1000		
Selenium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-14	10/11/2016		5.5000		
Selenium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	04/16/2019	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	
Selenium, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-14	10/19/2022		5.5000		
Selenium, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Silver, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Silver, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Silver, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Thallium, total	ug/L	MW-14	10/14/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	01/12/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/13/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	07/21/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	09/23/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/12/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/11/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/20/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/23/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/12/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/16/2019	ND	2.0000		
Thallium, total	ug/L	MW-14	10/17/2019	ND	2.0000		
Thallium, total	ug/L	MW-14	04/09/2020	ND	2.0000		
Thallium, total	ug/L	MW-14	10/08/2020	ND	2.0000		
Thallium, total	ug/L	MW-14	04/15/2021	ND	2.0000		
Thallium, total	ug/L	MW-14	10/28/2021	ND	2.0000		
Thallium, total	ug/L	MW-14	04/13/2022	ND	2.0000		
Thallium, total	ug/L	MW-14	10/19/2022	ND	2.0000		
Thallium, total	ug/L	MW-14	04/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-14	10/10/2023	ND	2.0000		
Vanadium, total	ug/L	MW-14	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-14	01/12/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	07/21/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/10/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	10/14/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	01/12/2015	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 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-14	04/13/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	07/21/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	09/23/2015	ND	20.0000		
Zinc, total	ug/L	MW-14	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/20/2017	ND	20.0000		
Zinc, total	ug/L	MW-14	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/23/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/12/2018		16.1000		
Zinc, total	ug/L	MW-14	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-14	10/17/2019	ND	20.0000		
Zinc, total	ug/L	MW-14	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	10/10/2023	ND	20.0000		
Antimony, total	ug/L	MW-4	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-4	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-4	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-4	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-4	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-4	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-4	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-4	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-4	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-4	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-4	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-4	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-4	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-4	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-4	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-4	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-4	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-4	04/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-4	10/10/2023	ND	2.0000		
Arsenic, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/06/2023		4.5000		
Arsenic, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Barium, total	ug/L	MW-4	10/14/2014		141.0000		
Barium, total	ug/L	MW-4	04/13/2015		103.0000		
Barium, total	ug/L	MW-4	09/23/2015		92.5000		
Barium, total	ug/L	MW-4	04/12/2016		66.2000		
Barium, total	ug/L	MW-4	10/11/2016		77.7000		
Barium, total	ug/L	MW-4	04/20/2017		128.0000		
Barium, total	ug/L	MW-4	10/12/2017		83.8000		
Barium, total	ug/L	MW-4	04/23/2018		116.0000		
Barium, total	ug/L	MW-4	10/12/2018		111.0000		
Barium, total	ug/L	MW-4	04/16/2019		71.2000		
Barium, total	ug/L	MW-4	10/17/2019		137.0000		
Barium, total	ug/L	MW-4	04/09/2020		65.3000		
Barium, total	ug/L	MW-4	10/08/2020		75.2000		
Barium, total	ug/L	MW-4	04/15/2021		49.6000		
Barium, total	ug/L	MW-4	10/28/2021		73.2000		
Barium, total	ug/L	MW-4	04/13/2022		63.6000		
Barium, total	ug/L	MW-4	10/19/2022		81.8000		

* - 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	
Barium, total	ug/L	MW-4	04/06/2023		162.0000		
Barium, total	ug/L	MW-4	10/10/2023		67.4000		
Beryllium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Cadmium, total	ug/L	MW-4	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-4	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/10/2023	ND	0.8000		
Chromium, total	ug/L	MW-4	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-4	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-4	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-4	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-4	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-4	04/20/2017		9.1000		
Chromium, total	ug/L	MW-4	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-4	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-4	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-4	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-4	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-4	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-4	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-4	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-4	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-4	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-4	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-4	04/06/2023		8.3000		
Chromium, total	ug/L	MW-4	10/10/2023	ND	8.0000		
Cobalt, total	ug/L	MW-4	10/14/2014		2.1000		
Cobalt, total	ug/L	MW-4	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-4	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-4	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/20/2017		3.3000		
Cobalt, total	ug/L	MW-4	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/23/2018		2.8000		
Cobalt, total	ug/L	MW-4	10/12/2018		1.4000		
Cobalt, total	ug/L	MW-4	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-4	10/17/2019		2.0000		
Cobalt, total	ug/L	MW-4	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/28/2021	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	
Cobalt, total	ug/L	MW-4	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-4	04/06/2023		3.5000		
Cobalt, total	ug/L	MW-4	10/10/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-4	10/14/2014		6.1000		
Copper, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-4	04/20/2017		5.5000		
Copper, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-4	10/17/2019		4.3000		
Copper, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-4	04/06/2023		9.1000		
Copper, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Lead, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-4	04/06/2023		7.6000		
Lead, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Nickel, total	ug/L	MW-4	10/14/2014		6.2000		
Nickel, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Nickel, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Nickel, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-4	04/20/2017		9.5000		
Nickel, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-4	04/23/2018		4.5000		
Nickel, total	ug/L	MW-4	10/12/2018		4.7000		
Nickel, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-4	10/17/2019		6.0000		
Nickel, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-4	04/06/2023		9.8000		
Nickel, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Selenium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Selenium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-4	10/08/2020	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	
Selenium, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Silver, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Thallium, total	ug/L	MW-4	10/14/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/13/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	09/23/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/12/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	10/11/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/20/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/23/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	10/12/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/16/2019	ND	2.0000		
Thallium, total	ug/L	MW-4	10/17/2019	ND	2.0000		
Thallium, total	ug/L	MW-4	04/09/2020	ND	2.0000		
Thallium, total	ug/L	MW-4	10/08/2020	ND	2.0000		
Thallium, total	ug/L	MW-4	04/15/2021	ND	2.0000		
Thallium, total	ug/L	MW-4	10/28/2021	ND	2.0000		
Thallium, total	ug/L	MW-4	04/13/2022	ND	2.0000		
Thallium, total	ug/L	MW-4	10/19/2022	ND	2.0000		
Thallium, total	ug/L	MW-4	04/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-4	10/10/2023	ND	2.0000		
Vanadium, total	ug/L	MW-4	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-4	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/10/2023	ND	20.0000		
Zinc, total	ug/L	MW-4	10/14/2014		40.0000		
Zinc, total	ug/L	MW-4	01/12/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	04/13/2015		12.4000		
Zinc, total	ug/L	MW-4	09/23/2015		10.3000		
Zinc, total	ug/L	MW-4	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	10/11/2016		11.9000		
Zinc, total	ug/L	MW-4	01/17/2017		58.9000		
Zinc, total	ug/L	MW-4	04/20/2017		57.6000		
Zinc, total	ug/L	MW-4	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	04/23/2018		159.0000		
Zinc, total	ug/L	MW-4	10/12/2018		237.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-4	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-4	10/17/2019		130.0000		
Zinc, total	ug/L	MW-4	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-4	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-4	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-4	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-4	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-4	10/19/2022		216.0000		
Zinc, total	ug/L	MW-4	04/06/2023		627.0000		*
Zinc, total	ug/L	MW-4	10/10/2023	ND	20.0000		
Antimony, total	ug/L	MW-5	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-5	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-5	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-5	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-5	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-5	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-5	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-5	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-5	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-5	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-5	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-5	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-5	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-5	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-5	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-5	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-5	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-5	04/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-5	10/10/2023	ND	2.0000		
Arsenic, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Barium, total	ug/L	MW-5	10/14/2014		251.0000		
Barium, total	ug/L	MW-5	04/13/2015		272.0000		
Barium, total	ug/L	MW-5	09/23/2015		330.0000		
Barium, total	ug/L	MW-5	11/24/2015		328.0000		
Barium, total	ug/L	MW-5	04/12/2016		167.0000		
Barium, total	ug/L	MW-5	10/11/2016		262.0000		
Barium, total	ug/L	MW-5	04/20/2017		338.0000		
Barium, total	ug/L	MW-5	10/12/2017		276.0000		
Barium, total	ug/L	MW-5	04/23/2018		206.0000		
Barium, total	ug/L	MW-5	10/12/2018		212.0000		
Barium, total	ug/L	MW-5	04/16/2019		193.0000		
Barium, total	ug/L	MW-5	10/17/2019		296.0000		
Barium, total	ug/L	MW-5	04/09/2020		268.0000		
Barium, total	ug/L	MW-5	10/08/2020		268.0000		
Barium, total	ug/L	MW-5	04/15/2021		71.8000		*
Barium, total	ug/L	MW-5	10/28/2021		175.0000		
Barium, total	ug/L	MW-5	04/13/2022		180.0000		
Barium, total	ug/L	MW-5	10/19/2022		250.0000		
Barium, total	ug/L	MW-5	04/06/2023		206.0000		
Barium, total	ug/L	MW-5	10/10/2023		202.0000		
Beryllium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/20/2017	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-5	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Cadmium, total	ug/L	MW-5	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-5	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/06/2023		1.1000		
Cadmium, total	ug/L	MW-5	10/10/2023	ND	0.8000		
Chromium, total	ug/L	MW-5	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-5	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-5	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-5	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-5	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-5	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-5	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-5	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-5	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-5	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-5	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-5	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-5	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-5	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-5	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-5	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-5	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-5	04/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-5	10/10/2023	ND	8.0000		
Cobalt, total	ug/L	MW-5	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-5	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/09/2020		3.4000		
Cobalt, total	ug/L	MW-5	10/08/2020		0.6000		
Cobalt, total	ug/L	MW-5	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-5	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-5	04/13/2022		0.4000		
Cobalt, total	ug/L	MW-5	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-5	04/06/2023		2.7000		
Cobalt, total	ug/L	MW-5	10/10/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Copper, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-5	04/12/2016	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-5	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-5	04/06/2023		9.6000		
Copper, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Lead, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-5	04/06/2023		6.2000		
Lead, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Nickel, total	ug/L	MW-5	10/14/2014		5.9000		
Nickel, total	ug/L	MW-5	04/13/2015		6.3000		
Nickel, total	ug/L	MW-5	09/23/2015		5.7000		
Nickel, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-5	04/09/2020		6.8000		
Nickel, total	ug/L	MW-5	10/08/2020		6.6000		
Nickel, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-5	10/19/2022		5.4000		
Nickel, total	ug/L	MW-5	04/06/2023		13.1000		*
Nickel, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Selenium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Selenium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Silver, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-5	04/13/2015	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	
Silver, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Thallium, total	ug/L	MW-5	10/14/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/13/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	09/23/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/12/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	10/11/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/20/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/23/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	10/12/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/16/2019	ND	2.0000		
Thallium, total	ug/L	MW-5	10/17/2019	ND	2.0000		
Thallium, total	ug/L	MW-5	04/09/2020	ND	2.0000		
Thallium, total	ug/L	MW-5	10/08/2020	ND	2.0000		
Thallium, total	ug/L	MW-5	04/15/2021	ND	2.0000		
Thallium, total	ug/L	MW-5	10/28/2021	ND	2.0000		
Thallium, total	ug/L	MW-5	04/13/2022	ND	2.0000		
Thallium, total	ug/L	MW-5	10/19/2022	ND	2.0000		
Thallium, total	ug/L	MW-5	04/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-5	10/10/2023	ND	2.0000		
Vanadium, total	ug/L	MW-5	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-5	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/10/2023	ND	20.0000		
Zinc, total	ug/L	MW-5	10/14/2014		24.7000		
Zinc, total	ug/L	MW-5	04/13/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	09/23/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/20/2017		16.5000		
Zinc, total	ug/L	MW-5	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/23/2018		15.2000		
Zinc, total	ug/L	MW-5	10/12/2018		20.3000		
Zinc, total	ug/L	MW-5	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-5	10/17/2019		83.1000		*
Zinc, total	ug/L	MW-5	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-5	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-5	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-5	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-5	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-5	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-5	04/06/2023		411.0000		*
Zinc, total	ug/L	MW-5	10/10/2023	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	
Antimony, total	ug/L	MW-9	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-9	01/12/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	04/14/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	07/21/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	09/22/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-9	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-9	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-9	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-9	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-9	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-9	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-9	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-9	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-9	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-9	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-9	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-9	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-9	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-9	04/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-9	10/10/2023	ND	2.0000		
Arsenic, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Barium, total	ug/L	MW-9	10/14/2014		114.0000		
Barium, total	ug/L	MW-9	01/12/2015		115.0000		
Barium, total	ug/L	MW-9	04/14/2015		138.0000		
Barium, total	ug/L	MW-9	07/21/2015		111.0000		
Barium, total	ug/L	MW-9	09/22/2015		114.0000		
Barium, total	ug/L	MW-9	04/12/2016		99.2000		
Barium, total	ug/L	MW-9	10/11/2016		106.0000		
Barium, total	ug/L	MW-9	04/20/2017		116.0000		
Barium, total	ug/L	MW-9	10/12/2017		105.0000		
Barium, total	ug/L	MW-9	04/23/2018		110.0000		
Barium, total	ug/L	MW-9	10/12/2018		106.0000		
Barium, total	ug/L	MW-9	04/16/2019		106.0000		
Barium, total	ug/L	MW-9	10/17/2019		113.0000		
Barium, total	ug/L	MW-9	04/09/2020		93.9000		
Barium, total	ug/L	MW-9	10/08/2020		98.7000		
Barium, total	ug/L	MW-9	04/15/2021		93.2000		
Barium, total	ug/L	MW-9	10/28/2021		91.9000		
Barium, total	ug/L	MW-9	04/13/2022		105.0000		
Barium, total	ug/L	MW-9	10/19/2022		102.0000		
Barium, total	ug/L	MW-9	04/06/2023		96.1000		
Barium, total	ug/L	MW-9	10/10/2023		89.8000		
Beryllium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/12/2018	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	
Beryllium, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Cadmium, total	ug/L	MW-9	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-9	01/12/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/14/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	07/21/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	09/22/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/16/2019		1.2000		
Cadmium, total	ug/L	MW-9	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/19/2022		1.3000		
Cadmium, total	ug/L	MW-9	04/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/10/2023	ND	0.8000		
Chromium, total	ug/L	MW-9	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-9	01/12/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	04/14/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	07/21/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	09/22/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-9	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-9	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-9	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-9	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-9	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-9	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-9	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-9	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-9	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-9	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-9	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-9	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-9	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-9	04/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-9	10/10/2023	ND	8.0000		
Cobalt, total	ug/L	MW-9	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-9	01/12/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/14/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	07/21/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	09/22/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-9	04/06/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/10/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-9	10/14/2014	ND	4.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Copper, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Copper, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Copper, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Copper, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Copper, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Copper, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Lead, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Lead, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Lead, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Lead, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Lead, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Lead, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Nickel, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Nickel, total	ug/L	MW-9	01/12/2015		4.0000		
Nickel, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-9	10/28/2021		4.2000		
Nickel, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Selenium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-9	04/16/2019	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	
Selenium, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Silver, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Silver, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Silver, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Silver, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Silver, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Thallium, total	ug/L	MW-9	10/14/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	01/12/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/14/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	07/21/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	09/22/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/12/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	10/11/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/20/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/23/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	10/12/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/16/2019	ND	2.0000		
Thallium, total	ug/L	MW-9	10/17/2019	ND	2.0000		
Thallium, total	ug/L	MW-9	04/09/2020	ND	2.0000		
Thallium, total	ug/L	MW-9	10/08/2020	ND	2.0000		
Thallium, total	ug/L	MW-9	04/15/2021	ND	2.0000		
Thallium, total	ug/L	MW-9	10/28/2021	ND	2.0000		
Thallium, total	ug/L	MW-9	04/13/2022	ND	2.0000		
Thallium, total	ug/L	MW-9	10/19/2022	ND	2.0000		
Thallium, total	ug/L	MW-9	04/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-9	10/10/2023	ND	2.0000		
Vanadium, total	ug/L	MW-9	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-9	01/12/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/14/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	07/21/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	09/22/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/10/2023	ND	20.0000		
Zinc, total	ug/L	MW-9	10/14/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	01/12/2015	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 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-9	04/14/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	07/21/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	09/23/2015	ND	20.0000		
Zinc, total	ug/L	MW-9	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/20/2017	ND	20.0000		
Zinc, total	ug/L	MW-9	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/23/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	10/12/2018		9.0000		
Zinc, total	ug/L	MW-9	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-9	10/17/2019		29.9000		
Zinc, total	ug/L	MW-9	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-9	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-9	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-9	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-9	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-9	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-9	04/06/2023		21.3000		
Zinc, total	ug/L	MW-9	10/10/2023	ND	20.0000		

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

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result	Pred. Limit
Antimony, total	ug/L	MW-11	10/10/2023	ND	2.0000	2.5000
Arsenic, total	ug/L	MW-11	10/10/2023	ND	4.0000	4.5000
Barium, total	ug/L	MW-11	10/10/2023		13.9000	306.4367
Beryllium, total	ug/L	MW-11	10/10/2023	ND	4.0000	4.0000
Cadmium, total	ug/L	MW-11	10/10/2023	ND	0.8000	5.3000
Chromium, total	ug/L	MW-11	10/10/2023	ND	8.0000	9.1000
Cobalt, total	ug/L	MW-11	10/10/2023	ND	0.4000	3.5000
Copper, total	ug/L	MW-11	10/10/2023	ND	4.0000	9.6000
Lead, total	ug/L	MW-11	10/10/2023	ND	4.0000	7.6000
Nickel, total	ug/L	MW-11	10/10/2023	ND	4.0000	9.8000
Selenium, total	ug/L	MW-11	10/10/2023	ND	4.0000	5.5000
Silver, total	ug/L	MW-11	10/10/2023	ND	4.0000	4.0000
Thallium, total	ug/L	MW-11	10/10/2023	ND	2.0000	2.0000
Vanadium, total	ug/L	MW-11	10/10/2023	ND	20.0000	20.0000
Zinc, total	ug/L	MW-11	10/10/2023	ND	20.0000	237.0000
Antimony, total	ug/L	MW-12	10/10/2023	ND	2.0000	2.5000
Arsenic, total	ug/L	MW-12	10/10/2023	ND	4.0000	4.5000
Barium, total	ug/L	MW-12	10/10/2023		137.0000	306.4367
Beryllium, total	ug/L	MW-12	10/10/2023	ND	4.0000	4.0000
Cadmium, total	ug/L	MW-12	10/10/2023	ND	0.8000	5.3000
Chromium, total	ug/L	MW-12	10/10/2023	ND	8.0000	9.1000
Cobalt, total	ug/L	MW-12	10/10/2023	ND	0.4000	3.5000
Copper, total	ug/L	MW-12	10/10/2023	ND	4.0000	9.6000
Lead, total	ug/L	MW-12	10/10/2023	ND	4.0000	7.6000
Nickel, total	ug/L	MW-12	10/10/2023	ND	4.0000	9.8000
Selenium, total	ug/L	MW-12	10/10/2023	ND	4.0000	5.5000
Silver, total	ug/L	MW-12	10/10/2023	ND	4.0000	4.0000
Thallium, total	ug/L	MW-12	10/10/2023	ND	2.0000	2.0000
Vanadium, total	ug/L	MW-12	10/10/2023	ND	20.0000	20.0000
Zinc, total	ug/L	MW-12	10/10/2023	ND	20.0000	237.0000
Antimony, total	ug/L	MW-15	10/10/2023	ND	2.0000	2.5000
Arsenic, total	ug/L	MW-15	10/10/2023	ND	4.0000	4.5000
Barium, total	ug/L	MW-15	10/10/2023		21.0000	306.4367
Beryllium, total	ug/L	MW-15	10/10/2023	ND	4.0000	4.0000
Cadmium, total	ug/L	MW-15	10/10/2023		2.4000	5.3000
Chromium, total	ug/L	MW-15	10/10/2023	ND	8.0000	9.1000
Cobalt, total	ug/L	MW-15	10/10/2023	ND	0.4000	3.5000
Copper, total	ug/L	MW-15	10/10/2023	ND	4.0000	9.6000
Lead, total	ug/L	MW-15	10/10/2023	ND	4.0000	7.6000
Nickel, total	ug/L	MW-15	10/10/2023		9.5000	9.8000
Selenium, total	ug/L	MW-15	10/10/2023	ND	4.0000	5.5000
Silver, total	ug/L	MW-15	10/10/2023	ND	4.0000	4.0000
Thallium, total	ug/L	MW-15	10/10/2023	ND	2.0000	2.0000
Vanadium, total	ug/L	MW-15	10/10/2023	ND	20.0000	20.0000
Zinc, total	ug/L	MW-15	10/10/2023	ND	20.0000	237.0000
Antimony, total	ug/L	MW-16	10/10/2023	ND	2.0000	2.5000
Arsenic, total	ug/L	MW-16	10/10/2023	ND	4.0000	4.5000
Barium, total	ug/L	MW-16	10/10/2023		39.0000	306.4367
Beryllium, total	ug/L	MW-16	10/10/2023	ND	4.0000	4.0000
Cadmium, total	ug/L	MW-16	10/10/2023	ND	0.8000	5.3000
Chromium, total	ug/L	MW-16	10/10/2023	ND	8.0000	9.1000
Cobalt, total	ug/L	MW-16	10/10/2023	ND	0.4000	3.5000
Copper, total	ug/L	MW-16	10/10/2023	ND	4.0000	9.6000
Lead, total	ug/L	MW-16	10/10/2023	ND	4.0000	7.6000
Nickel, total	ug/L	MW-16	10/10/2023	ND	4.0000	9.8000
Selenium, total	ug/L	MW-16	10/10/2023	ND	4.0000	5.5000
Silver, total	ug/L	MW-16	10/10/2023	ND	4.0000	4.0000
Thallium, total	ug/L	MW-16	10/10/2023	ND	2.0000	2.0000
Vanadium, total	ug/L	MW-16	10/10/2023	ND	20.0000	20.0000
Zinc, total	ug/L	MW-16	10/10/2023	ND	20.0000	237.0000

* - 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 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, total	1	80	0.013	2	102	0.020
Arsenic, total	1	80	0.013	7	103	0.068
Barium, total	80	80	1.000	102	102	1.000
Beryllium, total	0	80	0.000	0	102	0.000
Cadmium, total	4	80	0.050	11	103	0.107
Chromium, total	2	80	0.025	12	102	0.118
Cobalt, total	10	80	0.125	22	102	0.216
Copper, total	6	80	0.075	32	103	0.311
Lead, total	2	80	0.025	19	102	0.186
Nickel, total	14	79	0.177	43	105	0.410
Selenium, total	3	80	0.038	4	102	0.039
Silver, total	0	80	0.000	0	102	0.000
Thallium, total	0	80	0.000	3	102	0.029
Vanadium, total	0	80	0.000	7	102	0.069
Zinc, total	18	79	0.228	41	104	0.394

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	1	80	0.013									nonpar
Arsenic, total	1	80	0.013									nonpar
Barium, total	80	80	1.000	2.316	0.720					2.326	normal	normal
Beryllium, total	0	80	0.000									nonpar
Cadmium, total	4	80	0.050									nonpar
Chromium, total	2	80	0.025									nonpar
Cobalt, total	10	80	0.125	0.132	0.200					2.326	normal	nonpar
Copper, total	6	80	0.075	0.105	0.895					2.326	normal	nonpar
Lead, total	2	80	0.025									nonpar
Nickel, total	14	79	0.177	0.124	0.164					2.326	normal	nonpar
Selenium, total	3	80	0.038	0.495	0.495					2.326	normal	nonpar
Silver, total	0	80	0.000									nonpar
Thallium, total	0	80	0.000									nonpar
Vanadium, total	0	80	0.000									nonpar
Zinc, total	18	79	0.228	0.132	0.220					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	1	80					2.5000	nonpar		0.99
Arsenic, total	ug/L	1	80					4.5000	nonpar		0.99
Barium, total	ug/L	80	80	144.2913	67.8642	0.0100	2.3893	306.4367	normal		
Beryllium, total	ug/L	0	80					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	4	80					5.3000	nonpar		0.99
Chromium, total	ug/L	2	80					9.1000	nonpar		0.99
Cobalt, total	ug/L	10	80					3.5000	nonpar		0.99
Copper, total	ug/L	6	80					9.6000	nonpar		0.99
Lead, total	ug/L	2	80					7.6000	nonpar		0.99
Nickel, total	ug/L	14	79					9.8000	nonpar		0.99
Selenium, total	ug/L	3	80					5.5000	nonpar		0.99
Silver, total	ug/L	0	80					4.0000	nonpar	***	0.99
Thallium, total	ug/L	0	80					2.0000	nonpar	***	0.99
Vanadium, total	ug/L	0	80					20.0000	nonpar	***	0.99
Zinc, total	ug/L	18	79					237.0000	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.

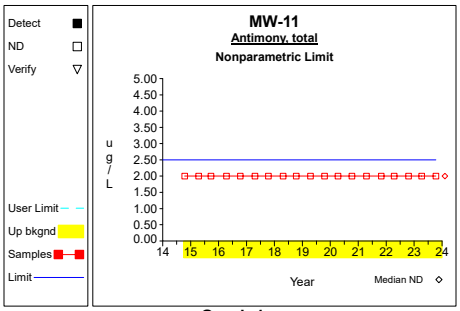
Table 6

Dixon's Test Outliers
1% Significance Level

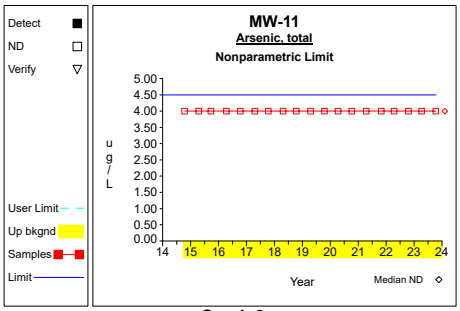
Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Barium, total	ug/L	MW-5	04/15/2021	71.8000		10/14/2014-10/10/2023	20	0.5381
Nickel, total	ug/L	MW-5	04/06/2023	13.1000		10/14/2014-10/10/2023	19	0.5503
Zinc, total	ug/L	MW-5	10/17/2019	83.1000		10/14/2014-10/10/2023	19	0.5643
Zinc, total	ug/L	MW-5	04/06/2023	411.0000		10/14/2014-10/10/2023	19	0.5643

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.

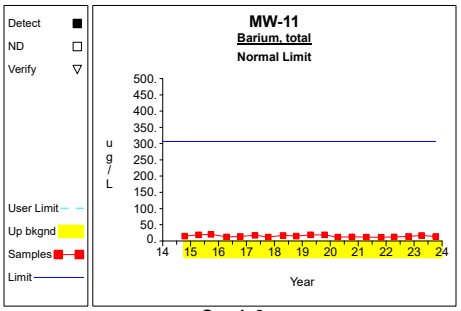
Up vs. Down Prediction Limits



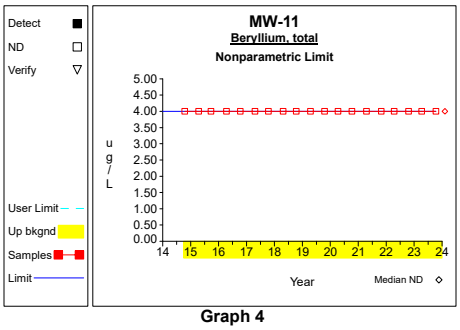
Graph 1



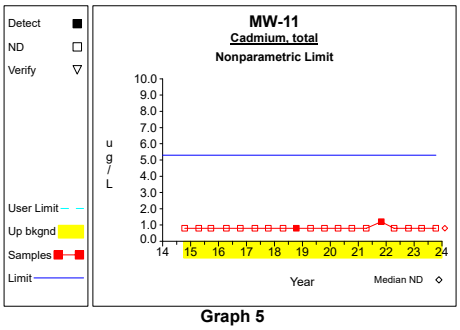
Graph 2



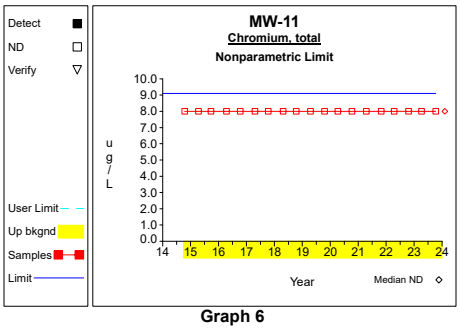
Graph 3



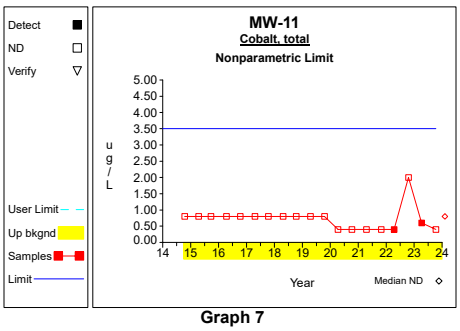
Graph 4



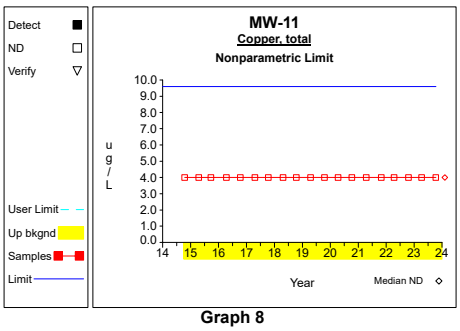
Graph 5



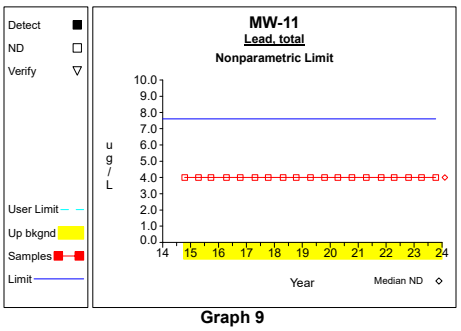
Graph 6



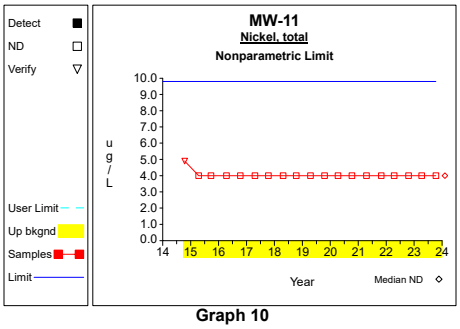
Graph 7



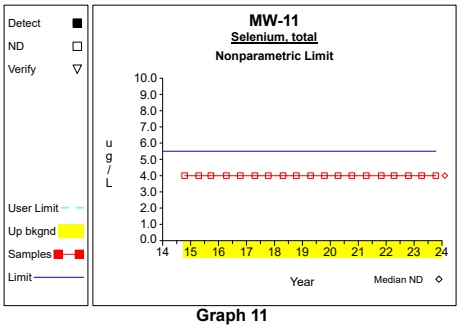
Graph 8



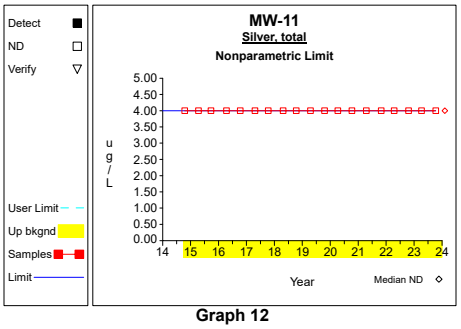
Graph 9



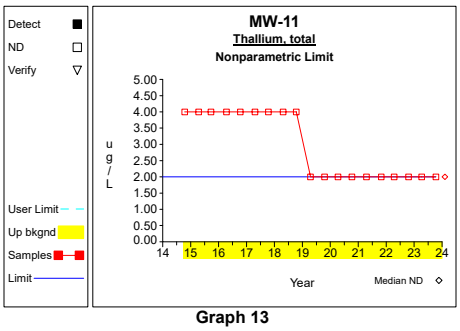
Graph 10



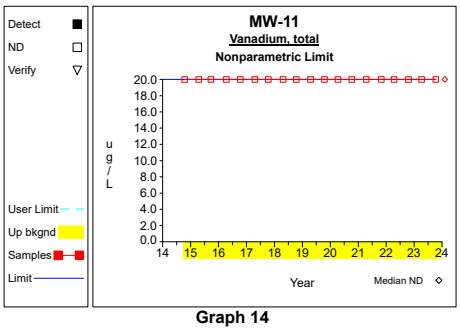
Graph 11



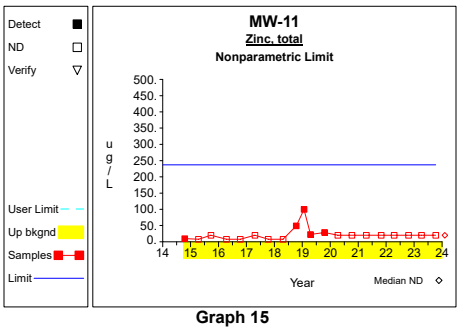
Graph 12



Graph 13

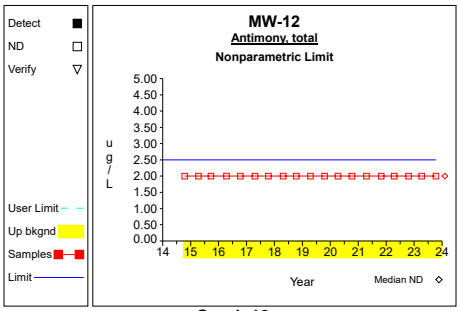


Graph 14

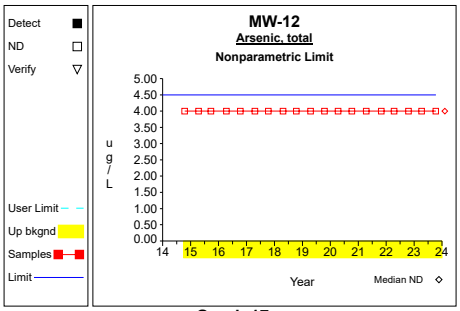


Graph 15

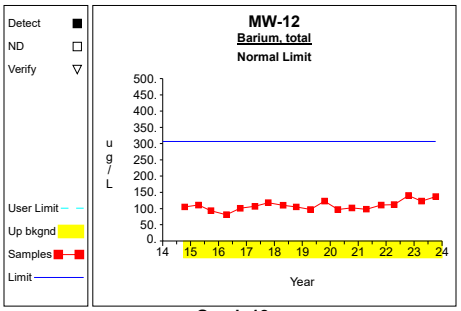
Up vs. Down Prediction Limits



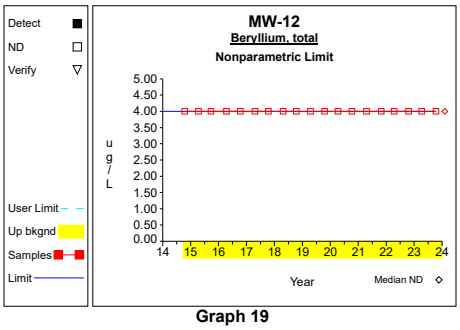
Graph 16



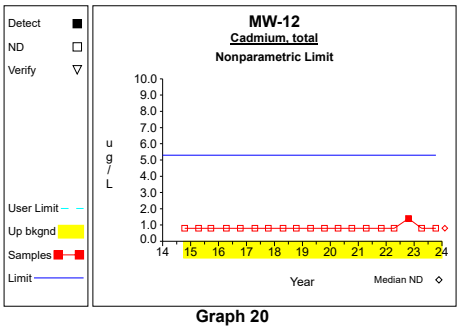
Graph 17



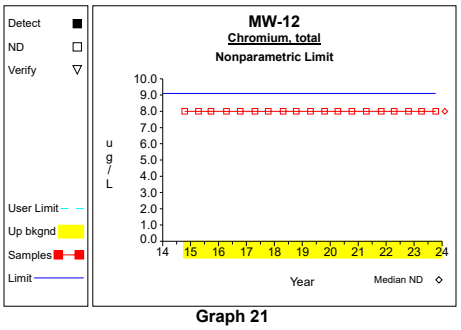
Graph 18



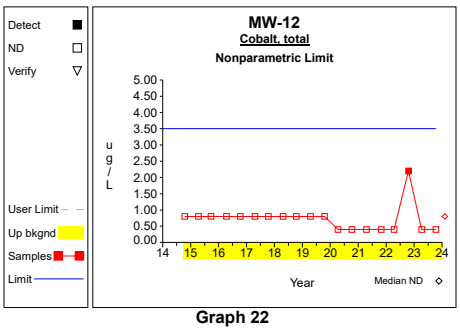
Graph 19



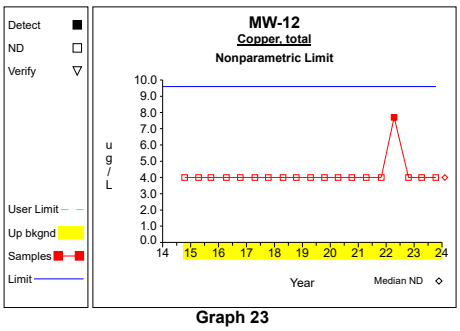
Graph 20



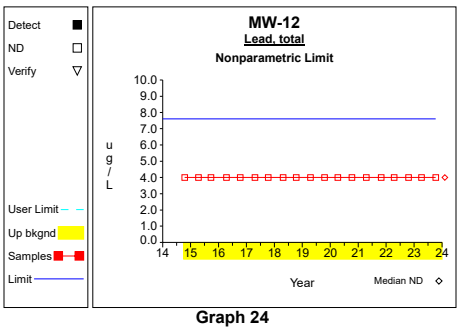
Graph 21



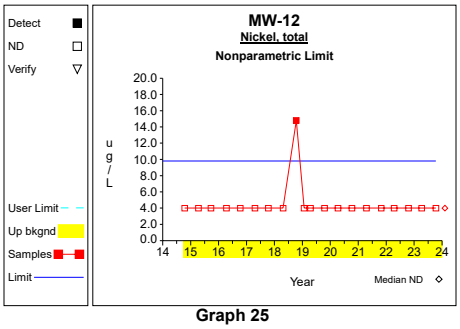
Graph 22



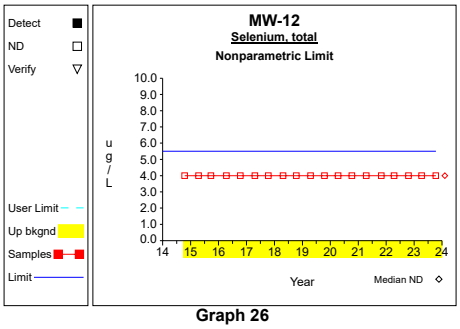
Graph 23



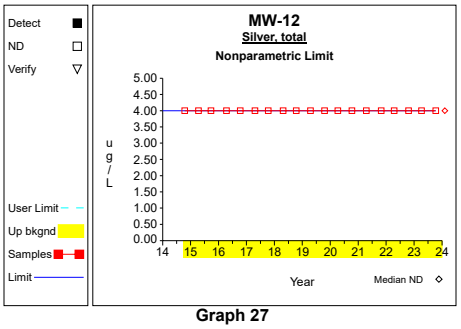
Graph 24



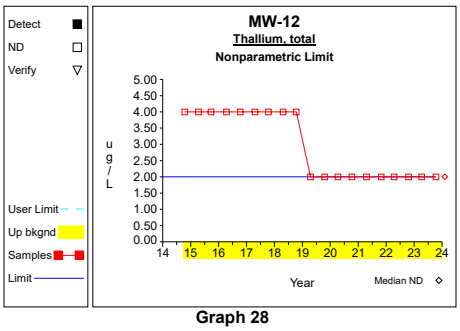
Graph 25



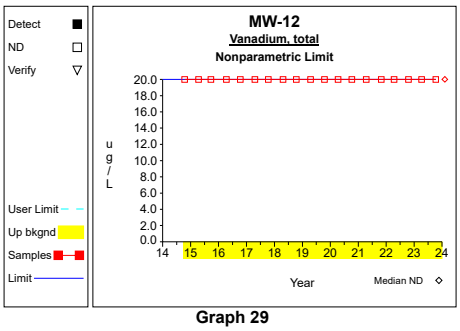
Graph 26



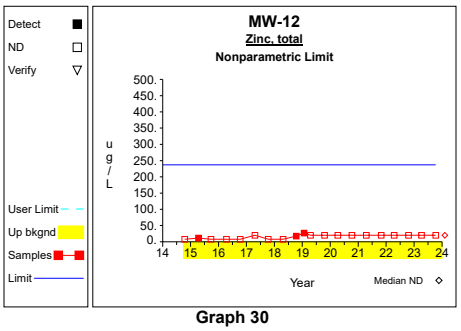
Graph 27



Graph 28

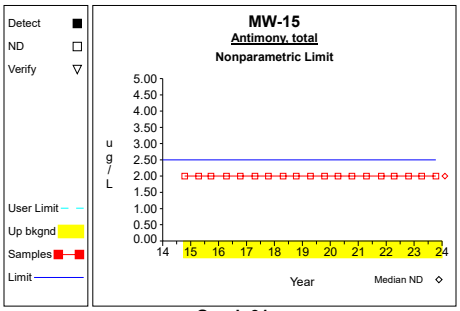


Graph 29

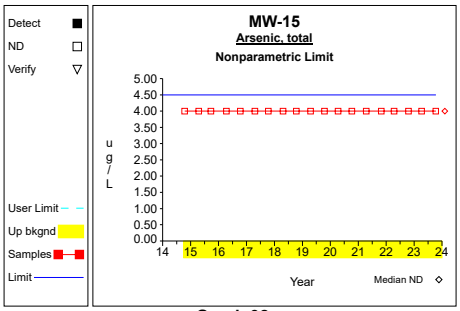


Graph 30

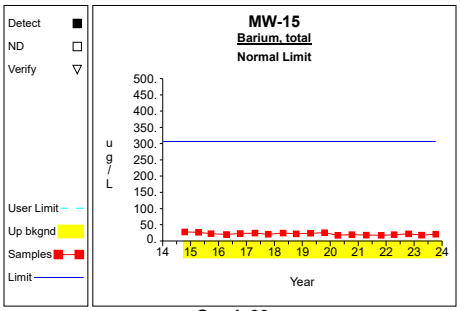
Up vs. Down Prediction Limits



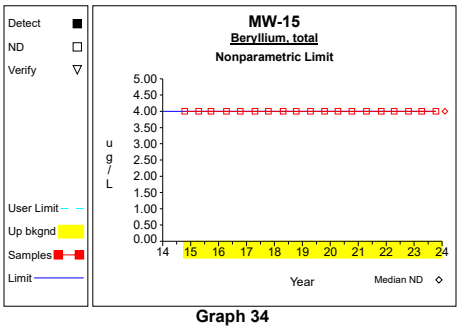
Graph 31



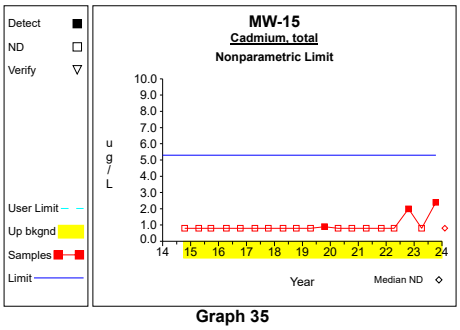
Graph 32



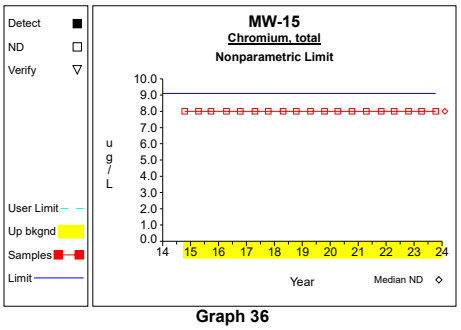
Graph 33



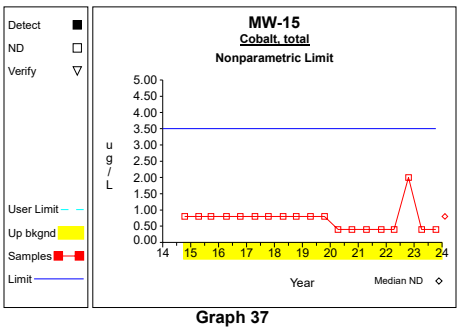
Graph 34



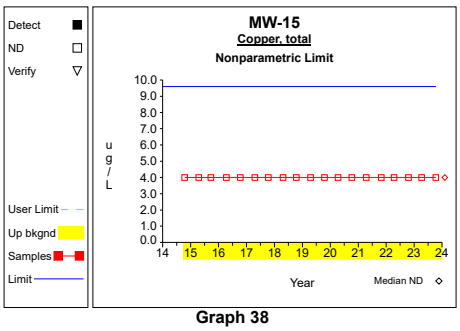
Graph 35



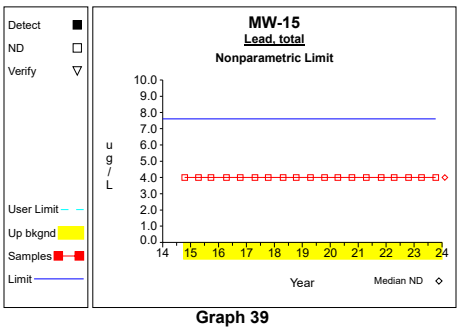
Graph 36



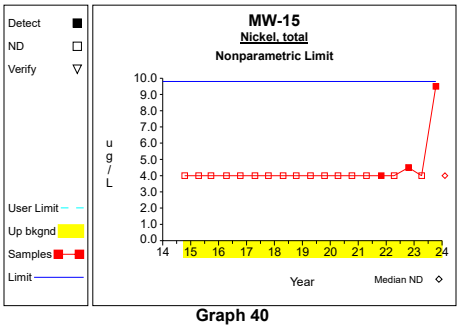
Graph 37



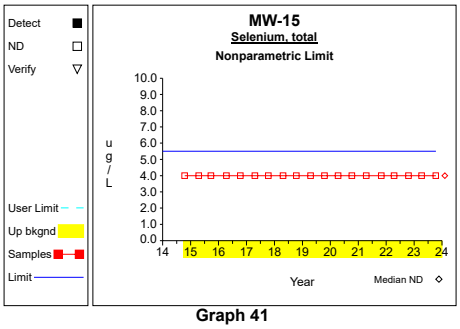
Graph 38



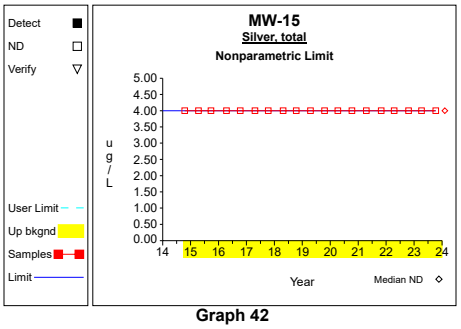
Graph 39



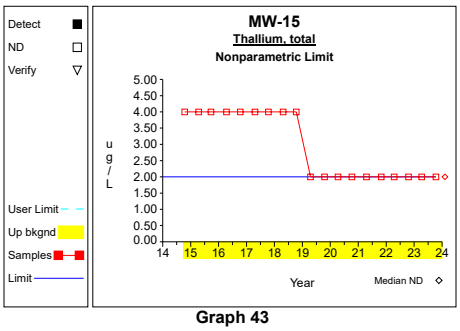
Graph 40



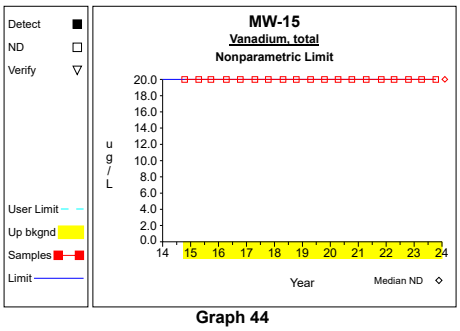
Graph 41



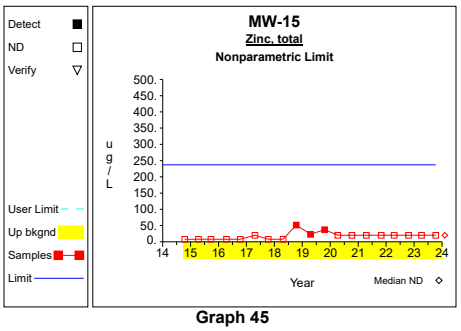
Graph 42



Graph 43

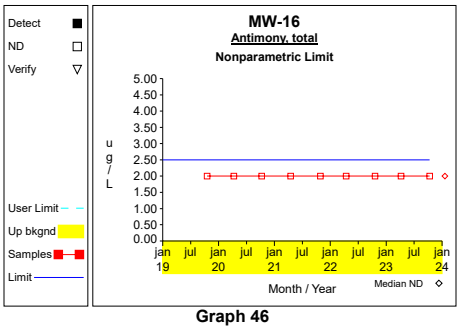


Graph 44

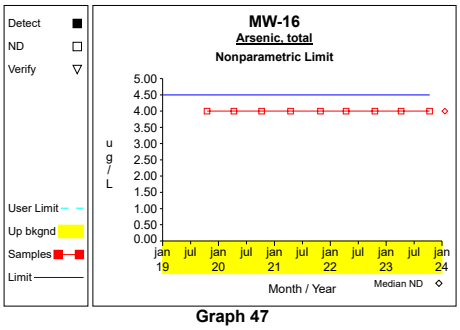


Graph 45

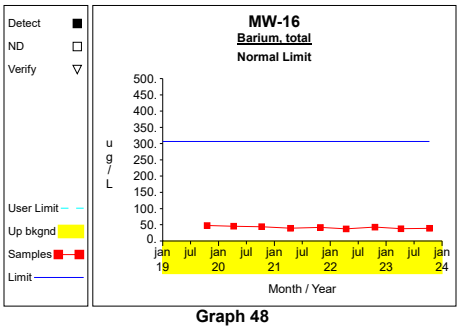
Up vs. Down Prediction Limits



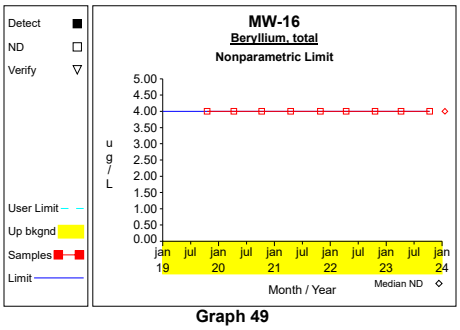
Graph 46



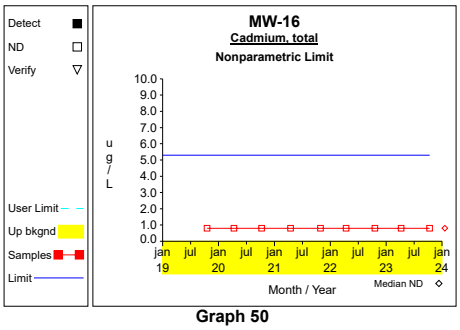
Graph 47



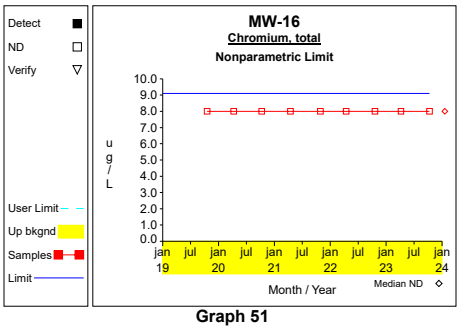
Graph 48



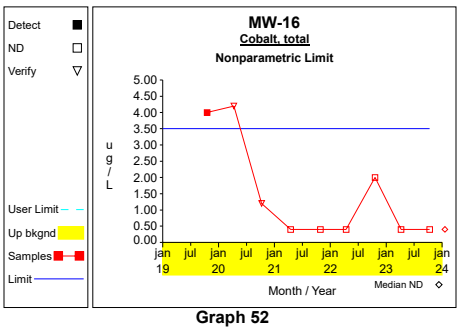
Graph 49



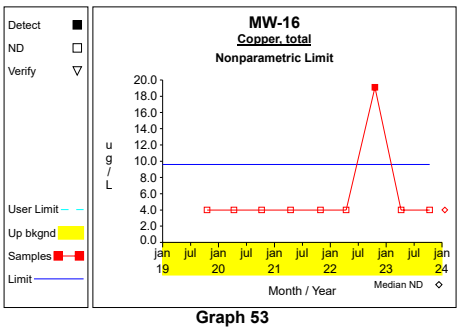
Graph 50



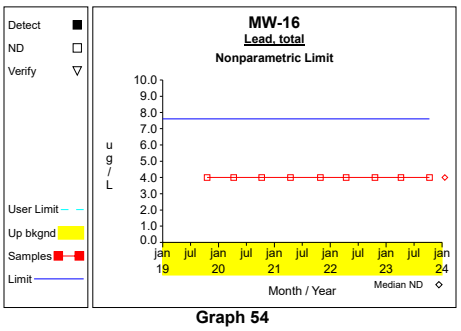
Graph 51



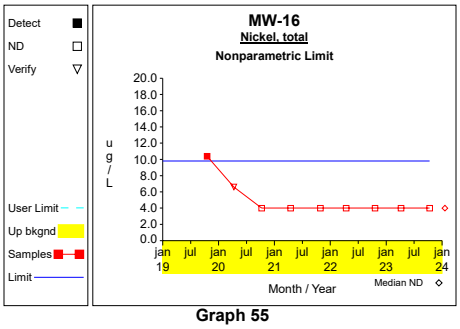
Graph 52



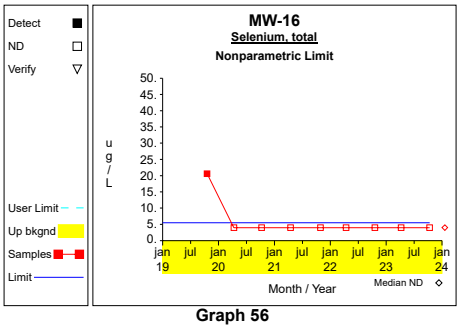
Graph 53



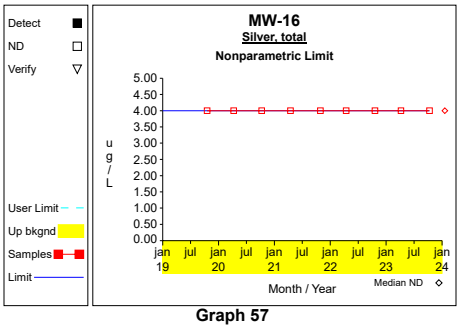
Graph 54



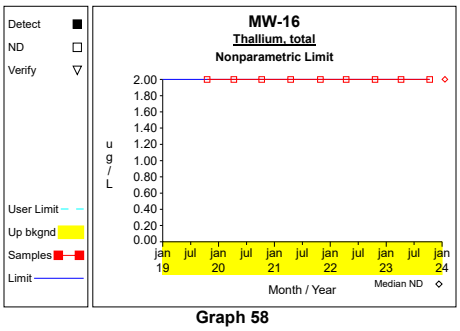
Graph 55



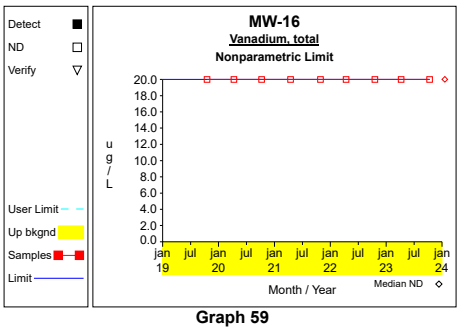
Graph 56



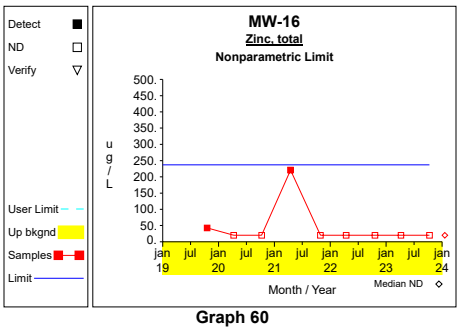
Graph 57



Graph 58



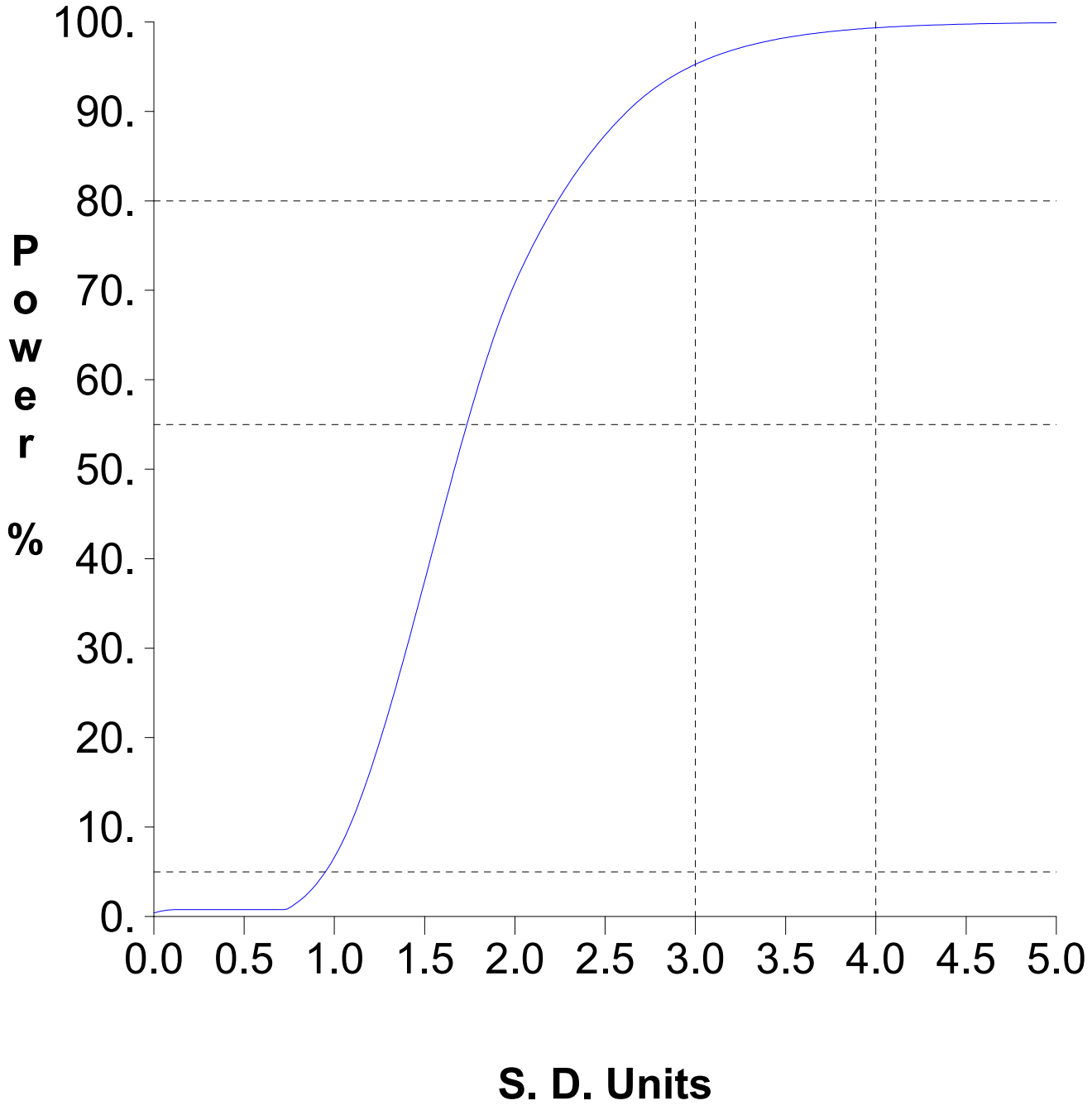
Graph 59



Graph 60

False Positive and False Negative Rates for Current

Upgradient vs. Downgradient Monitoring Program



Attachment C

Historical Organic Compound Detections

Table 1

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Diethyl phthalate	MW-11	4/08/2014		8	8	ug/L
Diethyl phthalate	MW-11	4/08/2014		8	8	ug/L
Methyl parathion	MW-11	10/14/2014		2.9	.4	ug/L
Phorate	MW-11	10/14/2014		.9	.4	ug/L
Thionazin	MW-11	10/14/2014		.5	.4	ug/L
Bis(2-ethylhexyl) phthalate	MW-12	4/16/2019		16	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-12	4/09/2020		16	6	ug/L
Acetone	MW-14	5/24/2010		44.9	10.0	ug/L
Acetone	MW-14	10/12/2017		11.8	10.0	ug/L
Toluene	MW-14	5/24/2010		3.2	1.0	ug/L
Xylenes, total	MW-14	5/24/2010		4.9	2.0	ug/L
Acetone	MW-15	10/12/2017		10.8	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/21/2013		50	8	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	4/14/2015		11	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/11/2016		19	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/12/2017		15	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/12/2018		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	4/16/2019		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/17/2019		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/08/2020		8	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/28/2021		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/19/2022		19	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/12/2017		35	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/17/2019		25	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/28/2021		12	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	4/13/2022		11	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-3	10/17/2019		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-4	4/23/2018		11	6	ug/L
Acetone	MW-5	10/12/2017		12.2	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	4/23/2018		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	7/05/2018		8	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	10/17/2019		10	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	4/06/2023		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-7	4/15/2009		10	8	ug/L
Acetone	MW-9	5/24/2010		45.1	10.0	ug/L
Acetone	MW-9	10/12/2017		11.2	10.0	ug/L
Toluene	MW-9	5/24/2010		3.6	1.0	ug/L
Xylenes, total	MW-9	5/24/2010		5.6	2.0	ug/L
2-butanone (mek)	SW-1	10/12/2018		7.7	5.0	ug/L
Acetone	SW-1	4/20/2017		15.7	10.0	ug/L
Acetone	SW-1	10/12/2018		27.2	10.0	ug/L
Phorate	SW-2	10/14/2014		.4	.4	ug/L

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

GROUND WATER STATISTICS

FOR THE

FLOYD-MITCHELL-CHICKASAW COUNTIES

CLOSED SANITARY LANDFILL

Second Semi-Annual Monitoring Event in 2023

Prepared for:
Floyd-Mitchell-Chickasaw Counties Solid Waste Management Agency
3354 330th Street
Mitchell County, IA

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

November 2023

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 2023 at the Floyd-Mitchell-Chickasaw Counties Closed Sanitary Landfill near Elma, in Mitchell 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. Interwell statistics were used for comparisons of current data to background data at Floyd-Mitchell-Chickasaw Counties Closed Sanitary Landfill. The statistical plan conforms with IAC 567, Chapter 113.10 and the USEPA statistical guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance"*, March 2009).

Ground Water Monitoring Program

The groundwater monitoring network for Floyd-Mitchell-Chickasaw Counties Closed Sanitary Landfill includes detection sample points MW-2, MW-3, MW-6, and MW-7. Upgradient sample points along the western border of the Expansion Area include MW-9 and MW-14. Monitoring wells MW-4 and MW-5 were approved by the IDNR as additional background wells in the revised permit (August 2020). 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 2023 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. Both of these methods were previously applied to the Floyd-Mitchell-Chickasaw Counties Closed Landfill data using the DUMPStat® statistical program. The Expansion Area upgradient wells have not been monitored regularly so there was insufficient background data available to do upgradient versus downgradient comparisons previously. 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 background data used in this statistical analysis includes the ground water data collected from ground water wells MW-4, MW-5,MW-9, and MW-14 during the period from October 2014 through the current data. A summary of the background data from monitoring wells MW-4, MW-5,MW-9, and MW-14, used to determine the site prediction limits, is listed in Attachment B, Table 1 “Upgradient Data”. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances.

Table 2 “Most Current Downgradient Monitoring Data”, summarizes the current data from downgradient sample points MW-2, MW-3, MW-6, and MW-7 compared to the site prediction limits. Prediction limit

exceedances are flagged with asterisks. For the second semi-annual 2023 monitoring data, there were no site prediction limit exceedances detected.

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

Table 4 summarizes the results of the Shapiro-Wilk test. The background barium data has a normal distribution 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 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 – Unified Guidance, USEPA, March 2009 (Attachment C). The analysis was conducted to evaluate whether verified concentrations are significantly above the water quality standard. The 95% lower confidence limit (LCL) for the mean of the historical data was used to evaluate whether the regulated unit is in compliance with the ground-water protection standards under 40 CFR 264 (e.g. whether the verified constituent is detected at a significant level above the GWPS). An exceedance is verified if the LCL is above the Regulatory GWPS.

The calculated 95% LCLs 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.

There were no VOCs detected in the ground water at Floyd-Mitchell-Chickasaw Counties Landfill during the second semi-annual monitoring event in 2023. Historical VOC detections are summarized in Attachment D. The bis(2-ethylhexyl)phthalate detections were evaluated against the GWPS using confidence limits. The calculated 95% LCLs 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 2023 at Floyd-Mitchell-Chickasaw Counties Closed Landfill. The groundwater monitoring network for Floyd-Mitchell-Chickasaw Counties Closed Sanitary Landfill includes wells MW-2, MW-3, MW-4 (upgradient), MW-5 (upgradient), MW-6, MW-7, MW-9 (upgradient), and MW-14 (upgradient). 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.

The ground water data obtained during the second semi-annual monitoring event in 2023 was compared to background using prediction limits. There were no site prediction limit exceedances detected.

Attachment A

Summary of the Data obtained during the Second Semi-Annual Monitoring Event in 2023

Table 1

Analytical Data Summary for 10/10/2023

Constituents	Units	MW-11	MW-12	MW-14	MW-15	MW-16	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-9
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	ug/L	13.9	137.0	140.0	21.0	39.0	36.7	104.0	67.4	202.0	23.0	108.0	89.8
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bis(2-ethylhexyl) phthalate	ug/L										<6		
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	2.4	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.4	<.4	<.4	<.4	<.4	1.8	<.4	<.4	<.4	.5	<.4	<.4
Copper, total	ug/L	<4	<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	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4	<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	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4.0	<4.0	<4.0	9.5	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<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	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	27.4	<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-14	10/14/2014		2.5000		
Antimony, total	ug/L	MW-14	01/12/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	07/21/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	04/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-14	10/10/2023	ND	2.0000		
Arsenic, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Barium, total	ug/L	MW-14	10/14/2014		184.0000		
Barium, total	ug/L	MW-14	01/12/2015		169.0000		
Barium, total	ug/L	MW-14	04/13/2015		143.0000		
Barium, total	ug/L	MW-14	07/21/2015		141.0000		
Barium, total	ug/L	MW-14	09/23/2015		185.0000		
Barium, total	ug/L	MW-14	04/12/2016		121.0000		
Barium, total	ug/L	MW-14	10/11/2016		125.0000		
Barium, total	ug/L	MW-14	04/20/2017		140.0000		
Barium, total	ug/L	MW-14	10/12/2017		170.0000		
Barium, total	ug/L	MW-14	04/23/2018		126.0000		
Barium, total	ug/L	MW-14	10/12/2018		128.0000		
Barium, total	ug/L	MW-14	04/16/2019		114.0000		
Barium, total	ug/L	MW-14	10/17/2019		155.0000		
Barium, total	ug/L	MW-14	04/09/2020		117.0000		
Barium, total	ug/L	MW-14	10/08/2020		137.0000		
Barium, total	ug/L	MW-14	04/15/2021		120.0000		
Barium, total	ug/L	MW-14	10/28/2021		102.0000		
Barium, total	ug/L	MW-14	04/13/2022		107.0000		
Barium, total	ug/L	MW-14	10/19/2022		133.0000		
Barium, total	ug/L	MW-14	04/06/2023		117.0000		
Barium, total	ug/L	MW-14	10/10/2023		140.0000		
Beryllium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2018	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	
Beryllium, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Cadmium, total	ug/L	MW-14	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-14	01/12/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	07/21/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/23/2018		5.3000		
Cadmium, total	ug/L	MW-14	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/10/2023	ND	0.8000		
Chromium, total	ug/L	MW-14	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-14	01/12/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	07/21/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	04/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-14	10/10/2023	ND	8.0000		
Cobalt, total	ug/L	MW-14	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-14	01/12/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	07/21/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-14	04/06/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	10/10/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-14	10/14/2014	ND	4.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Copper, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Copper, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-14	10/19/2022		7.0000		
Copper, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Copper, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Lead, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Lead, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Lead, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Nickel, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	04/13/2015		5.1000		
Selenium, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-14	10/11/2016		5.5000		
Selenium, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	04/16/2019	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	
Selenium, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-14	10/19/2022		5.5000		
Selenium, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Silver, total	ug/L	MW-14	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-14	01/12/2015	ND	4.0000		
Silver, total	ug/L	MW-14	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-14	07/21/2015	ND	4.0000		
Silver, total	ug/L	MW-14	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-14	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-14	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-14	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-14	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-14	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-14	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-14	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-14	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-14	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-14	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-14	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-14	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-14	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-14	10/10/2023	ND	4.0000		
Thallium, total	ug/L	MW-14	10/14/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	01/12/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/13/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	07/21/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	09/23/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/12/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/11/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/20/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/23/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/12/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/16/2019	ND	2.0000		
Thallium, total	ug/L	MW-14	10/17/2019	ND	2.0000		
Thallium, total	ug/L	MW-14	04/09/2020	ND	2.0000		
Thallium, total	ug/L	MW-14	10/08/2020	ND	2.0000		
Thallium, total	ug/L	MW-14	04/15/2021	ND	2.0000		
Thallium, total	ug/L	MW-14	10/28/2021	ND	2.0000		
Thallium, total	ug/L	MW-14	04/13/2022	ND	2.0000		
Thallium, total	ug/L	MW-14	10/19/2022	ND	2.0000		
Thallium, total	ug/L	MW-14	04/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-14	10/10/2023	ND	2.0000		
Vanadium, total	ug/L	MW-14	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-14	01/12/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	07/21/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/10/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	10/14/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	01/12/2015	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 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-14	04/13/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	07/21/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	09/23/2015	ND	20.0000		
Zinc, total	ug/L	MW-14	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/20/2017	ND	20.0000		
Zinc, total	ug/L	MW-14	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/23/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/12/2018		16.1000		
Zinc, total	ug/L	MW-14	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-14	10/17/2019	ND	20.0000		
Zinc, total	ug/L	MW-14	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	04/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	10/10/2023	ND	20.0000		
Antimony, total	ug/L	MW-4	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-4	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-4	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-4	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-4	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-4	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-4	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-4	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-4	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-4	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-4	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-4	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-4	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-4	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-4	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-4	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-4	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-4	04/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-4	10/10/2023	ND	2.0000		
Arsenic, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-4	04/06/2023		4.5000		
Arsenic, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Barium, total	ug/L	MW-4	10/14/2014		141.0000		
Barium, total	ug/L	MW-4	04/13/2015		103.0000		
Barium, total	ug/L	MW-4	09/23/2015		92.5000		
Barium, total	ug/L	MW-4	04/12/2016		66.2000		
Barium, total	ug/L	MW-4	10/11/2016		77.7000		
Barium, total	ug/L	MW-4	04/20/2017		128.0000		
Barium, total	ug/L	MW-4	10/12/2017		83.8000		
Barium, total	ug/L	MW-4	04/23/2018		116.0000		
Barium, total	ug/L	MW-4	10/12/2018		111.0000		
Barium, total	ug/L	MW-4	04/16/2019		71.2000		
Barium, total	ug/L	MW-4	10/17/2019		137.0000		
Barium, total	ug/L	MW-4	04/09/2020		65.3000		
Barium, total	ug/L	MW-4	10/08/2020		75.2000		
Barium, total	ug/L	MW-4	04/15/2021		49.6000		
Barium, total	ug/L	MW-4	10/28/2021		73.2000		
Barium, total	ug/L	MW-4	04/13/2022		63.6000		
Barium, total	ug/L	MW-4	10/19/2022		81.8000		

* - 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	
Barium, total	ug/L	MW-4	04/06/2023		162.0000		
Barium, total	ug/L	MW-4	10/10/2023		67.4000		
Beryllium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Cadmium, total	ug/L	MW-4	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-4	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-4	04/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-4	10/10/2023	ND	0.8000		
Chromium, total	ug/L	MW-4	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-4	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-4	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-4	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-4	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-4	04/20/2017		9.1000		
Chromium, total	ug/L	MW-4	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-4	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-4	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-4	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-4	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-4	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-4	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-4	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-4	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-4	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-4	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-4	04/06/2023		8.3000		
Chromium, total	ug/L	MW-4	10/10/2023	ND	8.0000		
Cobalt, total	ug/L	MW-4	10/14/2014		2.1000		
Cobalt, total	ug/L	MW-4	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-4	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-4	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/20/2017		3.3000		
Cobalt, total	ug/L	MW-4	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-4	04/23/2018		2.8000		
Cobalt, total	ug/L	MW-4	10/12/2018		1.4000		
Cobalt, total	ug/L	MW-4	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-4	10/17/2019		2.0000		
Cobalt, total	ug/L	MW-4	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/28/2021	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	
Cobalt, total	ug/L	MW-4	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-4	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-4	04/06/2023		3.5000		
Cobalt, total	ug/L	MW-4	10/10/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-4	10/14/2014		6.1000		
Copper, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-4	04/20/2017		5.5000		
Copper, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-4	10/17/2019		4.3000		
Copper, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-4	04/06/2023		9.1000		
Copper, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Lead, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-4	04/06/2023		7.6000		
Lead, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Nickel, total	ug/L	MW-4	10/14/2014		6.2000		
Nickel, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Nickel, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Nickel, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-4	04/20/2017		9.5000		
Nickel, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-4	04/23/2018		4.5000		
Nickel, total	ug/L	MW-4	10/12/2018		4.7000		
Nickel, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-4	10/17/2019		6.0000		
Nickel, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-4	04/06/2023		9.8000		
Nickel, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Selenium, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Selenium, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-4	10/08/2020	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	
Selenium, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Silver, total	ug/L	MW-4	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-4	04/13/2015	ND	4.0000		
Silver, total	ug/L	MW-4	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-4	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-4	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-4	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-4	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-4	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-4	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-4	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-4	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-4	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-4	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-4	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-4	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-4	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-4	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-4	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-4	10/10/2023	ND	4.0000		
Thallium, total	ug/L	MW-4	10/14/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/13/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	09/23/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/12/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	10/11/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/20/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/23/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	10/12/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-4	04/16/2019	ND	2.0000		
Thallium, total	ug/L	MW-4	10/17/2019	ND	2.0000		
Thallium, total	ug/L	MW-4	04/09/2020	ND	2.0000		
Thallium, total	ug/L	MW-4	10/08/2020	ND	2.0000		
Thallium, total	ug/L	MW-4	04/15/2021	ND	2.0000		
Thallium, total	ug/L	MW-4	10/28/2021	ND	2.0000		
Thallium, total	ug/L	MW-4	04/13/2022	ND	2.0000		
Thallium, total	ug/L	MW-4	10/19/2022	ND	2.0000		
Thallium, total	ug/L	MW-4	04/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-4	10/10/2023	ND	2.0000		
Vanadium, total	ug/L	MW-4	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-4	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-4	04/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-4	10/10/2023	ND	20.0000		
Zinc, total	ug/L	MW-4	10/14/2014		40.0000		
Zinc, total	ug/L	MW-4	01/12/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	04/13/2015		12.4000		
Zinc, total	ug/L	MW-4	09/23/2015		10.3000		
Zinc, total	ug/L	MW-4	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	10/11/2016		11.9000		
Zinc, total	ug/L	MW-4	01/17/2017		58.9000		
Zinc, total	ug/L	MW-4	04/20/2017		57.6000		
Zinc, total	ug/L	MW-4	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-4	04/23/2018		159.0000		
Zinc, total	ug/L	MW-4	10/12/2018		237.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-4	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-4	10/17/2019		130.0000		
Zinc, total	ug/L	MW-4	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-4	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-4	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-4	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-4	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-4	10/19/2022		216.0000		
Zinc, total	ug/L	MW-4	04/06/2023		627.0000		*
Zinc, total	ug/L	MW-4	10/10/2023	ND	20.0000		
Antimony, total	ug/L	MW-5	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-5	04/13/2015	ND	2.0000		
Antimony, total	ug/L	MW-5	09/23/2015	ND	2.0000		
Antimony, total	ug/L	MW-5	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-5	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-5	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-5	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-5	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-5	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-5	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-5	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-5	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-5	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-5	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-5	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-5	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-5	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-5	04/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-5	10/10/2023	ND	2.0000		
Arsenic, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Arsenic, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Barium, total	ug/L	MW-5	10/14/2014		251.0000		
Barium, total	ug/L	MW-5	04/13/2015		272.0000		
Barium, total	ug/L	MW-5	09/23/2015		330.0000		
Barium, total	ug/L	MW-5	11/24/2015		328.0000		
Barium, total	ug/L	MW-5	04/12/2016		167.0000		
Barium, total	ug/L	MW-5	10/11/2016		262.0000		
Barium, total	ug/L	MW-5	04/20/2017		338.0000		
Barium, total	ug/L	MW-5	10/12/2017		276.0000		
Barium, total	ug/L	MW-5	04/23/2018		206.0000		
Barium, total	ug/L	MW-5	10/12/2018		212.0000		
Barium, total	ug/L	MW-5	04/16/2019		193.0000		
Barium, total	ug/L	MW-5	10/17/2019		296.0000		
Barium, total	ug/L	MW-5	04/09/2020		268.0000		
Barium, total	ug/L	MW-5	10/08/2020		268.0000		
Barium, total	ug/L	MW-5	04/15/2021		71.8000		*
Barium, total	ug/L	MW-5	10/28/2021		175.0000		
Barium, total	ug/L	MW-5	04/13/2022		180.0000		
Barium, total	ug/L	MW-5	10/19/2022		250.0000		
Barium, total	ug/L	MW-5	04/06/2023		206.0000		
Barium, total	ug/L	MW-5	10/10/2023		202.0000		
Beryllium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Beryllium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/20/2017	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-5	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Cadmium, total	ug/L	MW-5	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/13/2015	ND	0.8000		
Cadmium, total	ug/L	MW-5	09/23/2015	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/16/2019	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-5	10/19/2022	ND	0.8000		
Cadmium, total	ug/L	MW-5	04/06/2023		1.1000		
Cadmium, total	ug/L	MW-5	10/10/2023	ND	0.8000		
Chromium, total	ug/L	MW-5	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-5	04/13/2015	ND	8.0000		
Chromium, total	ug/L	MW-5	09/23/2015	ND	8.0000		
Chromium, total	ug/L	MW-5	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-5	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-5	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-5	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-5	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-5	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-5	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-5	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-5	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-5	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-5	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-5	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-5	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-5	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-5	04/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-5	10/10/2023	ND	8.0000		
Cobalt, total	ug/L	MW-5	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/13/2015	ND	0.8000		
Cobalt, total	ug/L	MW-5	09/23/2015	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-5	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-5	04/09/2020		3.4000		
Cobalt, total	ug/L	MW-5	10/08/2020		0.6000		
Cobalt, total	ug/L	MW-5	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-5	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-5	04/13/2022		0.4000		
Cobalt, total	ug/L	MW-5	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-5	04/06/2023		2.7000		
Cobalt, total	ug/L	MW-5	10/10/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Copper, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Copper, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Copper, total	ug/L	MW-5	04/12/2016	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-5	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-5	04/06/2023		9.6000		
Copper, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Lead, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Lead, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Lead, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-5	04/06/2023		6.2000		
Lead, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Nickel, total	ug/L	MW-5	10/14/2014		5.9000		
Nickel, total	ug/L	MW-5	04/13/2015		6.3000		
Nickel, total	ug/L	MW-5	09/23/2015		5.7000		
Nickel, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-5	04/09/2020		6.8000		
Nickel, total	ug/L	MW-5	10/08/2020		6.6000		
Nickel, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Nickel, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-5	10/19/2022		5.4000		
Nickel, total	ug/L	MW-5	04/06/2023		13.1000		*
Nickel, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Selenium, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-5	04/13/2015	ND	4.0000		
Selenium, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Selenium, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Selenium, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Silver, total	ug/L	MW-5	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-5	04/13/2015	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	
Silver, total	ug/L	MW-5	09/23/2015	ND	4.0000		
Silver, total	ug/L	MW-5	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-5	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-5	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-5	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-5	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-5	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-5	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-5	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-5	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-5	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-5	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-5	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-5	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-5	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-5	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-5	10/10/2023	ND	4.0000		
Thallium, total	ug/L	MW-5	10/14/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/13/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	09/23/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/12/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	10/11/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/20/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/23/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	10/12/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-5	04/16/2019	ND	2.0000		
Thallium, total	ug/L	MW-5	10/17/2019	ND	2.0000		
Thallium, total	ug/L	MW-5	04/09/2020	ND	2.0000		
Thallium, total	ug/L	MW-5	10/08/2020	ND	2.0000		
Thallium, total	ug/L	MW-5	04/15/2021	ND	2.0000		
Thallium, total	ug/L	MW-5	10/28/2021	ND	2.0000		
Thallium, total	ug/L	MW-5	04/13/2022	ND	2.0000		
Thallium, total	ug/L	MW-5	10/19/2022	ND	2.0000		
Thallium, total	ug/L	MW-5	04/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-5	10/10/2023	ND	2.0000		
Vanadium, total	ug/L	MW-5	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/13/2015	ND	20.0000		
Vanadium, total	ug/L	MW-5	09/23/2015	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-5	04/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-5	10/10/2023	ND	20.0000		
Zinc, total	ug/L	MW-5	10/14/2014		24.7000		
Zinc, total	ug/L	MW-5	04/13/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	09/23/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/20/2017		16.5000		
Zinc, total	ug/L	MW-5	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-5	04/23/2018		15.2000		
Zinc, total	ug/L	MW-5	10/12/2018		20.3000		
Zinc, total	ug/L	MW-5	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-5	10/17/2019		83.1000		*
Zinc, total	ug/L	MW-5	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-5	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-5	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-5	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-5	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-5	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-5	04/06/2023		411.0000		*
Zinc, total	ug/L	MW-5	10/10/2023	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	
Antimony, total	ug/L	MW-9	10/14/2014	ND	2.0000		
Antimony, total	ug/L	MW-9	01/12/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	04/14/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	07/21/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	09/22/2015	ND	2.0000		
Antimony, total	ug/L	MW-9	04/12/2016	ND	2.0000		
Antimony, total	ug/L	MW-9	10/11/2016	ND	2.0000		
Antimony, total	ug/L	MW-9	04/20/2017	ND	2.0000		
Antimony, total	ug/L	MW-9	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-9	04/23/2018	ND	2.0000		
Antimony, total	ug/L	MW-9	10/12/2018	ND	2.0000		
Antimony, total	ug/L	MW-9	04/16/2019	ND	2.0000		
Antimony, total	ug/L	MW-9	10/17/2019	ND	2.0000		
Antimony, total	ug/L	MW-9	04/09/2020	ND	2.0000		
Antimony, total	ug/L	MW-9	10/08/2020	ND	2.0000		
Antimony, total	ug/L	MW-9	04/15/2021	ND	2.0000		
Antimony, total	ug/L	MW-9	10/28/2021	ND	2.0000		
Antimony, total	ug/L	MW-9	04/13/2022	ND	2.0000		
Antimony, total	ug/L	MW-9	10/19/2022	ND	2.0000		
Antimony, total	ug/L	MW-9	04/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-9	10/10/2023	ND	2.0000		
Arsenic, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Arsenic, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Arsenic, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Barium, total	ug/L	MW-9	10/14/2014		114.0000		
Barium, total	ug/L	MW-9	01/12/2015		115.0000		
Barium, total	ug/L	MW-9	04/14/2015		138.0000		
Barium, total	ug/L	MW-9	07/21/2015		111.0000		
Barium, total	ug/L	MW-9	09/22/2015		114.0000		
Barium, total	ug/L	MW-9	04/12/2016		99.2000		
Barium, total	ug/L	MW-9	10/11/2016		106.0000		
Barium, total	ug/L	MW-9	04/20/2017		116.0000		
Barium, total	ug/L	MW-9	10/12/2017		105.0000		
Barium, total	ug/L	MW-9	04/23/2018		110.0000		
Barium, total	ug/L	MW-9	10/12/2018		106.0000		
Barium, total	ug/L	MW-9	04/16/2019		106.0000		
Barium, total	ug/L	MW-9	10/17/2019		113.0000		
Barium, total	ug/L	MW-9	04/09/2020		93.9000		
Barium, total	ug/L	MW-9	10/08/2020		98.7000		
Barium, total	ug/L	MW-9	04/15/2021		93.2000		
Barium, total	ug/L	MW-9	10/28/2021		91.9000		
Barium, total	ug/L	MW-9	04/13/2022		105.0000		
Barium, total	ug/L	MW-9	10/19/2022		102.0000		
Barium, total	ug/L	MW-9	04/06/2023		96.1000		
Barium, total	ug/L	MW-9	10/10/2023		89.8000		
Beryllium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Beryllium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/12/2018	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	
Beryllium, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Beryllium, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Cadmium, total	ug/L	MW-9	10/14/2014	ND	0.8000		
Cadmium, total	ug/L	MW-9	01/12/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/14/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	07/21/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	09/22/2015	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/12/2016	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/11/2016	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/20/2017	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/23/2018	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/12/2018	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/16/2019		1.2000		
Cadmium, total	ug/L	MW-9	10/17/2019	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/09/2020	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/08/2020	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/15/2021	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/28/2021	ND	0.8000		
Cadmium, total	ug/L	MW-9	04/13/2022	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/19/2022		1.3000		
Cadmium, total	ug/L	MW-9	04/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-9	10/10/2023	ND	0.8000		
Chromium, total	ug/L	MW-9	10/14/2014	ND	8.0000		
Chromium, total	ug/L	MW-9	01/12/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	04/14/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	07/21/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	09/22/2015	ND	8.0000		
Chromium, total	ug/L	MW-9	04/12/2016	ND	8.0000		
Chromium, total	ug/L	MW-9	10/11/2016	ND	8.0000		
Chromium, total	ug/L	MW-9	04/20/2017	ND	8.0000		
Chromium, total	ug/L	MW-9	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-9	04/23/2018	ND	8.0000		
Chromium, total	ug/L	MW-9	10/12/2018	ND	8.0000		
Chromium, total	ug/L	MW-9	04/16/2019	ND	8.0000		
Chromium, total	ug/L	MW-9	10/17/2019	ND	8.0000		
Chromium, total	ug/L	MW-9	04/09/2020	ND	8.0000		
Chromium, total	ug/L	MW-9	10/08/2020	ND	8.0000		
Chromium, total	ug/L	MW-9	04/15/2021	ND	8.0000		
Chromium, total	ug/L	MW-9	10/28/2021	ND	8.0000		
Chromium, total	ug/L	MW-9	04/13/2022	ND	8.0000		
Chromium, total	ug/L	MW-9	10/19/2022	ND	8.0000		
Chromium, total	ug/L	MW-9	04/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-9	10/10/2023	ND	8.0000		
Cobalt, total	ug/L	MW-9	10/14/2014	ND	0.8000		
Cobalt, total	ug/L	MW-9	01/12/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/14/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	07/21/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	09/22/2015	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/12/2016	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/11/2016	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/20/2017	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/23/2018	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/12/2018	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/16/2019	ND	0.8000		
Cobalt, total	ug/L	MW-9	10/17/2019	ND	0.8000		
Cobalt, total	ug/L	MW-9	04/09/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/08/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	04/15/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/28/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	04/13/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/19/2022	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-9	04/06/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-9	10/10/2023	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-9	10/14/2014	ND	4.0000		

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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Copper, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Copper, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Copper, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Copper, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Copper, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Copper, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Copper, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Copper, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Copper, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Copper, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Copper, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Copper, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Copper, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Copper, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Copper, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Copper, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Copper, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Copper, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Copper, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Lead, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Lead, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Lead, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Lead, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Lead, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Lead, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Lead, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Lead, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Lead, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Lead, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Lead, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Lead, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Lead, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Lead, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Lead, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Lead, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Lead, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Lead, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Lead, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Lead, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Nickel, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Nickel, total	ug/L	MW-9	01/12/2015		4.0000		
Nickel, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Nickel, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Nickel, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Nickel, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Nickel, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Nickel, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Nickel, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Nickel, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Nickel, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Nickel, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Nickel, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Nickel, total	ug/L	MW-9	10/28/2021		4.2000		
Nickel, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Nickel, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Nickel, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Selenium, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Selenium, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Selenium, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Selenium, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Selenium, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Selenium, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Selenium, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Selenium, total	ug/L	MW-9	04/16/2019	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	
Selenium, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Selenium, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Selenium, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Selenium, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Selenium, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Selenium, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Selenium, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Selenium, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Silver, total	ug/L	MW-9	10/14/2014	ND	4.0000		
Silver, total	ug/L	MW-9	01/12/2015	ND	4.0000		
Silver, total	ug/L	MW-9	04/14/2015	ND	4.0000		
Silver, total	ug/L	MW-9	07/21/2015	ND	4.0000		
Silver, total	ug/L	MW-9	09/22/2015	ND	4.0000		
Silver, total	ug/L	MW-9	04/12/2016	ND	4.0000		
Silver, total	ug/L	MW-9	10/11/2016	ND	4.0000		
Silver, total	ug/L	MW-9	04/20/2017	ND	4.0000		
Silver, total	ug/L	MW-9	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-9	04/23/2018	ND	4.0000		
Silver, total	ug/L	MW-9	10/12/2018	ND	4.0000		
Silver, total	ug/L	MW-9	04/16/2019	ND	4.0000		
Silver, total	ug/L	MW-9	10/17/2019	ND	4.0000		
Silver, total	ug/L	MW-9	04/09/2020	ND	4.0000		
Silver, total	ug/L	MW-9	10/08/2020	ND	4.0000		
Silver, total	ug/L	MW-9	04/15/2021	ND	4.0000		
Silver, total	ug/L	MW-9	10/28/2021	ND	4.0000		
Silver, total	ug/L	MW-9	04/13/2022	ND	4.0000		
Silver, total	ug/L	MW-9	10/19/2022	ND	4.0000		
Silver, total	ug/L	MW-9	04/06/2023	ND	4.0000		
Silver, total	ug/L	MW-9	10/10/2023	ND	4.0000		
Thallium, total	ug/L	MW-9	10/14/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	01/12/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/14/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	07/21/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	09/22/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/12/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	10/11/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/20/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/23/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	10/12/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-9	04/16/2019	ND	2.0000		
Thallium, total	ug/L	MW-9	10/17/2019	ND	2.0000		
Thallium, total	ug/L	MW-9	04/09/2020	ND	2.0000		
Thallium, total	ug/L	MW-9	10/08/2020	ND	2.0000		
Thallium, total	ug/L	MW-9	04/15/2021	ND	2.0000		
Thallium, total	ug/L	MW-9	10/28/2021	ND	2.0000		
Thallium, total	ug/L	MW-9	04/13/2022	ND	2.0000		
Thallium, total	ug/L	MW-9	10/19/2022	ND	2.0000		
Thallium, total	ug/L	MW-9	04/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-9	10/10/2023	ND	2.0000		
Vanadium, total	ug/L	MW-9	10/14/2014	ND	20.0000		
Vanadium, total	ug/L	MW-9	01/12/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/14/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	07/21/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	09/22/2015	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/12/2016	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/11/2016	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/20/2017	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/23/2018	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/12/2018	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/16/2019	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/17/2019	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/09/2020	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/08/2020	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/15/2021	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/28/2021	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/13/2022	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/19/2022	ND	20.0000		
Vanadium, total	ug/L	MW-9	04/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-9	10/10/2023	ND	20.0000		
Zinc, total	ug/L	MW-9	10/14/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	01/12/2015	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 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-9	04/14/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	07/21/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	09/23/2015	ND	20.0000		
Zinc, total	ug/L	MW-9	04/12/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	10/11/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/20/2017	ND	20.0000		
Zinc, total	ug/L	MW-9	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	04/23/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-9	10/12/2018		9.0000		
Zinc, total	ug/L	MW-9	04/16/2019	ND	20.0000		
Zinc, total	ug/L	MW-9	10/17/2019		29.9000		
Zinc, total	ug/L	MW-9	04/09/2020	ND	20.0000		
Zinc, total	ug/L	MW-9	10/08/2020	ND	20.0000		
Zinc, total	ug/L	MW-9	04/15/2021	ND	20.0000		
Zinc, total	ug/L	MW-9	10/28/2021	ND	20.0000		
Zinc, total	ug/L	MW-9	04/13/2022	ND	20.0000		
Zinc, total	ug/L	MW-9	10/19/2022	ND	20.0000		
Zinc, total	ug/L	MW-9	04/06/2023		21.3000		
Zinc, total	ug/L	MW-9	10/10/2023	ND	20.0000		

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

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	ug/L	MW-2	10/10/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-2	10/10/2023	ND	4.0000		4.5000
Barium, total	ug/L	MW-2	10/10/2023		36.7000		306.4367
Beryllium, total	ug/L	MW-2	10/10/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-2	10/10/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-2	10/10/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-2	10/10/2023		1.8000		3.5000
Copper, total	ug/L	MW-2	10/10/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-2	10/10/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-2	10/10/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-2	10/10/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-2	10/10/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-2	10/10/2023	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-2	10/10/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-2	10/10/2023	ND	20.0000		237.0000
Antimony, total	ug/L	MW-3	10/10/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-3	10/10/2023	ND	4.0000		4.5000
Barium, total	ug/L	MW-3	10/10/2023		104.0000		306.4367
Beryllium, total	ug/L	MW-3	10/10/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-3	10/10/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-3	10/10/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-3	10/10/2023	ND	0.4000		3.5000
Copper, total	ug/L	MW-3	10/10/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-3	10/10/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-3	10/10/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-3	10/10/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-3	10/10/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-3	10/10/2023	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-3	10/10/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-3	10/10/2023	ND	20.0000		237.0000
Antimony, total	ug/L	MW-6	10/10/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-6	10/10/2023	ND	4.0000	**	4.5000
Barium, total	ug/L	MW-6	10/10/2023		23.0000		306.4367
Beryllium, total	ug/L	MW-6	10/10/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-6	10/10/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-6	10/10/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-6	10/10/2023		0.5000		3.5000
Copper, total	ug/L	MW-6	10/10/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-6	10/10/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-6	10/10/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-6	10/10/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-6	10/10/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-6	10/10/2023	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-6	10/10/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-6	10/10/2023		27.4000		237.0000
Antimony, total	ug/L	MW-7	10/10/2023	ND	2.0000		2.5000
Arsenic, total	ug/L	MW-7	10/10/2023	ND	4.0000		4.5000
Barium, total	ug/L	MW-7	10/10/2023		108.0000		306.4367
Beryllium, total	ug/L	MW-7	10/10/2023	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-7	10/10/2023	ND	0.8000		5.3000
Chromium, total	ug/L	MW-7	10/10/2023	ND	8.0000		9.1000
Cobalt, total	ug/L	MW-7	10/10/2023	ND	0.4000		3.5000
Copper, total	ug/L	MW-7	10/10/2023	ND	4.0000		9.6000
Lead, total	ug/L	MW-7	10/10/2023	ND	4.0000		7.6000
Nickel, total	ug/L	MW-7	10/10/2023	ND	4.0000		9.8000
Selenium, total	ug/L	MW-7	10/10/2023	ND	4.0000		5.5000
Silver, total	ug/L	MW-7	10/10/2023	ND	4.0000		4.0000
Thallium, total	ug/L	MW-7	10/10/2023	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-7	10/10/2023	ND	20.0000		20.0000
Zinc, total	ug/L	MW-7	10/10/2023	ND	20.0000		237.0000

* - 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 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, total	1	80	0.013	0	100	0.000
Arsenic, total	1	80	0.013	29	122	0.238
Barium, total	80	80	1.000	136	136	1.000
Beryllium, total	0	80	0.000	0	100	0.000
Cadmium, total	4	80	0.050	9	109	0.083
Chromium, total	2	80	0.025	2	100	0.020
Cobalt, total	10	80	0.125	49	110	0.445
Copper, total	6	80	0.075	14	109	0.128
Lead, total	2	80	0.025	8	109	0.073
Nickel, total	14	79	0.177	69	137	0.504
Selenium, total	3	80	0.038	0	100	0.000
Silver, total	0	80	0.000	0	100	0.000
Thallium, total	0	80	0.000	0	100	0.000
Vanadium, total	0	80	0.000	1	100	0.010
Zinc, total	18	79	0.228	54	120	0.450

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	1	80	0.013									nonpar
Arsenic, total	1	80	0.013									nonpar
Barium, total	80	80	1.000	2.316	0.720					2.326	normal	normal
Beryllium, total	0	80	0.000									nonpar
Cadmium, total	4	80	0.050									nonpar
Chromium, total	2	80	0.025									nonpar
Cobalt, total	10	80	0.125	0.132	0.200					2.326	normal	nonpar
Copper, total	6	80	0.075	0.105	0.895					2.326	normal	nonpar
Lead, total	2	80	0.025									nonpar
Nickel, total	14	79	0.177	0.124	0.164					2.326	normal	nonpar
Selenium, total	3	80	0.038	0.495	0.495					2.326	normal	nonpar
Silver, total	0	80	0.000									nonpar
Thallium, total	0	80	0.000									nonpar
Vanadium, total	0	80	0.000									nonpar
Zinc, total	18	79	0.228	0.132	0.220					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	1	80					2.5000	nonpar		0.99
Arsenic, total	ug/L	1	80					4.5000	nonpar		0.99
Barium, total	ug/L	80	80	144.2913	67.8642	0.0100	2.3893	306.4367	normal		
Beryllium, total	ug/L	0	80					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	4	80					5.3000	nonpar		0.99
Chromium, total	ug/L	2	80					9.1000	nonpar		0.99
Cobalt, total	ug/L	10	80					3.5000	nonpar		0.99
Copper, total	ug/L	6	80					9.6000	nonpar		0.99
Lead, total	ug/L	2	80					7.6000	nonpar		0.99
Nickel, total	ug/L	14	79					9.8000	nonpar		0.99
Selenium, total	ug/L	3	80					5.5000	nonpar		0.99
Silver, total	ug/L	0	80					4.0000	nonpar	***	0.99
Thallium, total	ug/L	0	80					2.0000	nonpar	***	0.99
Vanadium, total	ug/L	0	80					20.0000	nonpar	***	0.99
Zinc, total	ug/L	18	79					237.0000	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
Barium, total	ug/L	MW-5	04/15/2021	71.8000		10/14/2014-10/10/2023	20	0.5381
Nickel, total	ug/L	MW-5	04/06/2023	13.1000		10/14/2014-10/10/2023	19	0.5503
Zinc, total	ug/L	MW-5	10/17/2019	83.1000		10/14/2014-10/10/2023	19	0.5643
Zinc, total	ug/L	MW-5	04/06/2023	411.0000		10/14/2014-10/10/2023	19	0.5643

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.

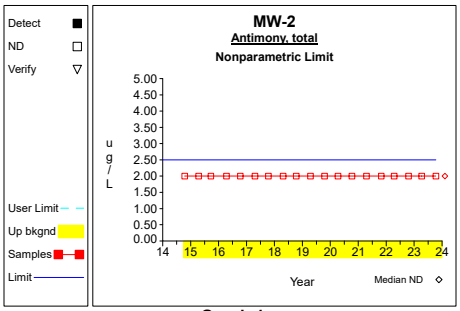
Table 8

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

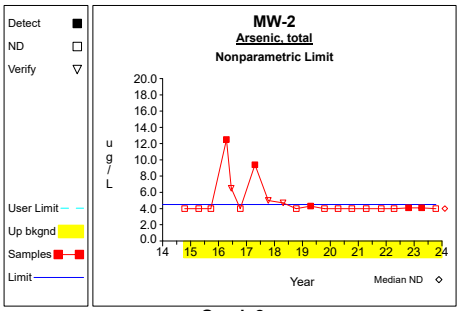
Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total	ug/L	MW-6	04/15/2009		11.5000	*	4.5000
Arsenic, total	ug/L	MW-6	06/17/2009		14.5000	*	4.5000
Arsenic, total	ug/L	MW-6	07/24/2009	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/19/2009		15.0000	*	4.5000
Arsenic, total	ug/L	MW-6	11/02/2009		8.7000	*	4.5000
Arsenic, total	ug/L	MW-6	04/19/2010		19.5000	*	4.5000
Arsenic, total	ug/L	MW-6	07/16/2010		10.2000	*	4.5000
Arsenic, total	ug/L	MW-6	09/22/2010		5.6000	*	4.5000
Arsenic, total	ug/L	MW-6	04/13/2011		10.0000	*	4.5000
Arsenic, total	ug/L	MW-6	09/28/2011		15.5000	*	4.5000
Arsenic, total	ug/L	MW-6	04/23/2012		29.4000	*	4.5000
Arsenic, total	ug/L	MW-6	09/24/2012		11.3000	*	4.5000
Arsenic, total	ug/L	MW-6	04/24/2013	ND	8.0000		4.5000
Arsenic, total	ug/L	MW-6	10/21/2013	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/08/2014		6.3000	*	4.5000
Arsenic, total	ug/L	MW-6	07/17/2014	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/14/2014	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/13/2015	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	09/23/2015		4.2000		4.5000
Arsenic, total	ug/L	MW-6	11/24/2015	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/12/2016	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/11/2016	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/20/2017	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/12/2017	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/23/2018	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/12/2018	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/16/2019	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/17/2019	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/09/2020	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/08/2020	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/15/2021	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/28/2021	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	04/13/2022	ND	4.0000		4.5000
Arsenic, total	ug/L	MW-6	10/19/2022		8.1000	*	4.5000
Arsenic, total	ug/L	MW-6	04/06/2023		5.3000	*	4.5000
Arsenic, total	ug/L	MW-6	10/10/2023	ND	4.0000		4.5000

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

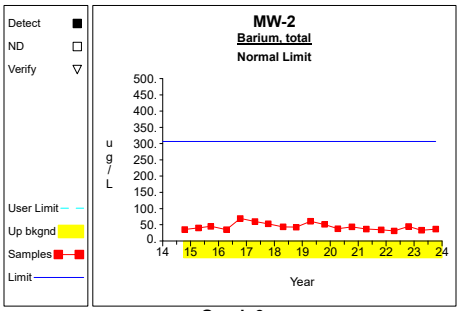
Up vs. Down Prediction Limits



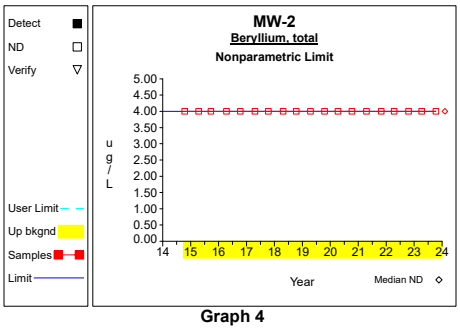
Graph 1



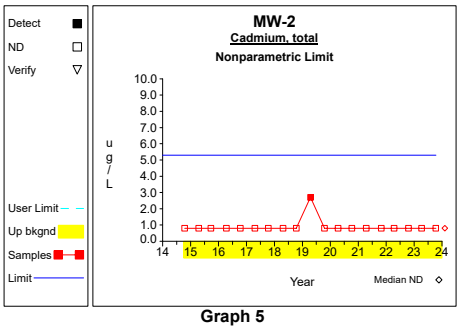
Graph 2



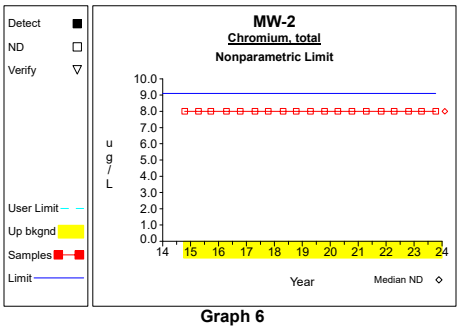
Graph 3



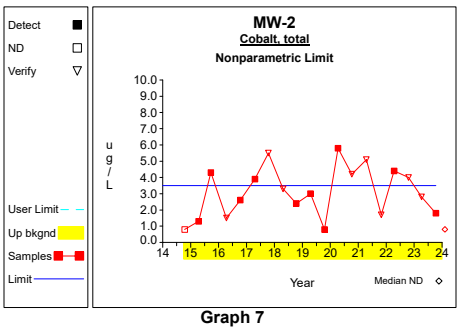
Graph 4



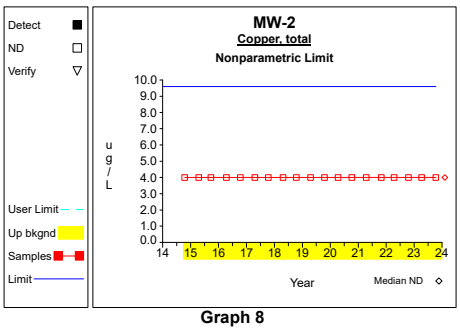
Graph 5



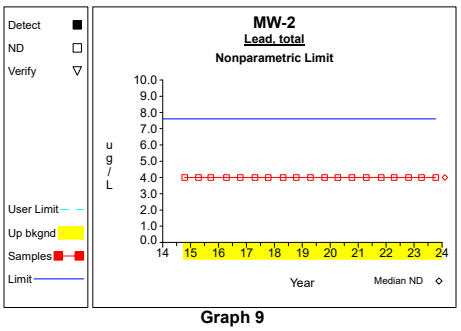
Graph 6



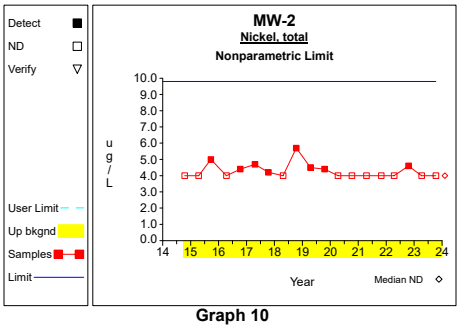
Graph 7



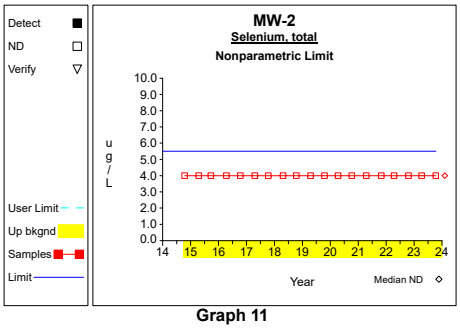
Graph 8



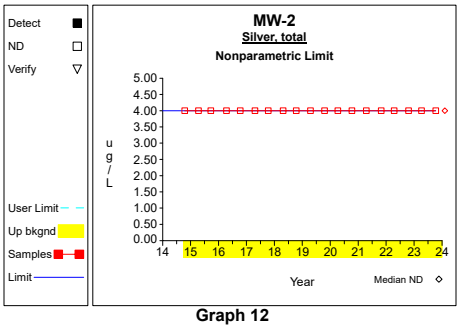
Graph 9



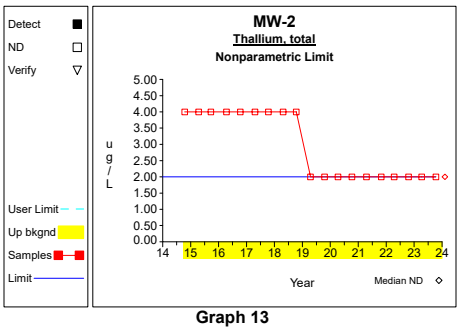
Graph 10



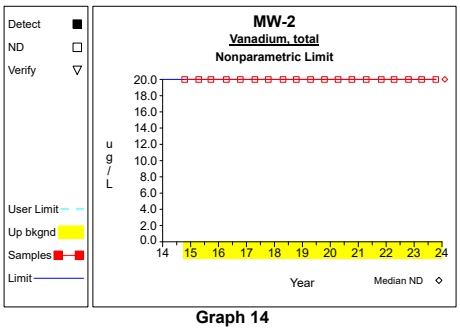
Graph 11



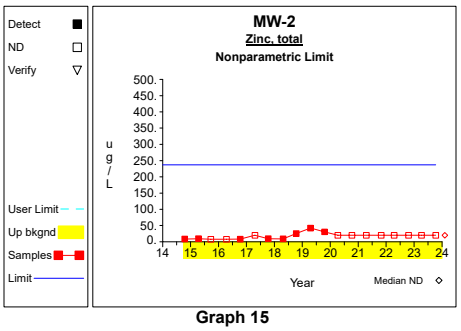
Graph 12



Graph 13

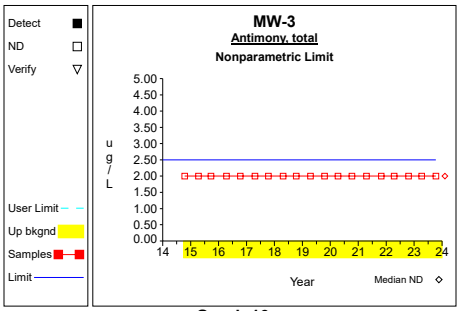


Graph 14

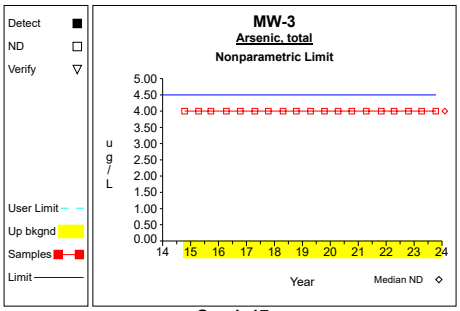


Graph 15

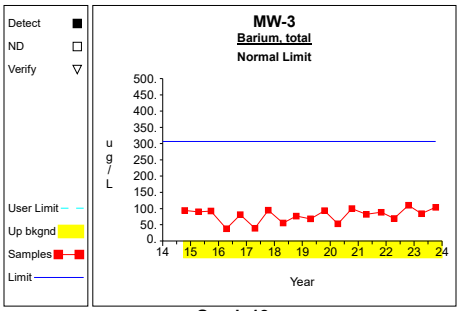
Up vs. Down Prediction Limits



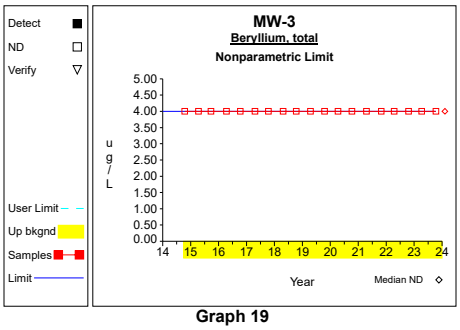
Graph 16



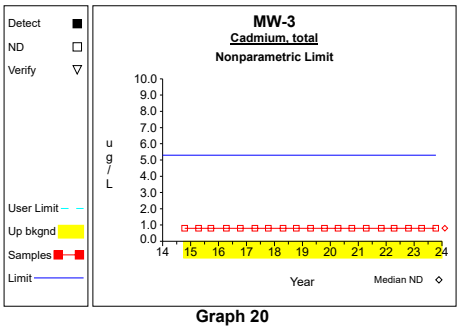
Graph 17



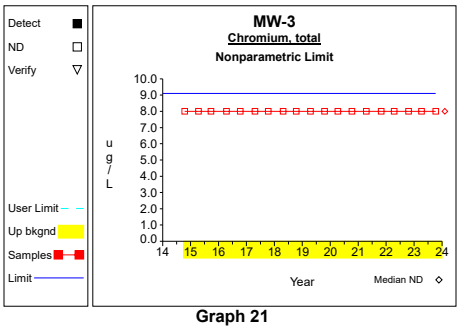
Graph 18



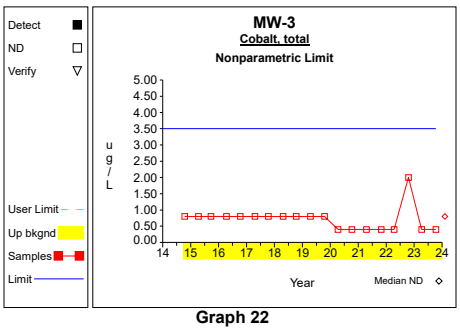
Graph 19



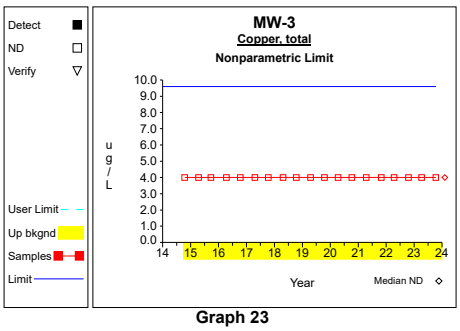
Graph 20



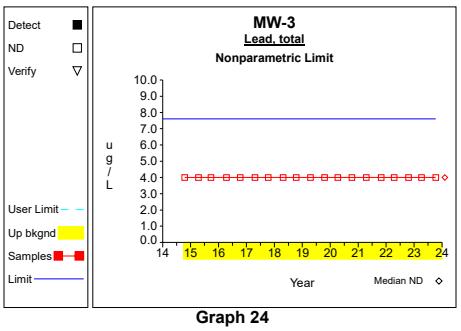
Graph 21



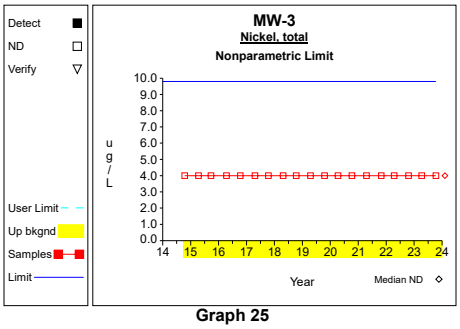
Graph 22



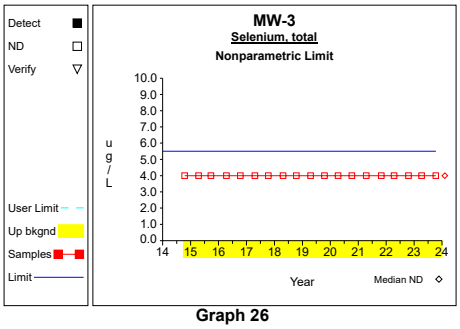
Graph 23



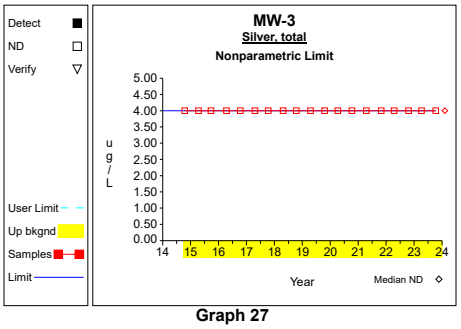
Graph 24



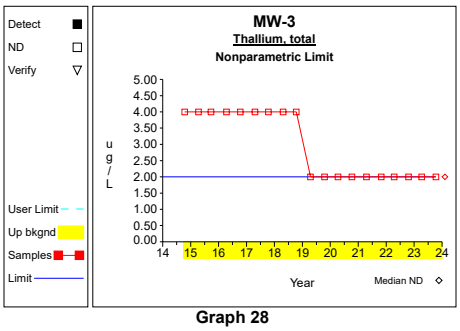
Graph 25



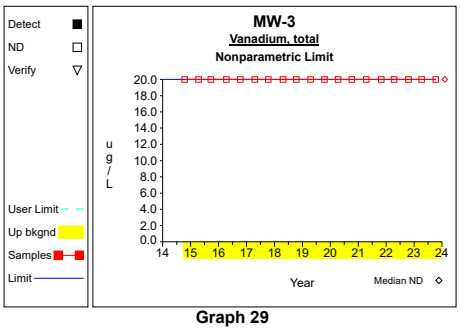
Graph 26



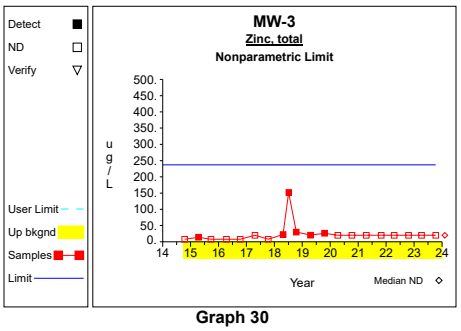
Graph 27



Graph 28



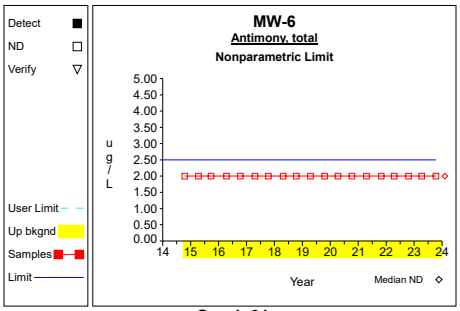
Graph 29



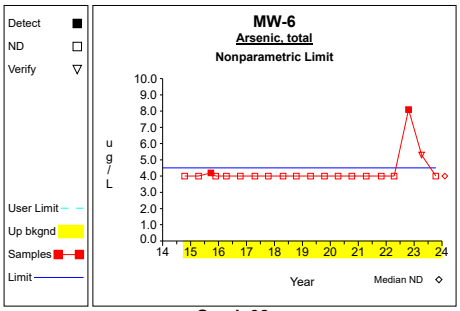
Graph 30

Prepared by: Otter Creek Environmental

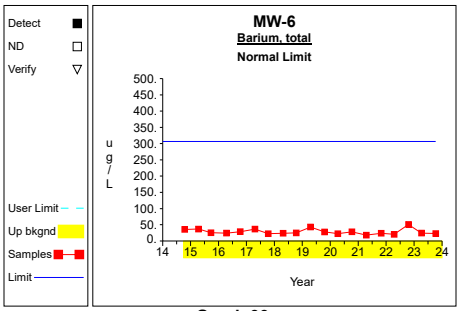
Up vs. Down Prediction Limits



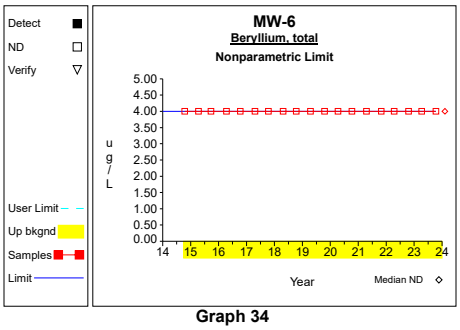
Graph 31



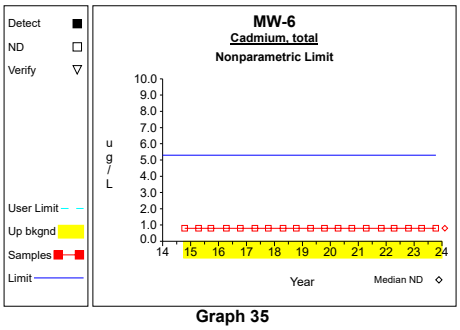
Graph 32



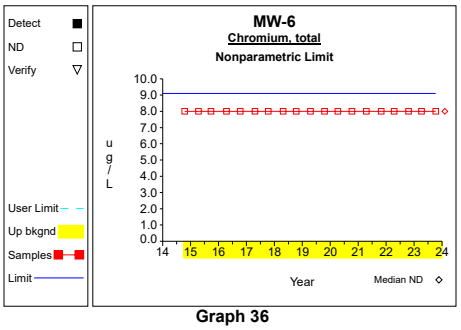
Graph 33



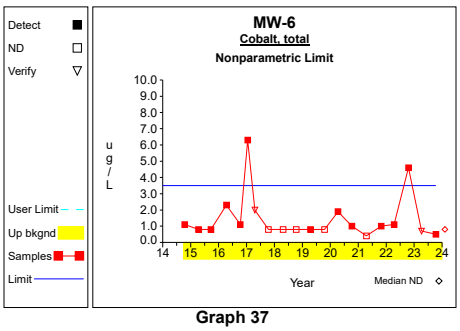
Graph 34



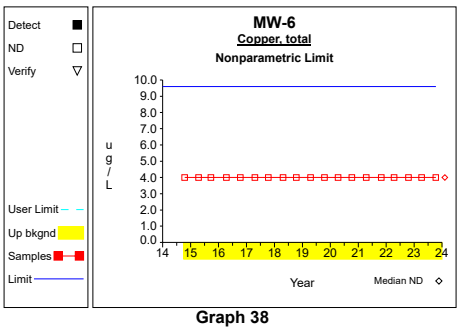
Graph 35



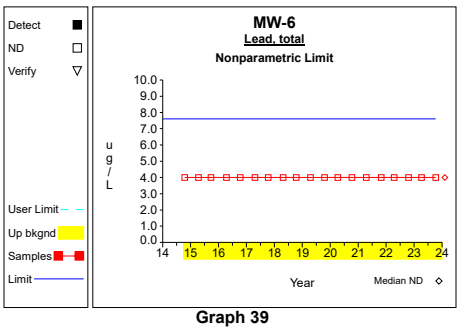
Graph 36



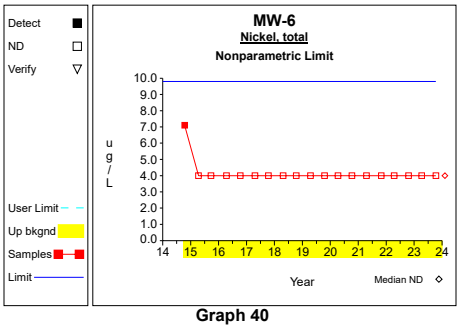
Graph 37



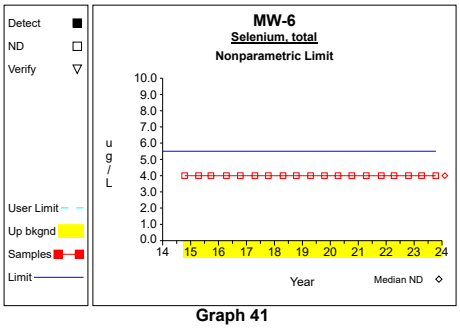
Graph 38



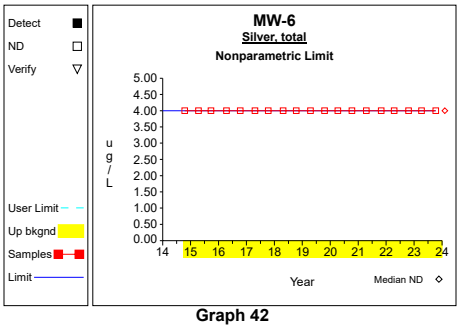
Graph 39



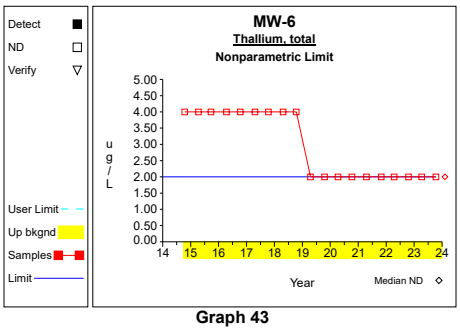
Graph 40



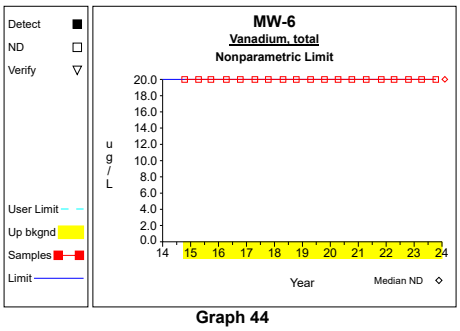
Graph 41



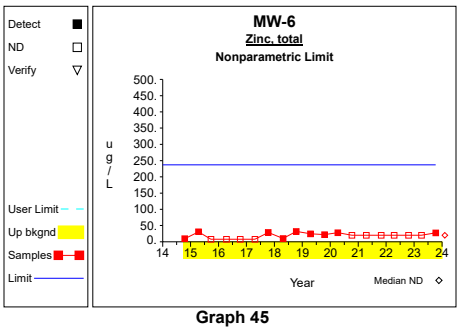
Graph 42



Graph 43

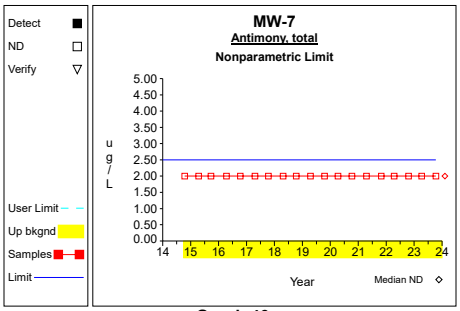


Graph 44

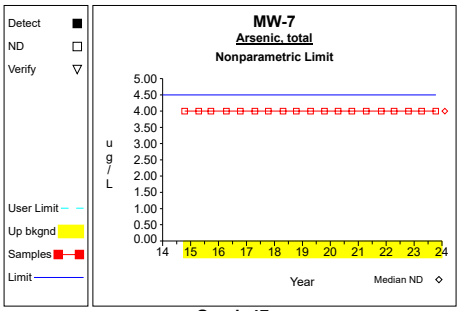


Graph 45

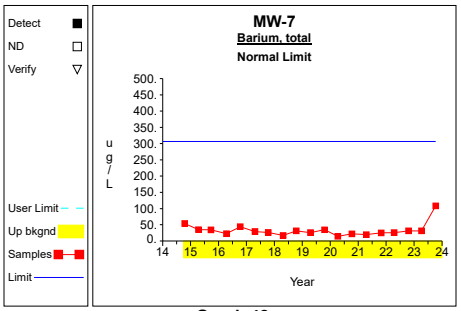
Up vs. Down Prediction Limits



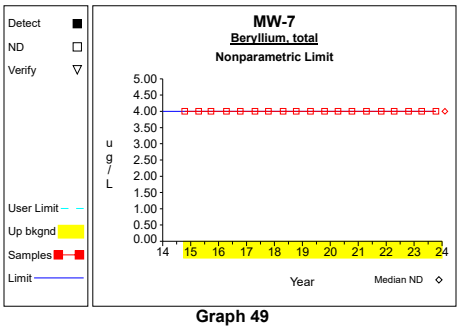
Graph 46



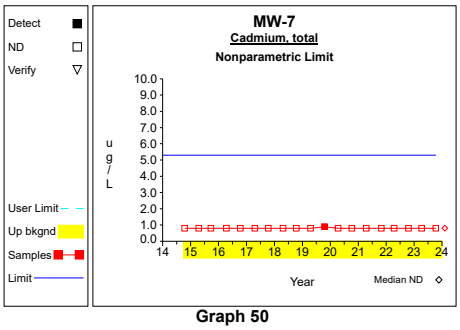
Graph 47



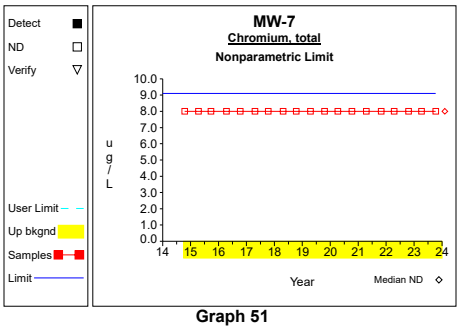
Graph 48



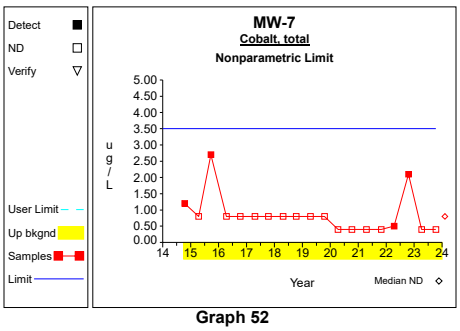
Graph 49



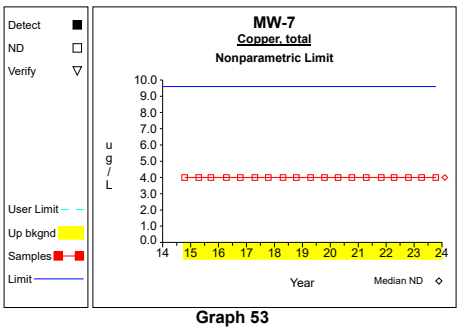
Graph 50



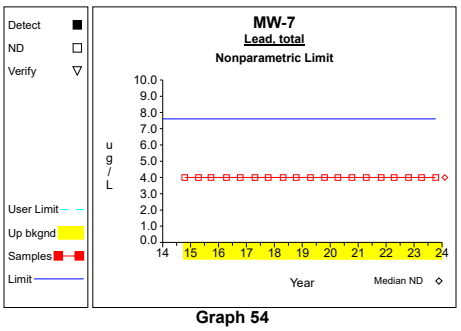
Graph 51



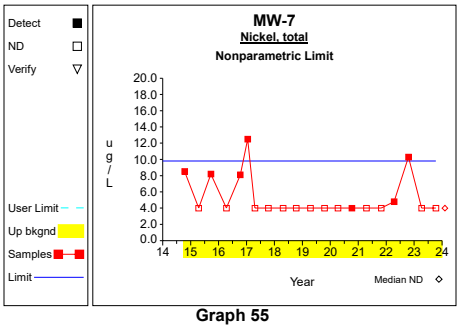
Graph 52



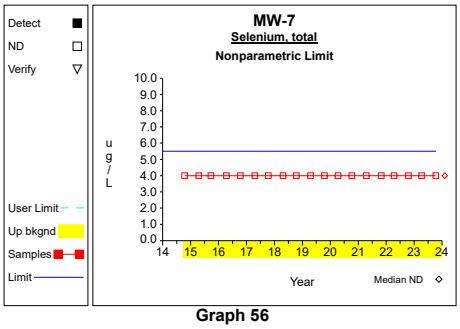
Graph 53



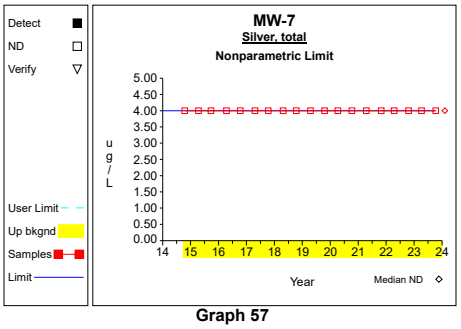
Graph 54



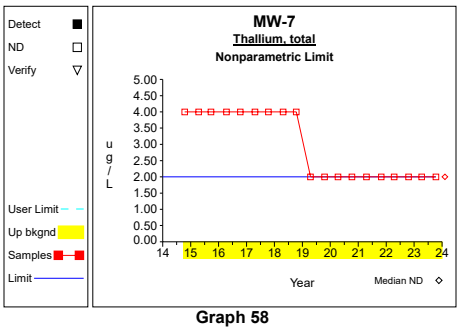
Graph 55



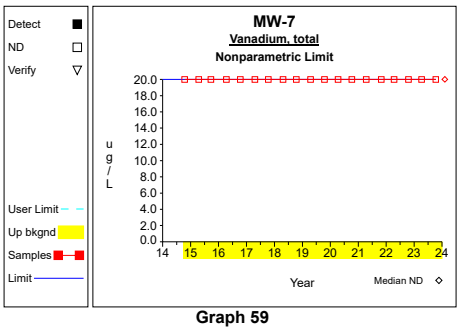
Graph 56



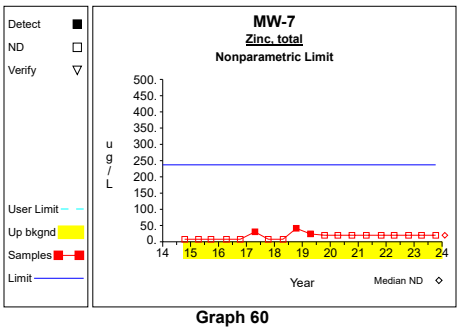
Graph 57



Graph 58



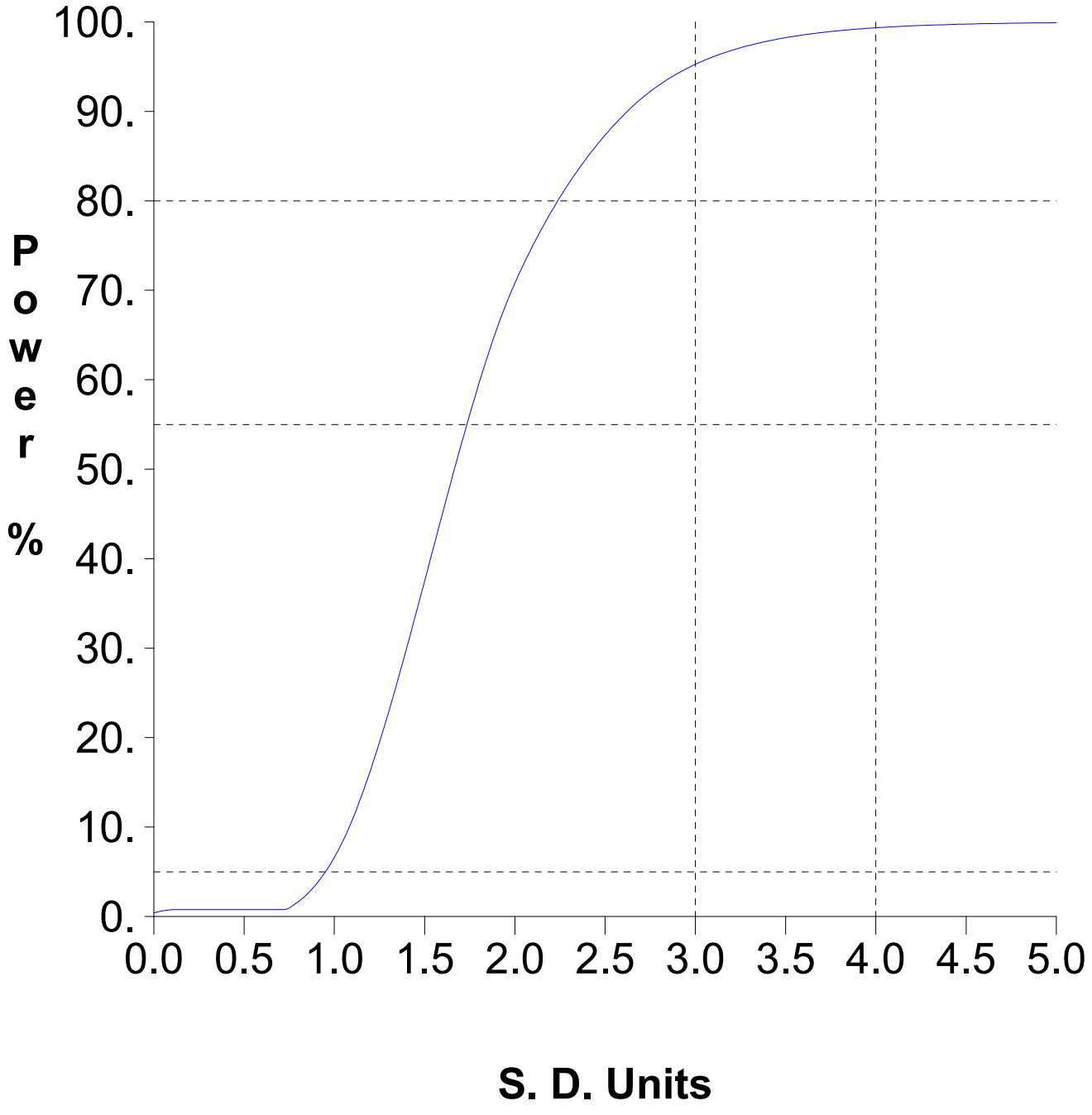
Graph 59



Graph 60

False Positive and False Negative Rates for Current

Upgradient vs. Downgradient Monitoring Program



Attachment C

Assessment Statistics

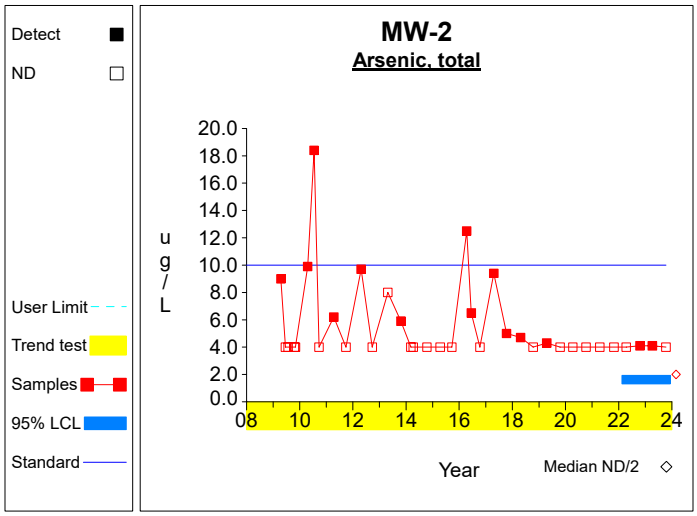
Table 1

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

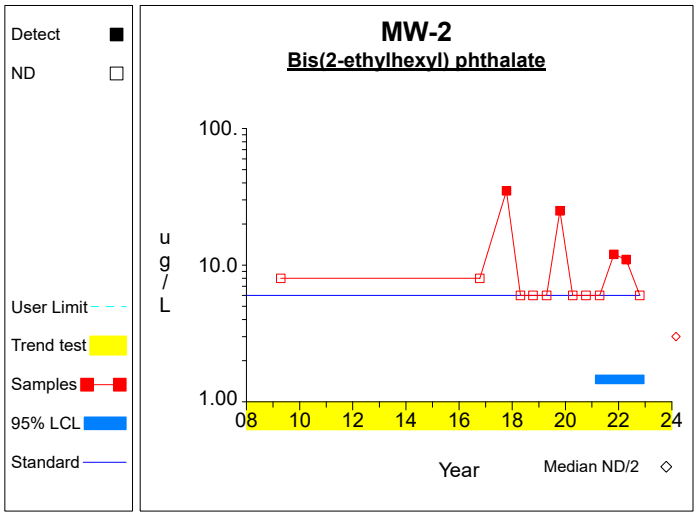
Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Arsenic, total	ug/L	MW-2	4	3.050	1.212	1.176	1.624	4.476	10.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-2	4	7.250	4.924	1.176	1.457	13.043	6.000		
Cobalt, total	ug/L	MW-2	4	3.250	1.182	1.176	1.860	4.640	2.100		
Nickel, total	ug/L	MW-2	4	2.650	1.300	1.176	1.121	4.179	100.000	dec	
Arsenic, total	ug/L	MW-3	4	2.000	0.000	1.176	2.000	2.000	10.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-3	3								*
Cobalt, total	ug/L	MW-3	4	0.400	0.000	1.176	0.400	0.400	2.100		
Nickel, total	ug/L	MW-3	4	2.000	0.000	1.176	2.000	2.000	100.000		
Arsenic, total	ug/L	MW-6	4	4.350	2.944	1.176	0.886	7.814	10.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-6	4	4.000	2.000	1.176	1.647	6.353	6.000		
Cobalt, total	ug/L	MW-6	4	1.725	1.933	1.176	0.000	3.999	2.100		
Nickel, total	ug/L	MW-6	4	2.000	0.000	1.176	2.000	2.000	100.000		
Arsenic, total	ug/L	MW-7	4	2.000	0.000	1.176	2.000	2.000	10.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-7	4	5.000	0.000	1.176	5.000	5.000	6.000		
Cobalt, total	ug/L	MW-7	4	0.850	0.835	1.176	0.000	1.832	2.100		
Nickel, total	ug/L	MW-7	4	4.775	3.913	1.176	0.173	9.377	100.000		

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

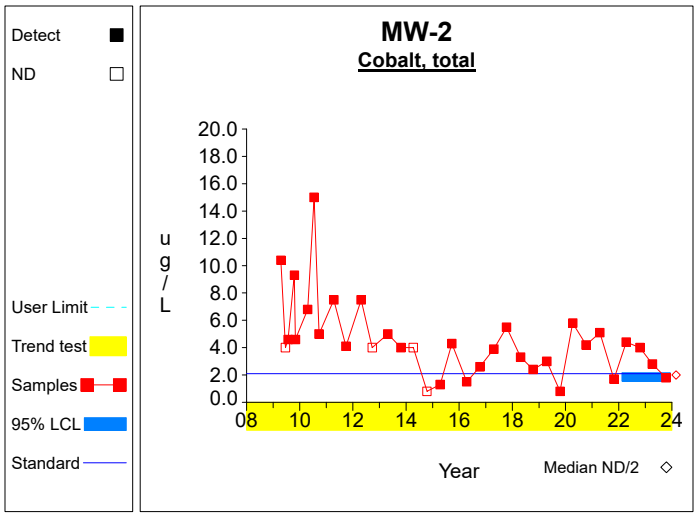
Confidence Limits (Assessment)



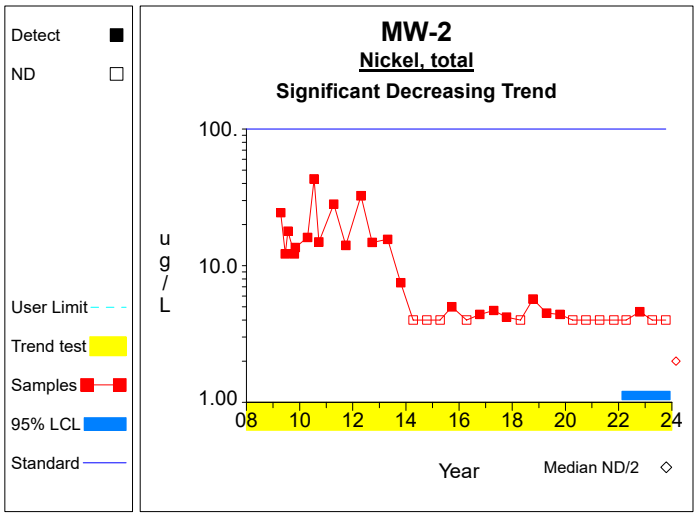
Graph 1



Graph 2

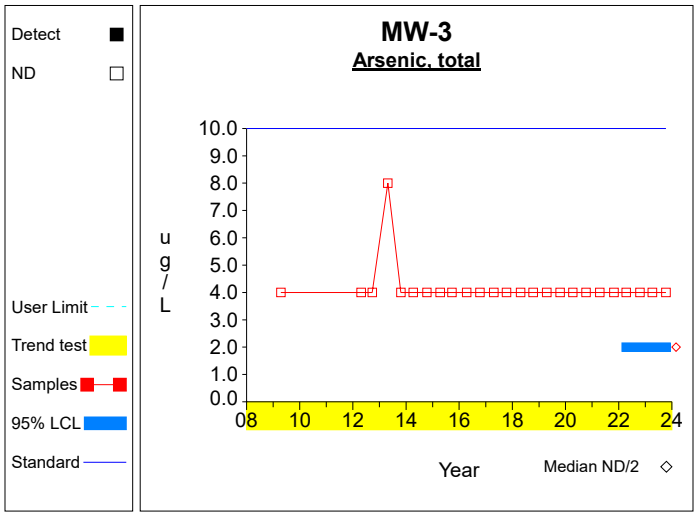


Graph 3

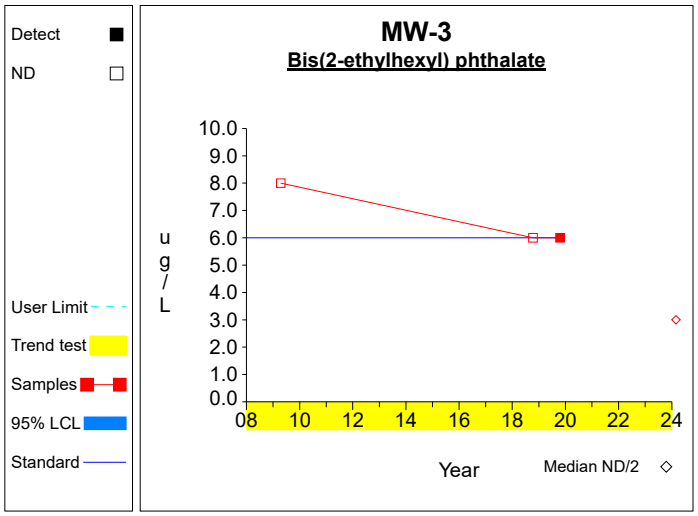


Graph 4

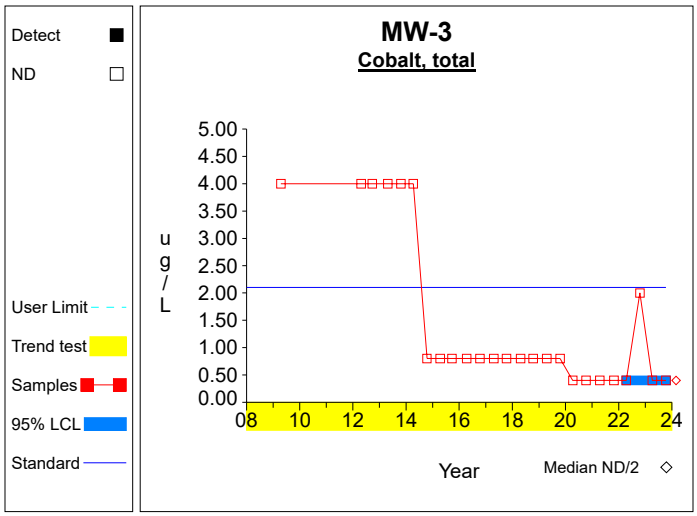
Confidence Limits (Assessment)



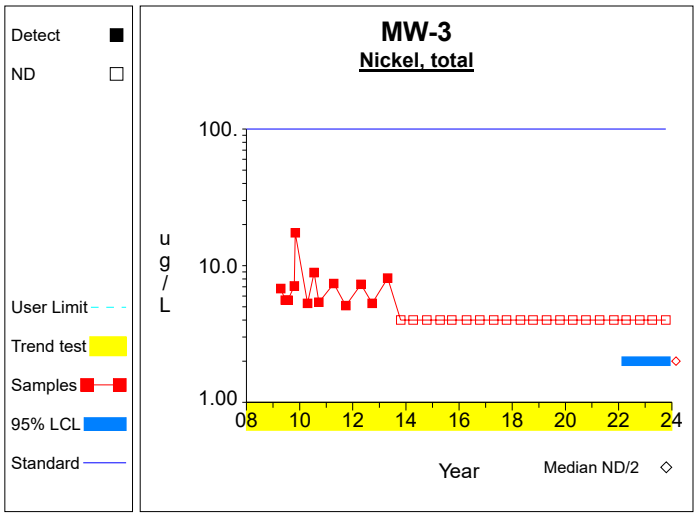
Graph 5



Graph 6

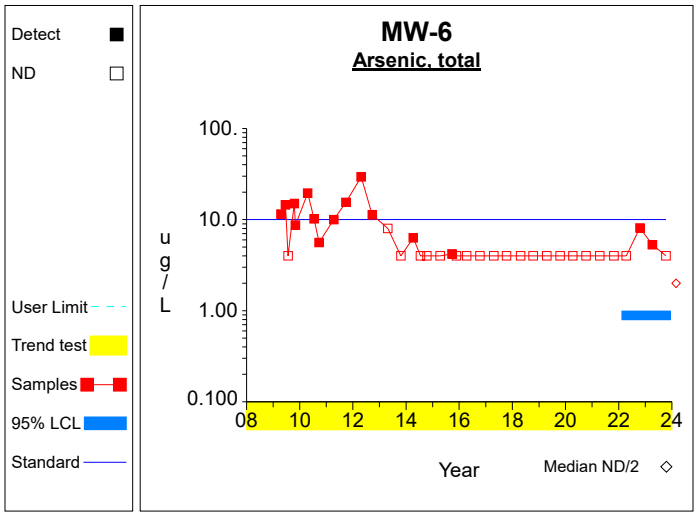


Graph 7

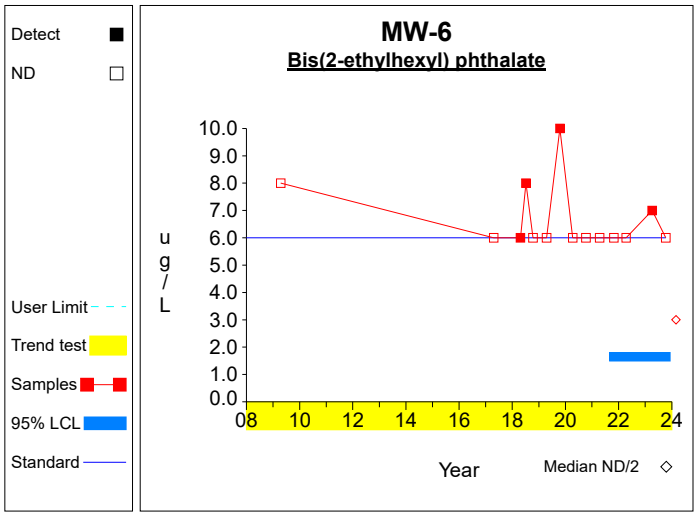


Graph 8

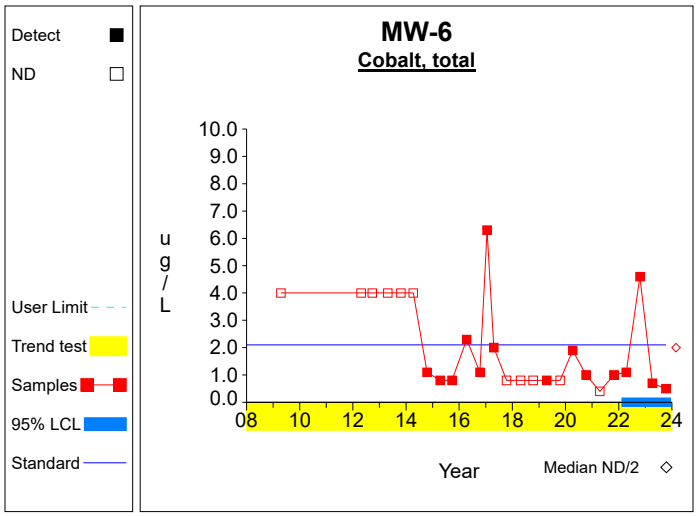
Confidence Limits (Assessment)



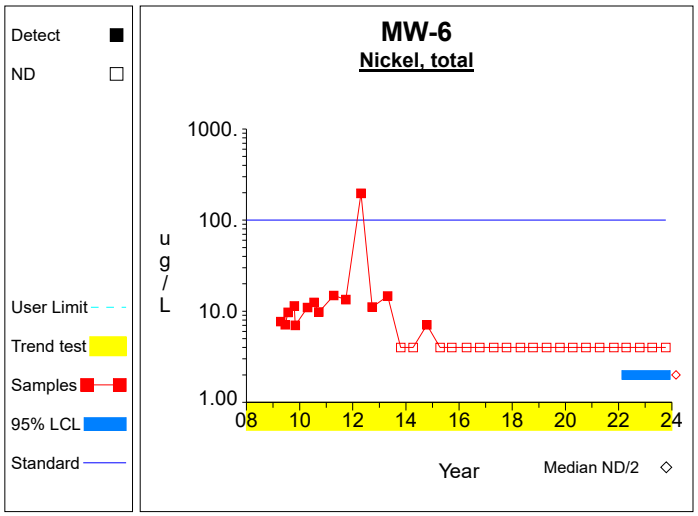
Graph 9



Graph 10

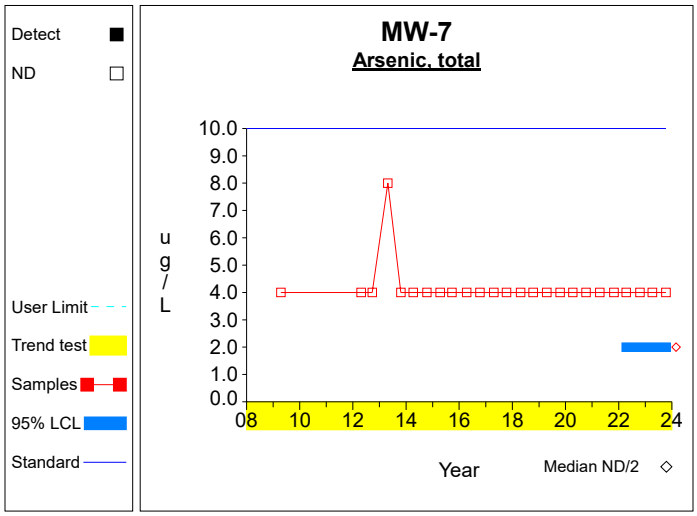


Graph 11

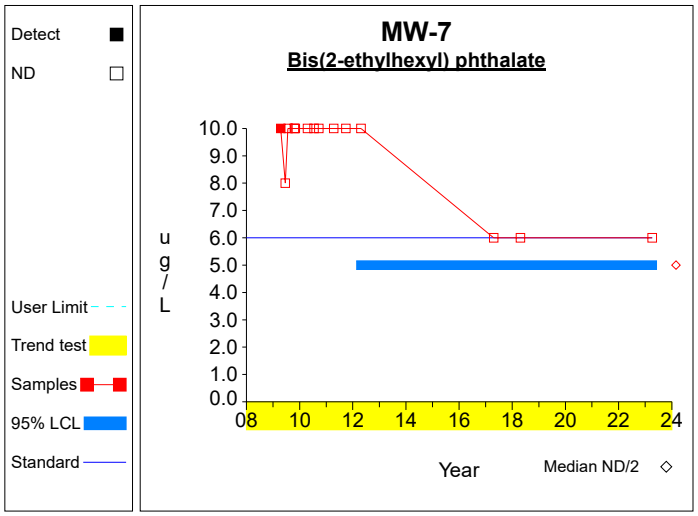


Graph 12

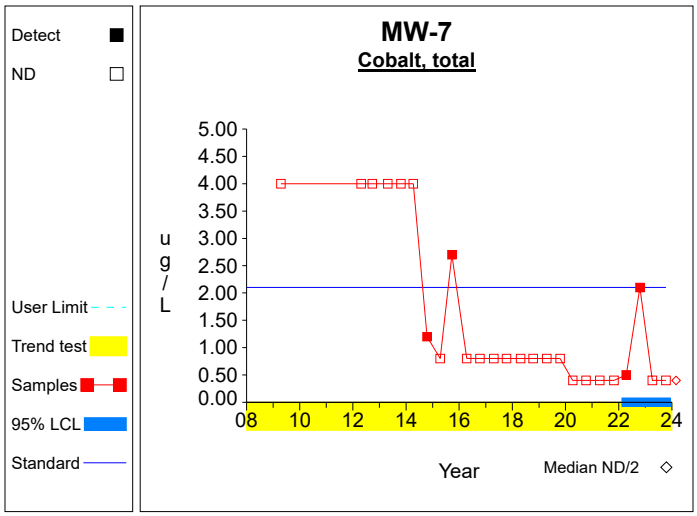
Confidence Limits (Assessment)



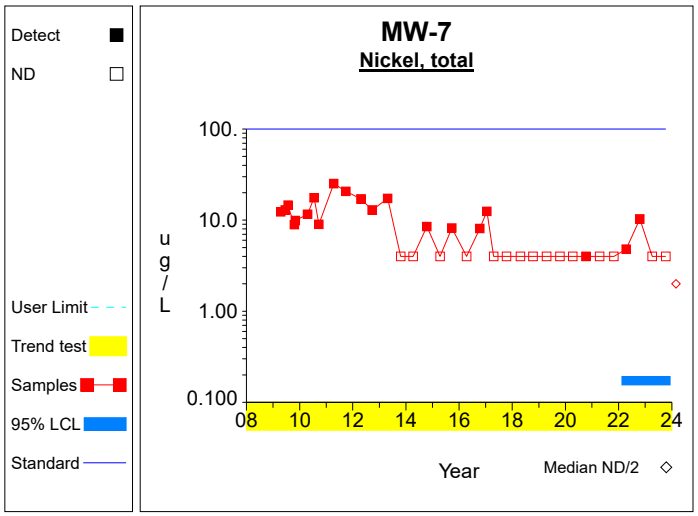
Graph 13



Graph 14



Graph 15



Graph 16

Attachment D

Historical Organic Compound Detections

Table 1

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Diethyl phthalate	MW-11	4/08/2014		8	8	ug/L
Diethyl phthalate	MW-11	4/08/2014		8	8	ug/L
Methyl parathion	MW-11	10/14/2014		2.9	.4	ug/L
Phorate	MW-11	10/14/2014		.9	.4	ug/L
Thionazin	MW-11	10/14/2014		.5	.4	ug/L
Bis(2-ethylhexyl) phthalate	MW-12	4/16/2019		16	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-12	4/09/2020		16	6	ug/L
Acetone	MW-14	5/24/2010		44.9	10.0	ug/L
Acetone	MW-14	10/12/2017		11.8	10.0	ug/L
Toluene	MW-14	5/24/2010		3.2	1.0	ug/L
Xylenes, total	MW-14	5/24/2010		4.9	2.0	ug/L
Acetone	MW-15	10/12/2017		10.8	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/21/2013		50	8	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	4/14/2015		11	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/11/2016		19	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/12/2017		15	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/12/2018		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	4/16/2019		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	10/17/2019		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/08/2020		8	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/28/2021		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-16	10/19/2022		19	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/12/2017		35	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/17/2019		25	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	10/28/2021		12	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-2	4/13/2022		11	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-3	10/17/2019		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-4	4/23/2018		11	6	ug/L
Acetone	MW-5	10/12/2017		12.2	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	4/23/2018		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	7/05/2018		8	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	10/17/2019		10	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-6	4/06/2023		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-7	4/15/2009		10	8	ug/L
Acetone	MW-9	5/24/2010		45.1	10.0	ug/L
Acetone	MW-9	10/12/2017		11.2	10.0	ug/L
Toluene	MW-9	5/24/2010		3.6	1.0	ug/L
Xylenes, total	MW-9	5/24/2010		5.6	2.0	ug/L
2-butanone (mek)	SW-1	10/12/2018		7.7	5.0	ug/L
Acetone	SW-1	4/20/2017		15.7	10.0	ug/L
Acetone	SW-1	10/12/2018		27.2	10.0	ug/L
Phorate	SW-2	10/14/2014		.4	.4	ug/L

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

Appendix C

Laboratory Reports for Reporting Period

With Chain of Custody

ANALYTICAL REPORT

May 01, 2023

Work Order: 1GD0741

Report To	Work Order Information
Todd Whipple	Date Received: 4/7/2023 9:27:00AM
HLW Engineering	Collector: JGH
PO Box 314	Phone: (515) 733-4144
Story City, IA 50248	PO Number: FMC SLF - New Regs

Project: FMC SLF - New Regs

Project Number: 6028

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-01 MW-9 (up)				Matrix: Water		Collected: 04/06/23 09:42	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Surrogate: Dibromofluoromethane	*114 %*			*80-126*	MSV	04/07/23 15:29	
Surrogate: 1,2-Dichloroethane-d4	*89.5 %*			*63-138*	MSV	04/07/23 15:29	
Surrogate: Toluene-d8	*97.5 %*			*87-116*	MSV	04/07/23 15:29	
Surrogate: 4-Bromofluorobenzene	*99.7 %*			*85-111*	MSV	04/07/23 15:29	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

May 01, 2023

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-01 MW-9 (up)				Matrix: Water		Collected: 04/06/23 09:42	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:29	
Surrogate: Dibromofluoromethane	*114 %*			*75-136*	MSV	04/07/23 15:29	
Surrogate: 1,2-Dichloroethane-d4	*89.5 %*			*61-142*	MSV	04/07/23 15:29	
Surrogate: Toluene-d8	*97.5 %*			*82-121*	MSV	04/07/23 15:29	
Surrogate: 4-Bromofluorobenzene	*99.7 %*			*80-116*	MSV	04/07/23 15:29	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Barium, total	**0.0961 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Cobalt, total	<0.0004 mg/L	0.0004	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 1:47	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

May 01, 2023

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-01 MW-9 (up)				Matrix: Water		Collected: 04/06/23 09:42	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
Zinc, total	**0.0213 mg/L**	**0.0200**	1GD0464	EPA 6020A	RVV	04/12/23 1:47	
1GD0741-02 MW-14 (up)				Matrix: Water		Collected: 04/06/23 09:28	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Surrogate: Dibromofluoromethane	*110 %*			*80-126*	MSV	04/07/23 15:55	
Surrogate: 1,2-Dichloroethane-d4	*88.8 %*			*63-138*	MSV	04/07/23 15:55	
Surrogate: Toluene-d8	*98.6 %*			*87-116*	MSV	04/07/23 15:55	
Surrogate: 4-Bromofluorobenzene	*101 %*			*85-111*	MSV	04/07/23 15:55	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

May 01, 2023

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-02 MW-14 (up)				Matrix: Water		Collected: 04/06/23 09:28	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 15:55	
Surrogate: Dibromofluoromethane	*110 %*			*75-136*	MSV	04/07/23 15:55	
Surrogate: 1,2-Dichloroethane-d4	*88.8 %*			*61-142*	MSV	04/07/23 15:55	
Surrogate: Toluene-d8	*98.6 %*			*82-121*	MSV	04/07/23 15:55	
Surrogate: 4-Bromofluorobenzene	*101 %*			*80-116*	MSV	04/07/23 15:55	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Barium, total	**0.117 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Cobalt, total	<0.0004 mg/L	0.0004	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:11	
Zinc, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:11	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-03 MW-4 (up)				Matrix: Water		Collected: 04/06/23 10:17	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Surrogate: Dibromofluoromethane	*114 %*			*80-126*	MSV	04/07/23 16:49	
Surrogate: 1,2-Dichloroethane-d4	*89.2 %*			*63-138*	MSV	04/07/23 16:49	
Surrogate: Toluene-d8	*98.1 %*			*87-116*	MSV	04/07/23 16:49	
Surrogate: 4-Bromofluorobenzene	*100 %*			*85-111*	MSV	04/07/23 16:49	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

May 01, 2023

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-03 MW-4 (up)				Matrix: Water		Collected: 04/06/23 10:17	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 16:49	
Surrogate: Dibromofluoromethane	*114 %*			*75-136*	MSV	04/07/23 16:49	
Surrogate: 1,2-Dichloroethane-d4	*89.2 %*			*61-142*	MSV	04/07/23 16:49	
Surrogate: Toluene-d8	*98.1 %*			*82-121*	MSV	04/07/23 16:49	
Surrogate: 4-Bromofluorobenzene	*100 %*			*80-116*	MSV	04/07/23 16:49	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Arsenic, total	**0.0045 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Barium, total	**0.162 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Cobalt, total	**0.0035 mg/L**	**0.0004**	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Chromium, total	**0.0083 mg/L**	**0.0080**	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Copper, total	**0.0091 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Nickel, total	**0.0098 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Lead, total	**0.0076 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
Zinc, total	**0.627 mg/L**	**0.0200**	1GD0464	EPA 6020A	RVV	04/12/23 2:17	
1GD0741-04 MW-5 (up)				Matrix: Water		Collected: 04/06/23 09:49	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Surrogate: Dibromofluoromethane	*113 %*			*80-126*	MSV	04/07/23 17:16	
Surrogate: 1,2-Dichloroethane-d4	*88.9 %*			*63-138*	MSV	04/07/23 17:16	
Surrogate: Toluene-d8	*97.8 %*			*87-116*	MSV	04/07/23 17:16	
Surrogate: 4-Bromofluorobenzene	*100 %*			*85-111*	MSV	04/07/23 17:16	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

May 01, 2023

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-04 MW-5 (up)				Matrix: Water		Collected: 04/06/23 09:49	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

May 01, 2023

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-04 MW-5 (up)				Matrix: Water		Collected: 04/06/23 09:49	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:16	
Surrogate: Dibromofluoromethane	*113 %*			*75-136*	MSV	04/07/23 17:16	
Surrogate: 1,2-Dichloroethane-d4	*88.9 %*			*61-142*	MSV	04/07/23 17:16	
Surrogate: Toluene-d8	*97.8 %*			*82-121*	MSV	04/07/23 17:16	
Surrogate: 4-Bromofluorobenzene	*100 %*			*80-116*	MSV	04/07/23 17:16	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Barium, total	**0.206 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Cadmium, total	**0.0011 mg/L**	**0.0008**	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Cobalt, total	**0.0027 mg/L**	**0.0004**	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Copper, total	**0.0096 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Nickel, total	**0.0131 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Lead, total	**0.0062 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
Zinc, total	**0.411 mg/L**	**0.0200**	1GD0464	EPA 6020A	RVV	04/12/23 2:23	
1GD0741-05 MW-11				Matrix: Water		Collected: 04/06/23 11:14	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Surrogate: Dibromofluoromethane	*114 %*			*80-126*	MSV	04/07/23 17:42	
Surrogate: 1,2-Dichloroethane-d4	*89.9 %*			*63-138*	MSV	04/07/23 17:42	
Surrogate: Toluene-d8	*97.8 %*			*87-116*	MSV	04/07/23 17:42	
Surrogate: 4-Bromofluorobenzene	*101 %*			*85-111*	MSV	04/07/23 17:42	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

May 01, 2023

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-05 MW-11				Matrix: Water		Collected: 04/06/23 11:14	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

May 01, 2023

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-05 MW-11				Matrix: Water		Collected: 04/06/23 11:14	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 17:42	
Surrogate: Dibromofluoromethane	*114 %*			*75-136*	MSV	04/07/23 17:42	
Surrogate: 1,2-Dichloroethane-d4	*89.9 %*			*61-142*	MSV	04/07/23 17:42	
Surrogate: Toluene-d8	*97.8 %*			*82-121*	MSV	04/07/23 17:42	
Surrogate: 4-Bromofluorobenzene	*101 %*			*80-116*	MSV	04/07/23 17:42	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Barium, total	**0.0174 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Cobalt, total	**0.0006 mg/L**	**0.0004**	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
Zinc, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:29	
1GD0741-06 MW-12				Matrix: Water		Collected: 04/06/23 11:31	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Surrogate: Dibromofluoromethane	*110 %*			*80-126*	MSV	04/07/23 18:09	
Surrogate: 1,2-Dichloroethane-d4	*89.1 %*			*63-138*	MSV	04/07/23 18:09	
Surrogate: Toluene-d8	*98.6 %*			*87-116*	MSV	04/07/23 18:09	
Surrogate: 4-Bromofluorobenzene	*99.8 %*			*85-111*	MSV	04/07/23 18:09	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

May 01, 2023

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-06 MW-12				Matrix: Water		Collected: 04/06/23 11:31	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-06 MW-12				Matrix: Water		Collected: 04/06/23 11:31	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:09	
Surrogate: Dibromofluoromethane	*110 %*			*75-136*	MSV	04/07/23 18:09	
Surrogate: 1,2-Dichloroethane-d4	*89.1 %*			*61-142*	MSV	04/07/23 18:09	
Surrogate: Toluene-d8	*98.6 %*			*82-121*	MSV	04/07/23 18:09	
Surrogate: 4-Bromofluorobenzene	*99.8 %*			*80-116*	MSV	04/07/23 18:09	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Barium, total	**0.123 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Cobalt, total	<0.0004 mg/L	0.0004	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
Zinc, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:47	
1GD0741-07 MW-15				Matrix: Water		Collected: 04/06/23 11:49	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Surrogate: Dibromofluoromethane	*111 %*			*80-126*	MSV	04/07/23 18:35	
Surrogate: 1,2-Dichloroethane-d4	*89.4 %*			*63-138*	MSV	04/07/23 18:35	
Surrogate: Toluene-d8	*98.5 %*			*87-116*	MSV	04/07/23 18:35	
Surrogate: 4-Bromofluorobenzene	*99.4 %*			*85-111*	MSV	04/07/23 18:35	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-07 MW-15				Matrix: Water		Collected: 04/06/23 11:49	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 18:35	
Surrogate: Dibromofluoromethane	*111 %*			*75-136*	MSV	04/07/23 18:35	
Surrogate: 1,2-Dichloroethane-d4	*89.4 %*			*61-142*	MSV	04/07/23 18:35	
Surrogate: Toluene-d8	*98.5 %*			*82-121*	MSV	04/07/23 18:35	
Surrogate: 4-Bromofluorobenzene	*99.4 %*			*80-116*	MSV	04/07/23 18:35	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-07 MW-15				Matrix: Water		Collected: 04/06/23 11:49	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Barium, total	**0.0180 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Cobalt, total	<0.0004 mg/L	0.0004	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
Zinc, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:53	
1GD0741-08 MW-16				Matrix: Water		Collected: 04/06/23 12:09	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Surrogate: Dibromofluoromethane	*112 %*			*80-126*	MSV	04/07/23 19:02	
Surrogate: 1,2-Dichloroethane-d4	*89.6 %*			*63-138*	MSV	04/07/23 19:02	
Surrogate: Toluene-d8	*97.7 %*			*87-116*	MSV	04/07/23 19:02	
Surrogate: 4-Bromofluorobenzene	*99.1 %*			*85-111*	MSV	04/07/23 19:02	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-08 MW-16				Matrix: Water		Collected: 04/06/23 12:09	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:02	
Surrogate: Dibromofluoromethane	*112 %*			*75-136*	MSV	04/07/23 19:02	
Surrogate: 1,2-Dichloroethane-d4	*89.6 %*			*61-142*	MSV	04/07/23 19:02	
Surrogate: Toluene-d8	*97.7 %*			*82-121*	MSV	04/07/23 19:02	
Surrogate: 4-Bromofluorobenzene	*99.1 %*			*80-116*	MSV	04/07/23 19:02	
Bis(2-Ethylhexyl) Phthalate	<6 ug/L	6	1GD0431	EPA 8270C	EPP	04/25/23 14:37	
Surrogate: Nitrobenzene-d5	*76.9 %*			*29-130*	EPP	04/25/23 14:37	
Surrogate: 2-Fluorobiphenyl	*79.3 %*			*23-113*	EPP	04/25/23 14:37	
Surrogate: Terphenyl-dl4	*112 %*			*27-141*	EPP	04/25/23 14:37	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-08 MW-16				Matrix: Water		Collected: 04/06/23 12:09	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Barium, total	**0.0380 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Cobalt, total	<0.0004 mg/L	0.0004	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
Zinc, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 2:59	
1GD0741-09 MW-2				Matrix: Water		Collected: 04/06/23 11:00	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Surrogate: Dibromofluoromethane	*112 %*			*80-126*	MSV	04/07/23 19:29	
Surrogate: 1,2-Dichloroethane-d4	*89.3 %*			*63-138*	MSV	04/07/23 19:29	
Surrogate: Toluene-d8	*97.7 %*			*87-116*	MSV	04/07/23 19:29	
Surrogate: 4-Bromofluorobenzene	*100 %*			*85-111*	MSV	04/07/23 19:29	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-09 MW-2				Matrix: Water		Collected: 04/06/23 11:00	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:29	
Surrogate: Dibromofluoromethane	*112 %*			*75-136*	MSV	04/07/23 19:29	
Surrogate: 1,2-Dichloroethane-d4	*89.3 %*			*61-142*	MSV	04/07/23 19:29	
Surrogate: Toluene-d8	*97.7 %*			*82-121*	MSV	04/07/23 19:29	
Surrogate: 4-Bromofluorobenzene	*100 %*			*80-116*	MSV	04/07/23 19:29	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Arsenic, total	**0.0041 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Barium, total	**0.0332 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:05	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-09 MW-2				Matrix: Water		Collected: 04/06/23 11:00	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Cobalt, total	**0.0028 mg/L**	**0.0004**	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
Zinc, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:05	
1GD0741-10 MW-3				Matrix: Water		Collected: 04/06/23 10:38	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Surrogate: Dibromofluoromethane	*114 %*			*80-126*	MSV	04/07/23 19:55	
Surrogate: 1,2-Dichloroethane-d4	*89.8 %*			*63-138*	MSV	04/07/23 19:55	
Surrogate: Toluene-d8	*98.3 %*			*87-116*	MSV	04/07/23 19:55	
Surrogate: 4-Bromofluorobenzene	*101 %*			*85-111*	MSV	04/07/23 19:55	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-10 MW-3				Matrix: Water		Collected: 04/06/23 10:38	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 19:55	
Surrogate: Dibromofluoromethane	*114 %*			*75-136*	MSV	04/07/23 19:55	
Surrogate: 1,2-Dichloroethane-d4	*89.8 %*			*61-142*	MSV	04/07/23 19:55	
Surrogate: Toluene-d8	*98.3 %*			*82-121*	MSV	04/07/23 19:55	
Surrogate: 4-Bromofluorobenzene	*101 %*			*80-116*	MSV	04/07/23 19:55	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Barium, total	**0.0843 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Cobalt, total	<0.0004 mg/L	0.0004	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:11	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-10 MW-3				Matrix: Water		Collected: 04/06/23 10:38	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
Zinc, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:11	
1GD0741-11 MW-6				Matrix: Water		Collected: 04/06/23 13:41	
Dichlorodifluoromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Chloromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Bromomethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Chloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Acetone	<10.0 ug/L	10.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Methyl Iodide	<2.0 ug/L	2.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Acetonitrile	<10.0 ug/L	10.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Methylene Chloride	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
2,2-Dichloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
2-Butanone (MEK)	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Bromochloromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Chloroform	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,1-Dichloropropene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Benzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Trichloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Dibromomethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-11 MW-6				Matrix: Water		Collected: 04/06/23 13:41	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Toluene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Ethyl Methacrylate	<10.0 ug/L	10.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,3-Dichloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Chlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Ethylbenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Xylenes, total	<2.0 ug/L	2.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Styrene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Bromoform	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,3-Dichlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,2-Dibromo-3-chloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
1,2,4-Trichlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Surrogate: Dibromofluoromethane	*112 %*			*80-126*	MSV	04/10/23 17:16	
Surrogate: 1,2-Dichloroethane-d4	*91.8 %*			*63-138*	MSV	04/10/23 17:16	
Surrogate: Toluene-d8	*98.1 %*			*87-116*	MSV	04/10/23 17:16	
Surrogate: 4-Bromofluorobenzene	*99.8 %*			*85-111*	MSV	04/10/23 17:16	
Allyl chloride	<1.0 ug/L	1.0	1GD0871	EPA 8260B	LNH	04/17/23 13:57	
Chloroprene	<1.0 ug/L	1.0	1GD0871	EPA 8260B	LNH	04/17/23 13:57	
Methacrylonitrile	<1.0 ug/L	1.0	1GD0871	EPA 8260B	LNH	04/17/23 13:57	
Methyl Methacrylate	<1.0 ug/L	1.0	1GD0871	EPA 8260B	LNH	04/17/23 13:57	
Propionitrile	<10.0 ug/L	10.0	1GD0871	EPA 8260B	LNH	04/17/23 13:57	
Surrogate: Dibromofluoromethane	*99.7 %*			*80-126*	LNH	04/17/23 13:57	
Surrogate: 1,2-Dichloroethane-d4	*102 %*			*63-138*	LNH	04/17/23 13:57	
Surrogate: Toluene-d8	*94.6 %*			*87-116*	LNH	04/17/23 13:57	
Surrogate: 4-Bromofluorobenzene	*95.7 %*			*85-111*	LNH	04/17/23 13:57	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-11 MW-6				Matrix: Water		Collected: 04/06/23 13:41	
Acrolein	<10.0 ug/L	10.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Acrylonitrile	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:16	
Surrogate: 1,2-Dichloroethane-d4	*91.8 %*			*63-138*	MSV	04/10/23 17:16	
Surrogate: Toluene-d8	*98.1 %*			*87-116*	MSV	04/10/23 17:16	
Surrogate: 4-Bromofluorobenzene	*99.8 %*			*85-111*	MSV	04/10/23 17:16	
Isobutanol	<1.0 mg/L	1.0	1GD0694	EPA 8015C	TJB	04/14/23 17:13	
N-Nitrosodimethylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Methyl Methanesulfonate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
N-Nitrosodiethylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
N-Nitrosomethylethylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Ethyl Methanesulfonate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Phenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Bis(2-Chloroethyl) Ether	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2-Chlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Benzyl Alcohol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2-Methylphenol (o-Cresol)	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Bis[2-Chloroisopropyl]ether	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
n-Nitroso-di-n-propylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
N-Nitrosopyrrolidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Acetophenone	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
o-Toluidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
(3 & 4)-Methylphenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Hexachloroethane	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Nitrobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
N-Nitrosopiperidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Isophorone	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2-Nitrophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2,4-Dimethylphenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Bis (2-Chloroethoxy) Methane	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2,4-Dichlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Naphthalene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
4-Chloroaniline	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2,6-Dichlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Hexachloropropene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Hexachlorobutadiene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
N-Nitrosodi-n-butylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
1,4-Phenylenediamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
4-Chloro-3-methylphenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-11 MW-6				Matrix: Water		Collected: 04/06/23 13:41	
2-Methylnaphthalene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Isosafrole	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
1,2,4,5-Tetrachlorobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Hexachlorocyclopentadiene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2,4,6-Trichlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2,4,5-Trichlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Safrole	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2-Chloronaphthalene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2-Nitroaniline	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
1,4-Naphthoquinone	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Dimethylphthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
1,3-Dinitrobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
1,2-Dinitrobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2,6-Dinitrotoluene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Acenaphthylene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
3-Nitroaniline	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Acenaphthene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2,4-Dinitrophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
4-Nitrophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Dibenzofuran	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2,4-Dinitrotoluene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2,3,4,6-Tetrachlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Pentachlorobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
1-Naphthylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2-Naphthylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Diethyl Phthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Fluorene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
4-Chlorophenyl Phenyl Ether	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
4-Nitroaniline	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
5-Nitro-o-toluidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
4,6-Dinitro-2-methylphenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
N-Nitrosodiphenylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Diphenylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Azobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Diallate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
1,3,5-Trinitrobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Phenacetin	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-11 MW-6				Matrix: Water		Collected: 04/06/23 13:41	
4-Bromophenyl Phenyl Ether	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
4-Aminobiphenyl	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Pentachlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Pronamide	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Pentachloronitrobenzene (PCNB)	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Phenanthrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Anthracene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Di-n-butyl Phthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Methapyrilene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Fluoranthene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Isodrin	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Chlorobenzilate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Pyrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
p-(Dimethylamino)azobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
3,3-Dimethylbenzidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Butyl Benzyl Phthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Benzo(a)anthracene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Chrysene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Bis(2-Ethylhexyl) Phthalate	**7 ug/L**	**6**	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Kepone	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
3,3´-Dichlorobenzidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
2-Acetylaminofluorene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Di-n-octyl Phthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Benzo(b)Fluoranthene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
7,12-Dimethylbenz [a] anthracene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Benzo(k)Fluoranthene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Benzo(a)Pyrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
3-Methylcholanthrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Dibenzo(a,h)anthracene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Indeno(1,2,3-cd)Pyrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Benzo(g,h,i)perylene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 21:50	
Surrogate: 2-Fluorophenol	*63.3 %*			*24-136*	EPP	04/26/23 21:50	
Surrogate: Phenol-d6	*67.1 %*			*15-140*	EPP	04/26/23 21:50	
Surrogate: Nitrobenzene-d5	*62.7 %*			*29-130*	EPP	04/26/23 21:50	
Surrogate: 2-Fluorobiphenyl	*63.4 %*			*23-113*	EPP	04/26/23 21:50	
Surrogate: 2,4,6-Tribromophenol	*74.9 %*			*15-139*	EPP	04/26/23 21:50	
Surrogate: Terphenyl-dl4	*86.2 %*			*27-141*	EPP	04/26/23 21:50	
O,O,O-Triethyl phosphorothioate	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 22:37	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-11 MW-6				Matrix: Water		Collected: 04/06/23 13:41	
Thionazin	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 22:37	
Phorate	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 22:37	
Dimethoate	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 22:37	
Disulfoton	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 22:37	
Methyl Parathion	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 22:37	
Parathion	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 22:37	
Famphur	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 22:37	
Surrogate: 2-Nitro-m-xylene	*71.1 %*			*38-122*	EPP	04/25/23 22:37	
2,4-D	<2.0 ug/L	2.0	1GD0480	EPA 8151A	EPP	04/27/23 16:13	
2,4,5-TP (Silvex)	<0.5 ug/L	0.5	1GD0480	EPA 8151A	EPP	04/27/23 16:13	
2,4,5-T	<0.5 ug/L	0.5	1GD0480	EPA 8151A	EPP	04/27/23 16:13	
Dinoseb	<0.5 ug/L	0.5	1GD0480	EPA 8151A	EPP	04/27/23 16:13	
Surrogate: 2,5-Dichlorobenzoic Acid	*72.1 %*			*31-116*	EPP	04/27/23 16:13	
Alpha-BHC	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Gamma-BHC [Lindane]	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Beta-BHC	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Heptachlor	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Delta-BHC	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Aldrin	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Heptachlor Epoxide	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Endosulfan I	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
4,4`-DDE	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Dieldrin	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Endrin	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
4,4`-DDD	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Endosulfan II	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
4,4`-DDT	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Endrin Aldehyde	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Endosulfan Sulfate	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Methoxychlor	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Chlordane	<0.10 ug/L	0.10	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Toxaphene	<0.20 ug/L	0.20	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Hexachlorobenzene	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 15:53	
Surrogate: Tetrachloro-m-xylene	*67.4 %*			*10-121*	EPP	04/25/23 15:53	
Arochlor 1016	<0.10 ug/L	0.10	1GD0483	EPA 8082	EPP	04/25/23 15:53	
Arochlor 1221	<0.20 ug/L	0.20	1GD0483	EPA 8082	EPP	04/25/23 15:53	
Arochlor 1232	<0.20 ug/L	0.20	1GD0483	EPA 8082	EPP	04/25/23 15:53	
Arochlor 1242	<0.20 ug/L	0.20	1GD0483	EPA 8082	EPP	04/25/23 15:53	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-11 MW-6				Matrix: Water		Collected: 04/06/23 13:41	
Arochlor 1248	<0.20 ug/L	0.20	1GD0483	EPA 8082	EPP	04/25/23 15:53	
Arochlor 1254	<0.10 ug/L	0.10	1GD0483	EPA 8082	EPP	04/25/23 15:53	
Arochlor 1260	<0.10 ug/L	0.10	1GD0483	EPA 8082	EPP	04/25/23 15:53	
Surrogate: Tetrachloro-m-xylene	*70.8 %*			*38-121*	EPP	04/25/23 15:53	
Surrogate: Decachlorobiphenyl	*85.0 %*			*25-119*	EPP	04/25/23 15:53	
Cyanide, total	<0.005 mg/L	0.005	1GD0473	ASTM D7511-12(2017)	AKK	04/11/23 8:55	
Sulfide, total	<0.30 mg/L	0.30	1GD0441	EPA 376.2	JLW	04/10/23 16:01	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Arsenic, total	**0.0053 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Barium, total	**0.0245 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Cobalt, total	**0.0007 mg/L**	**0.0004**	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Mercury, total	<0.00050 mg/L	0.00050	1GD0305	EPA 7470A	JAR	04/10/23 15:54	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Tin, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
Zinc, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:17	
1GD0741-12 MW-7				Matrix: Water		Collected: 04/06/23 13:04	
Dichlorodifluoromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Chloromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Bromomethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Chloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Acetone	<10.0 ug/L	10.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Methyl Iodide	<2.0 ug/L	2.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Acetonitrile	<10.0 ug/L	10.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Methylene Chloride	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-12 MW-7				Matrix: Water		Collected: 04/06/23 13:04	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
2,2-Dichloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
2-Butanone (MEK)	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Bromochloromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Chloroform	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,1-Dichloropropene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Benzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Trichloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Dibromomethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Toluene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Ethyl Methacrylate	<10.0 ug/L	10.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,3-Dichloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Chlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Ethylbenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Xylenes, total	<2.0 ug/L	2.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Styrene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Bromoform	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-12 MW-7				Matrix: Water		Collected: 04/06/23 13:04	
1,3-Dichlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,2-Dibromo-3-chloropropane	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
1,2,4-Trichlorobenzene	<1.0 ug/L	1.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Surrogate: Dibromofluoromethane	*112 %*			*80-126*	MSV	04/10/23 17:42	
Surrogate: 1,2-Dichloroethane-d4	*91.6 %*			*63-138*	MSV	04/10/23 17:42	
Surrogate: Toluene-d8	*98.4 %*			*87-116*	MSV	04/10/23 17:42	
Surrogate: 4-Bromofluorobenzene	*101 %*			*85-111*	MSV	04/10/23 17:42	
Allyl chloride	<1.0 ug/L	1.0	1GD0871	EPA 8260B	LNH	04/17/23 14:33	
Chloroprene	<1.0 ug/L	1.0	1GD0871	EPA 8260B	LNH	04/17/23 14:33	
Methacrylonitrile	<1.0 ug/L	1.0	1GD0871	EPA 8260B	LNH	04/17/23 14:33	
Methyl Methacrylate	<1.0 ug/L	1.0	1GD0871	EPA 8260B	LNH	04/17/23 14:33	
Propionitrile	<10.0 ug/L	10.0	1GD0871	EPA 8260B	LNH	04/17/23 14:33	
Surrogate: Dibromofluoromethane	*100 %*			*80-126*	LNH	04/17/23 14:33	
Surrogate: 1,2-Dichloroethane-d4	*99.2 %*			*63-138*	LNH	04/17/23 14:33	
Surrogate: Toluene-d8	*98.0 %*			*87-116*	LNH	04/17/23 14:33	
Surrogate: 4-Bromofluorobenzene	*94.8 %*			*85-111*	LNH	04/17/23 14:33	
Acrolein	<10.0 ug/L	10.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Acrylonitrile	<5.0 ug/L	5.0	1GD0406	EPA 8260B	MSV	04/10/23 17:42	
Surrogate: 1,2-Dichloroethane-d4	*91.6 %*			*63-138*	MSV	04/10/23 17:42	
Surrogate: Toluene-d8	*98.4 %*			*87-116*	MSV	04/10/23 17:42	
Surrogate: 4-Bromofluorobenzene	*101 %*			*85-111*	MSV	04/10/23 17:42	
Isobutanol	<1.0 mg/L	1.0	1GD0694	EPA 8015C	TJB	04/14/23 17:38	
N-Nitrosodimethylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Methyl Methanesulfonate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
N-Nitrosodiethylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
N-Nitrosomethylethylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Ethyl Methanesulfonate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Phenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Bis(2-Chloroethyl) Ether	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2-Chlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Benzyl Alcohol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2-Methylphenol (o-Cresol)	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Bis[2-Chloroisopropyl]ether	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
n-Nitroso-di-n-propylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
N-Nitrosopyrrolidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Acetophenone	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-12 MW-7				Matrix: Water		Collected: 04/06/23 13:04	
o-Toluidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
(3 & 4)-Methylphenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Hexachloroethane	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Nitrobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
N-Nitrosopiperidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Isophorone	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2-Nitrophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2,4-Dimethylphenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Bis (2-Chloroethoxy) Methane	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2,4-Dichlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Naphthalene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
4-Chloroaniline	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2,6-Dichlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Hexachloropropene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Hexachlorobutadiene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
N-Nitrosodi-n-butylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
1,4-Phenylenediamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
4-Chloro-3-methylphenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2-Methylnaphthalene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Isosafrole	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
1,2,4,5-Tetrachlorobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Hexachlorocyclopentadiene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2,4,6-Trichlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2,4,5-Trichlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Safrole	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2-Chloronaphthalene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2-Nitroaniline	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
1,4-Naphthoquinone	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Dimethylphthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
1,3-Dinitrobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
1,2-Dinitrobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2,6-Dinitrotoluene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Acenaphthylene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
3-Nitroaniline	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Acenaphthene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2,4-Dinitrophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
4-Nitrophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-12 MW-7				Matrix: Water		Collected: 04/06/23 13:04	
Dibenzofuran	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2,4-Dinitrotoluene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2,3,4,6-Tetrachlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Pentachlorobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
1-Naphthylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2-Naphthylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Diethyl Phthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Fluorene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
4-Chlorophenyl Phenyl Ether	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
4-Nitroaniline	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
5-Nitro-o-toluidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
4,6-Dinitro-2-methylphenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
N-Nitrosodiphenylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Diphenylamine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Azobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Diallate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
1,3,5-Trinitrobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Phenacetin	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
4-Bromophenyl Phenyl Ether	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
4-Aminobiphenyl	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Pentachlorophenol	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Pronamide	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Pentachloronitrobenzene (PCNB)	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Phenanthrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Anthracene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Di-n-butyl Phthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Methapyrilene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Fluoranthene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Isodrin	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Chlorobenzilate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Pyrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
p-(Dimethylamino)azobenzene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
3,3-Dimethylbenzidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Butyl Benzyl Phthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Benzo(a)anthracene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Chrysene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Bis(2-Ethylhexyl) Phthalate	<6 ug/L	6	1GD0434	EPA 8270C	EPP	04/26/23 22:14	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-12 MW-7				Matrix: Water		Collected: 04/06/23 13:04	
Kepone	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
3,3´-Dichlorobenzidine	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
2-Acetylaminofluorene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Di-n-octyl Phthalate	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Benzo(b)Fluoranthene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
7,12-Dimethylbenz [a] anthracene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Benzo(k)Fluoranthene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Benzo(a)Pyrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
3-Methylcholanthrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Dibenzo(a,h)anthracene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Indeno(1,2,3-cd)Pyrene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Benzo(g,h,i)perylene	<8 ug/L	8	1GD0434	EPA 8270C	EPP	04/26/23 22:14	
Surrogate: 2-Fluorophenol	*56.6 %*			*24-136*	EPP	04/26/23 22:14	
Surrogate: Phenol-d6	*61.9 %*			*15-140*	EPP	04/26/23 22:14	
Surrogate: Nitrobenzene-d5	*67.8 %*			*29-130*	EPP	04/26/23 22:14	
Surrogate: 2-Fluorobiphenyl	*66.9 %*			*23-113*	EPP	04/26/23 22:14	
Surrogate: 2,4,6-Tribromophenol	*84.6 %*			*15-139*	EPP	04/26/23 22:14	
Surrogate: Terphenyl-dl4	*90.8 %*			*27-141*	EPP	04/26/23 22:14	
O,O,O-Triethyl phosphorothioate	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 23:17	
Thionazin	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 23:17	
Phorate	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 23:17	
Dimethoate	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 23:17	
Disulfoton	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 23:17	
Methyl Parathion	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 23:17	
Parathion	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 23:17	
Famphur	<0.4 ug/L	0.4	1GD0484	EPA 8141	EPP	04/25/23 23:17	
Surrogate: 2-Nitro-m-xylene	*70.0 %*			*38-122*	EPP	04/25/23 23:17	
2,4-D	<2.0 ug/L	2.0	1GD0480	EPA 8151A	EPP	04/27/23 16:46	
2,4,5-TP (Silvex)	<0.5 ug/L	0.5	1GD0480	EPA 8151A	EPP	04/27/23 16:46	
2,4,5-T	<0.5 ug/L	0.5	1GD0480	EPA 8151A	EPP	04/27/23 16:46	
Dinoseb	<0.5 ug/L	0.5	1GD0480	EPA 8151A	EPP	04/27/23 16:46	
Surrogate: 2,5-Dichlorobenzoic Acid	*73.8 %*			*31-116*	EPP	04/27/23 16:46	
Alpha-BHC	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Gamma-BHC [Lindane]	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Beta-BHC	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Heptachlor	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Delta-BHC	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Aldrin	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-12 MW-7				Matrix: Water		Collected: 04/06/23 13:04	
Heptachlor Epoxide	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Endosulfan I	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
4,4`-DDE	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Dieldrin	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Endrin	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
4,4`-DDD	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Endosulfan II	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
4,4`-DDT	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Endrin Aldehyde	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Endosulfan Sulfate	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Methoxychlor	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Chlordane	<0.10 ug/L	0.10	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Toxaphene	<0.20 ug/L	0.20	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Hexachlorobenzene	<0.05 ug/L	0.05	1GD0482	EPA 8081	EPP	04/25/23 16:08	
Surrogate: Tetrachloro-m-xylene	*65.1 %*			*10-121*	EPP	04/25/23 16:08	
Arochlor 1016	<0.10 ug/L	0.10	1GD0483	EPA 8082	EPP	04/25/23 16:08	
Arochlor 1221	<0.20 ug/L	0.20	1GD0483	EPA 8082	EPP	04/25/23 16:08	
Arochlor 1232	<0.20 ug/L	0.20	1GD0483	EPA 8082	EPP	04/25/23 16:08	
Arochlor 1242	<0.20 ug/L	0.20	1GD0483	EPA 8082	EPP	04/25/23 16:08	
Arochlor 1248	<0.20 ug/L	0.20	1GD0483	EPA 8082	EPP	04/25/23 16:08	
Arochlor 1254	<0.10 ug/L	0.10	1GD0483	EPA 8082	EPP	04/25/23 16:08	
Arochlor 1260	<0.10 ug/L	0.10	1GD0483	EPA 8082	EPP	04/25/23 16:08	
Surrogate: Tetrachloro-m-xylene	*68.3 %*			*38-121*	EPP	04/25/23 16:08	
Surrogate: Decachlorobiphenyl	*95.0 %*			*25-119*	EPP	04/25/23 16:08	
Cyanide, total	<0.005 mg/L	0.005	1GD0473	ASTM D7511-12(2017)	AKK	04/11/23 8:55	
Sulfide, total	<0.10 mg/L	0.10	1GD0441	EPA 376.2	JLW	04/10/23 16:01	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Barium, total	**0.0313 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Cobalt, total	<0.0004 mg/L	0.0004	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Copper, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Mercury, total	<0.00050 mg/L	0.00050	1GD0305	EPA 7470A	JAR	04/10/23 15:56	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-12 MW-7				Matrix: Water		Collected: 04/06/23 13:04	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Tin, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
Zinc, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:23	
1GD0741-13 Duplicate				Matrix: Water		Collected: 04/06/23 12:36	
Acrylonitrile	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Surrogate: Dibromofluoromethane	*111 %*			*80-126*	MSV	04/07/23 20:22	
Surrogate: 1,2-Dichloroethane-d4	*90.4 %*			*63-138*	MSV	04/07/23 20:22	
Surrogate: Toluene-d8	*98.0 %*			*87-116*	MSV	04/07/23 20:22	
Surrogate: 4-Bromofluorobenzene	*100 %*			*85-111*	MSV	04/07/23 20:22	
Chloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Bromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Chloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Trichlorofluoromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Acetone	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Methyl Iodide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Carbon Disulfide	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Methylene Chloride	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Vinyl Acetate	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
2-Butanone (MEK)	<10.0 ug/L	10.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Bromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Chloroform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Benzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Trichloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Dibromomethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0741-13 Duplicate				Matrix: Water		Collected: 04/06/23 12:36	
4-Methyl-2-pentanone (MIBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Toluene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
2-Hexanone (MBK)	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Dibromochloromethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,2-Dibromoethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Chlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,1,1,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Ethylbenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Xylenes, total	<2.0 ug/L	2.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Styrene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Bromoform	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,2,3-Trichloropropane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
trans-1,4-Dichloro-2-butene	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,4-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,2-Dichlorobenzene	<1.0 ug/L	1.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
1,2-Dibromo-3-chloropropane	<5.0 ug/L	5.0	1GD0379	EPA 8260B	MSV	04/07/23 20:22	
Surrogate: Dibromofluoromethane	*111 %*			*75-136*	MSV	04/07/23 20:22	
Surrogate: 1,2-Dichloroethane-d4	*90.4 %*			*61-142*	MSV	04/07/23 20:22	
Surrogate: Toluene-d8	*98.0 %*			*82-121*	MSV	04/07/23 20:22	
Surrogate: 4-Bromofluorobenzene	*100 %*			*80-116*	MSV	04/07/23 20:22	
Silver, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Arsenic, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Barium, total	**0.0221 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Beryllium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Cadmium, total	<0.0008 mg/L	0.0008	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Cobalt, total	<0.0004 mg/L	0.0004	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Chromium, total	<0.0080 mg/L	0.0080	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Copper, total	**0.0085 mg/L**	**0.0040**	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Nickel, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Lead, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Antimony, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Selenium, total	<0.0040 mg/L	0.0040	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Thallium, total	<0.0020 mg/L	0.0020	1GD0464	EPA 6020A	RVV	04/12/23 3:29	
Vanadium, total	<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23 3:29	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

1GD0741-13	Duplicate				Matrix: Water		Collected:	04/06/23 12:36
Zinc, total		<0.0200 mg/L	0.0200	1GD0464	EPA 6020A	RVV	04/12/23	3:29

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0379 - EPA 5030B										
Blank (1GD0379-BLK1)				Prepared & Analyzed: 04/07/23						
Surrogate: Dibromofluoromethane	*56.0*		*ug/L*	*50.3520*		*111*	*80-126*			
Surrogate: Dibromofluoromethane	*56.0*		*"*	*50.3520*		*111*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*45.1*		*"*	*50.4080*		*89.4*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*45.1*		*"*	*50.4080*		*89.4*	*63-138*			
Surrogate: Toluene-d8	*48.7*		*"*	*50.2360*		*96.9*	*87-116*			
Surrogate: Toluene-d8	*48.7*		*"*	*50.2360*		*96.9*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*50.7*		*"*	*50.4200*		*101*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*50.7*		*"*	*50.4200*		*101*	*80-116*			
Chloromethane	ND	1.0	"							
Vinyl Chloride	ND	1.0	"							
Bromomethane	ND	1.0	"							
Chloroethane	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
1,1-Dichloroethylene	ND	1.0	"							
Acetone	ND	10.0	"							
Methyl Iodide	ND	1.0	"							
Carbon Disulfide	ND	1.0	"							
Methylene Chloride	ND	5.0	"							
Acrylonitrile	ND	5.0	"							
trans-1,2-Dichloroethylene	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
Vinyl Acetate	ND	5.0	"							
cis-1,2-Dichloroethylene	ND	1.0	"							
2-Butanone (MEK)	ND	10.0	"							
Bromochloromethane	ND	1.0	"							
Chloroform	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
Carbon Tetrachloride	ND	1.0	"							
Benzene	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
Trichloroethylene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
Dibromomethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
4-Methyl-2-pentanone (MIBK)	ND	5.0	"							
Toluene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0379 - EPA 5030B										
Blank (1GD0379-BLK1)				Prepared & Analyzed: 04/07/23						
1,1,2-Trichloroethane	ND	1.0	ug/L							
Tetrachloroethylene	ND	1.0	"							
2-Hexanone (MBK)	ND	5.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromoethane	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	2.0	"							
Styrene	ND	1.0	"							
Bromoform	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
trans-1,4-Dichloro-2-butene	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	5.0	"							
LCS (1GD0379-BS1)				Prepared & Analyzed: 04/07/23						
Surrogate: Dibromofluoromethane	*51.0*		*ug/L*	*50.3520*		*101*	*75-136*			
Surrogate: Dibromofluoromethane	*51.0*		*"*	*50.3520*		*101*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*44.8*		*"*	*50.4080*		*88.9*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*44.8*		*"*	*50.4080*		*88.9*	*63-138*			
Surrogate: Toluene-d8	*49.7*		*"*	*50.2360*		*99.0*	*82-121*			
Surrogate: Toluene-d8	*49.7*		*"*	*50.2360*		*99.0*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*49.9*		*"*	*50.4200*		*98.9*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*49.9*		*"*	*50.4200*		*98.9*	*80-116*			
Chloromethane	24.74	1.0	"	30.0000		82.5	63-155			
Vinyl Chloride	23.36	1.0	"	30.0000		77.9	70-154			
Bromomethane	21.61	1.0	"	30.0000		72.0	52-176			
Chloroethane	23.92	1.0	"	30.0000		79.7	72-148			
Trichlorofluoromethane	20.97	1.0	"	30.0000		69.9	70-152			QM-21
1,1-Dichloroethylene	41.76	1.0	"	50.0000		83.5	70-148			
Acetone	79.62	10.0	"	104.100		76.5	43-172			
Methyl Iodide	88.90	1.0	"	112.563		79.0	69-170			
Carbon Disulfide	86.53	1.0	"	106.400		81.3	72-162			
Methylene Chloride	39.34	5.0	"	50.0000		78.7	68-142			
Acrylonitrile	74.96	5.0	"	100.500		74.6	67-144			
trans-1,2-Dichloroethylene	39.54	1.0	"	50.0000		79.1	66-148			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0379 - EPA 5030B										
LCS (1GD0379-BS1)				Prepared & Analyzed: 04/07/23						
1,1-Dichloroethane	39.70	1.0	ug/L	50.0000		79.4	66-143			
Vinyl Acetate	50.70	5.0	"	103.300		49.1	43-153			
cis-1,2-Dichloroethylene	44.13	1.0	"	50.0000		88.3	71-149			
2-Butanone (MEK)	79.11	10.0	"	106.200		74.5	52-159			
Bromochloromethane	43.38	1.0	"	50.0000		86.8	69-143			
Chloroform	38.93	1.0	"	50.0000		77.9	69-144			
1,1,1-Trichloroethane	34.12	1.0	"	49.9750		68.3	62-129			
Carbon Tetrachloride	40.45	1.0	"	50.0000		80.9	63-141			
Benzene	46.97	1.0	"	50.0000		93.9	71-134			
1,2-Dichloroethane	47.50	1.0	"	50.0000		95.0	72-132			
Trichloroethylene	37.94	1.0	"	50.0000		75.9	71-135			
1,2-Dichloropropane	49.10	1.0	"	50.0000		98.2	69-136			
Dibromomethane	49.76	1.0	"	50.0000		99.5	73-147			
Bromodichloromethane	44.99	1.0	"	50.0000		90.0	68-129			
cis-1,3-Dichloropropene	46.07	1.0	"	50.3250		91.5	65-134			
4-Methyl-2-pentanone (MIBK)	103.8	5.0	"	103.100		101	58-147			
Toluene	44.65	1.0	"	50.0000		89.3	72-133			
trans-1,3-Dichloropropene	46.02	1.0	"	50.4250		91.3	67-130			
1,1,2-Trichloroethane	45.51	1.0	"	50.0000		91.0	69-135			
Tetrachloroethylene	61.79	1.0	"	50.0000		124	69-130			
2-Hexanone (MBK)	106.4	5.0	"	110.300		96.5	55-144			
Dibromochloromethane	48.39	1.0	"	49.5000		97.8	73-127			
1,2-Dibromoethane	48.61	1.0	"	50.0000		97.2	67-132			
Chlorobenzene	45.25	1.0	"	50.0000		90.5	72-123			
1,1,1,2-Tetrachloroethane	45.33	1.0	"	50.0000		90.7	73-127			
Ethylbenzene	46.21	1.0	"	50.0000		92.4	71-127			
Xylenes, total	137.8	2.0	"	150.000		91.9	74-127			
Styrene	42.38	1.0	"	50.0000		84.8	66-126			
Bromoform	46.77	1.0	"	50.0000		93.5	68-130			
1,2,3-Trichloropropane	47.79	1.0	"	50.0000		95.6	63-136			
trans-1,4-Dichloro-2-butene	89.15	5.0	"	102.400		87.1	54-134			
1,1,2,2-Tetrachloroethane	52.88	1.0	"	49.8500		106	61-131			
1,4-Dichlorobenzene	46.18	1.0	"	50.0000		92.4	70-129			
1,2-Dichlorobenzene	46.02	1.0	"	50.0000		92.0	69-126			
1,2-Dibromo-3-chloropropane	48.45	5.0	"	50.0000		96.9	50-143			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0379 - EPA 5030B										
LCS Dup (1GD0379-BSD1)				Prepared & Analyzed: 04/07/23						
Surrogate: Dibromofluoromethane	*52.6*		*ug/L*	*50.3520*		*104*	*80-126*			
Surrogate: Dibromofluoromethane	*52.6*		*"*	*50.3520*		*104*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*44.9*		*"*	*50.4080*		*89.2*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*44.9*		*"*	*50.4080*		*89.2*	*63-138*			
Surrogate: Toluene-d8	*49.6*		*"*	*50.2360*		*98.8*	*82-121*			
Surrogate: Toluene-d8	*49.6*		*"*	*50.2360*		*98.8*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*49.2*		*"*	*50.4200*		*97.7*	*80-116*			
Surrogate: 4-Bromofluorobenzene	*49.2*		*"*	*50.4200*		*97.7*	*85-111*			
Chloromethane	25.46	1.0	"	30.0000		84.9	63-155	2.87	24	
Vinyl Chloride	24.40	1.0	"	30.0000		81.3	70-154	4.36	25	
Bromomethane	20.21	1.0	"	30.0000		67.4	52-176	6.70	27	
Chloroethane	24.73	1.0	"	30.0000		82.4	72-148	3.33	25	
Trichlorofluoromethane	21.74	1.0	"	30.0000		72.5	70-152	3.61	26	
1,1-Dichloroethylene	42.79	1.0	"	50.0000		85.6	70-148	2.44	24	
Acetone	91.58	10.0	"	104.100		88.0	43-172	14.0	30	
Methyl Iodide	79.74	1.0	"	112.563		70.8	69-170	10.9	30	
Carbon Disulfide	86.73	1.0	"	106.400		81.5	72-162	0.231	24	
Methylene Chloride	40.31	5.0	"	50.0000		80.6	68-142	2.44	21	
Acrylonitrile	84.72	5.0	"	100.500		84.3	67-144	12.2	24	
trans-1,2-Dichloroethylene	40.28	1.0	"	50.0000		80.6	66-148	1.85	27	
1,1-Dichloroethane	40.29	1.0	"	50.0000		80.6	66-143	1.48	24	
Vinyl Acetate	144.4	5.0	"	103.300		140	43-153	96.1	30	QR-02
cis-1,2-Dichloroethylene	46.95	1.0	"	50.0000		93.9	71-149	6.19	26	
2-Butanone (MEK)	91.78	10.0	"	106.200		86.4	52-159	14.8	27	
Bromochloromethane	43.29	1.0	"	50.0000		86.6	69-143	0.208	23	
Chloroform	38.77	1.0	"	50.0000		77.5	69-144	0.412	23	
1,1,1-Trichloroethane	34.06	1.0	"	49.9750		68.2	62-129	0.176	24	
Carbon Tetrachloride	40.02	1.0	"	50.0000		80.0	63-141	1.07	25	
Benzene	46.49	1.0	"	50.0000		93.0	71-134	1.03	24	
1,2-Dichloroethane	45.91	1.0	"	50.0000		91.8	72-132	3.40	24	
Trichloroethylene	37.37	1.0	"	50.0000		74.7	71-135	1.51	24	
1,2-Dichloropropane	48.37	1.0	"	50.0000		96.7	69-136	1.50	24	
Dibromomethane	48.83	1.0	"	50.0000		97.7	73-147	1.89	25	
Bromodichloromethane	44.18	1.0	"	50.0000		88.4	68-129	1.82	22	
cis-1,3-Dichloropropene	44.36	1.0	"	50.3250		88.1	65-134	3.78	23	
4-Methyl-2-pentanone (MIBK)	100.8	5.0	"	103.100		97.8	58-147	2.97	27	
Toluene	44.49	1.0	"	50.0000		89.0	72-133	0.359	24	
trans-1,3-Dichloropropene	43.93	1.0	"	50.4250		87.1	67-130	4.65	24	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0379 - EPA 5030B										
LCS Dup (1GD0379-BSD1)				Prepared & Analyzed: 04/07/23						
1,1,2-Trichloroethane	43.99	1.0	ug/L	50.0000		88.0	69-135	3.40	23	
Tetrachloroethylene	60.49	1.0	"	50.0000		121	69-130	2.13	25	
2-Hexanone (MBK)	112.4	5.0	"	110.300		102	55-144	5.46	25	
Dibromochloromethane	45.98	1.0	"	49.5000		92.9	73-127	5.11	22	
1,2-Dibromoethane	46.51	1.0	"	50.0000		93.0	67-132	4.42	24	
Chlorobenzene	44.98	1.0	"	50.0000		90.0	72-123	0.598	23	
1,1,1,2-Tetrachloroethane	44.74	1.0	"	50.0000		89.5	73-127	1.31	24	
Ethylbenzene	45.40	1.0	"	50.0000		90.8	71-127	1.77	26	
Xylenes, total	135.4	2.0	"	150.000		90.3	74-127	1.72	25	
Styrene	43.13	1.0	"	50.0000		86.3	66-126	1.75	23	
Bromoform	44.30	1.0	"	50.0000		88.6	68-130	5.42	23	
1,2,3-Trichloropropane	46.86	1.0	"	50.0000		93.7	63-136	1.97	24	
trans-1,4-Dichloro-2-butene	83.35	5.0	"	102.400		81.4	54-134	6.72	27	
1,1,2,2-Tetrachloroethane	50.10	1.0	"	49.8500		101	61-131	5.40	29	
1,4-Dichlorobenzene	46.78	1.0	"	50.0000		93.6	70-129	1.29	24	
1,2-Dichlorobenzene	45.88	1.0	"	50.0000		91.8	69-126	0.305	26	
1,2-Dibromo-3-chloropropane	45.83	5.0	"	50.0000		91.7	50-143	5.56	30	
Matrix Spike (1GD0379-MS1)		**Source: 1GD0730-07**		Prepared & Analyzed: 04/07/23						
Surrogate: Dibromofluoromethane	*510*		*ug/L*	*503.520*		*101*	*75-136*			
Surrogate: Dibromofluoromethane	*510*		*"*	*503.520*		*101*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*453*		*"*	*504.080*		*89.8*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*453*		*"*	*504.080*		*89.8*	*63-138*			
Surrogate: Toluene-d8	*501*		*"*	*502.360*		*99.7*	*87-116*			
Surrogate: Toluene-d8	*501*		*"*	*502.360*		*99.7*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*503*		*"*	*504.200*		*99.7*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*503*		*"*	*504.200*		*99.7*	*80-116*			
Chloromethane	261.1	10.0	"	300.000	ND	87.0	61-152			
Vinyl Chloride	252.2	10.0	"	300.000	ND	84.1	66-149			
Bromomethane	196.8	10.0	"	300.000	ND	65.6	43-171			
Chloroethane	255.4	10.0	"	300.000	ND	85.1	69-148			
Trichlorofluoromethane	227.5	10.0	"	300.000	ND	75.8	62-163			
1,1-Dichloroethylene	447.7	10.0	"	500.000	ND	89.5	70-148			
Acetone	1100	100	"	1041.00	ND	106	45-173			
Methyl Iodide	796.5	10.0	"	1125.63	ND	70.8	62-167			
Carbon Disulfide	904.4	10.0	"	1064.00	ND	85.0	71-163			
Methylene Chloride	422.4	50.0	"	500.000	ND	84.5	69-140			
Acrylonitrile	930.1	50.0	"	1005.00	ND	92.5	58-151			
trans-1,2-Dichloroethylene	418.0	10.0	"	500.000	ND	83.6	69-144			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0379 - EPA 5030B										
Matrix Spike (1GD0379-MS1)		**Source: 1GD0730-07**		Prepared & Analyzed: 04/07/23						
1,1-Dichloroethane	416.9	10.0	ug/L	500.000	ND	83.4	70-138			
Vinyl Acetate	1053	50.0	"	1033.00	ND	102	58-142			
cis-1,2-Dichloroethylene	487.9	10.0	"	500.000	ND	97.6	68-151			
2-Butanone (MEK)	1020	100	"	1062.00	ND	96.1	50-160			
Bromochloromethane	455.3	10.0	"	500.000	ND	91.1	65-143			
Chloroform	401.6	10.0	"	500.000	ND	80.3	71-143			
1,1,1-Trichloroethane	354.5	10.0	"	499.750	ND	70.9	63-133			
Carbon Tetrachloride	417.4	10.0	"	500.000	ND	83.5	63-142			
Benzene	482.8	10.0	"	500.000	ND	96.6	69-133			
1,2-Dichloroethane	485.1	10.0	"	500.000	ND	97.0	63-138			
Trichloroethylene	391.6	10.0	"	500.000	ND	78.3	71-133			
1,2-Dichloropropane	510.0	10.0	"	500.000	ND	102	69-132			
Dibromomethane	502.8	10.0	"	500.000	ND	101	70-147			
Bromodichloromethane	457.4	10.0	"	500.000	ND	91.5	67-130			
cis-1,3-Dichloropropene	459.4	10.0	"	503.250	ND	91.3	61-126			
4-Methyl-2-pentanone (MIBK)	1132	50.0	"	1031.00	ND	110	55-147			
Toluene	462.1	10.0	"	500.000	ND	92.4	71-133			
trans-1,3-Dichloropropene	458.2	10.0	"	504.250	ND	90.9	63-124			
1,1,2-Trichloroethane	459.3	10.0	"	500.000	ND	91.9	69-133			
Tetrachloroethylene	629.1	10.0	"	500.000	ND	126	70-124			QM-05
2-Hexanone (MBK)	1294	50.0	"	1103.00	ND	117	53-141			
Dibromochloromethane	487.6	10.0	"	495.000	ND	98.5	74-122			
1,2-Dibromoethane	496.7	10.0	"	500.000	ND	99.3	66-127			
Chlorobenzene	466.4	10.0	"	500.000	ND	93.3	76-116			
1,1,1,2-Tetrachloroethane	465.3	10.0	"	500.000	ND	93.1	77-121			
Ethylbenzene	478.9	10.0	"	500.000	ND	95.8	73-124			
Xylenes, total	1434	20.0	"	1500.00	ND	95.6	75-123			
Styrene	457.4	10.0	"	500.000	ND	91.5	70-120			
Bromoform	464.2	10.0	"	500.000	ND	92.8	70-124			
1,2,3-Trichloropropane	496.7	10.0	"	500.000	ND	99.3	62-135			
trans-1,4-Dichloro-2-butene	891.8	50.0	"	1024.00	ND	87.1	50-120			
1,1,2,2-Tetrachloroethane	551.1	10.0	"	498.500	ND	111	63-126			
1,4-Dichlorobenzene	487.5	10.0	"	500.000	ND	97.5	72-119			
1,2-Dichlorobenzene	486.6	10.0	"	500.000	ND	97.3	71-117			
1,2-Dibromo-3-chloropropane	499.6	50.0	"	500.000	ND	99.9	49-134			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0379 - EPA 5030B										
Matrix Spike Dup (1GD0379-MSD1)		**Source: 1GD0730-07**		Prepared & Analyzed: 04/07/23						
Surrogate: Dibromofluoromethane	*516*		*ug/L*	*503.520*		*102*	*75-136*			
Surrogate: Dibromofluoromethane	*516*		*"*	*503.520*		*102*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*447*		*"*	*504.080*		*88.7*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*447*		*"*	*504.080*		*88.7*	*63-138*			
Surrogate: Toluene-d8	*502*		*"*	*502.360*		*99.8*	*87-116*			
Surrogate: Toluene-d8	*502*		*"*	*502.360*		*99.8*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*500*		*"*	*504.200*		*99.2*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*500*		*"*	*504.200*		*99.2*	*80-116*			
Chloromethane	247.1	10.0	"	300.000	ND	82.4	61-152	5.51	26	
Vinyl Chloride	232.6	10.0	"	300.000	ND	77.5	66-149	8.09	23	
Bromomethane	208.4	10.0	"	300.000	ND	69.5	43-171	5.73	29	
Chloroethane	244.4	10.0	"	300.000	ND	81.5	69-148	4.40	25	
Trichlorofluoromethane	215.3	10.0	"	300.000	ND	71.8	62-163	5.51	25	
1,1-Dichloroethylene	427.3	10.0	"	500.000	ND	85.5	70-148	4.66	22	
Acetone	1074	100	"	1041.00	ND	103	45-173	2.46	30	
Methyl Iodide	884.0	10.0	"	1125.63	ND	78.5	62-167	10.4	24	
Carbon Disulfide	864.4	10.0	"	1064.00	ND	81.2	71-163	4.52	22	
Methylene Chloride	409.4	50.0	"	500.000	ND	81.9	69-140	3.13	19	
Acrylonitrile	919.2	50.0	"	1005.00	ND	91.5	58-151	1.18	15	
trans-1,2-Dichloroethylene	402.8	10.0	"	500.000	ND	80.6	69-144	3.70	22	
1,1-Dichloroethane	404.9	10.0	"	500.000	ND	81.0	70-138	2.92	20	
Vinyl Acetate	1010	50.0	"	1033.00	ND	97.8	58-142	4.14	24	
cis-1,2-Dichloroethylene	476.3	10.0	"	500.000	ND	95.3	68-151	2.41	22	
2-Butanone (MEK)	1079	100	"	1062.00	ND	102	50-160	5.60	23	
Bromochloromethane	448.5	10.0	"	500.000	ND	89.7	65-143	1.50	22	
Chloroform	393.9	10.0	"	500.000	ND	78.8	71-143	1.94	21	
1,1,1-Trichloroethane	346.5	10.0	"	499.750	ND	69.3	63-133	2.28	23	
Carbon Tetrachloride	408.1	10.0	"	500.000	ND	81.6	63-142	2.25	22	
Benzene	471.4	10.0	"	500.000	ND	94.3	69-133	2.39	18	
1,2-Dichloroethane	478.2	10.0	"	500.000	ND	95.6	63-138	1.43	20	
Trichloroethylene	380.1	10.0	"	500.000	ND	76.0	71-133	2.98	23	
1,2-Dichloropropane	503.9	10.0	"	500.000	ND	101	69-132	1.20	20	
Dibromomethane	498.5	10.0	"	500.000	ND	99.7	70-147	0.859	22	
Bromodichloromethane	454.8	10.0	"	500.000	ND	91.0	67-130	0.570	21	
cis-1,3-Dichloropropene	458.1	10.0	"	503.250	ND	91.0	61-126	0.283	21	
4-Methyl-2-pentanone (MIBK)	1126	50.0	"	1031.00	ND	109	55-147	0.496	23	
Toluene	453.0	10.0	"	500.000	ND	90.6	71-133	1.99	19	
trans-1,3-Dichloropropene	456.4	10.0	"	504.250	ND	90.5	63-124	0.394	21	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0379 - EPA 5030B										
Matrix Spike Dup (1GD0379-MSD1)		**Source: 1GD0730-07**		Prepared & Analyzed: 04/07/23						
1,1,2-Trichloroethane	457.1	10.0	ug/L	500.000	ND	91.4	69-133	0.480	19	
Tetrachloroethylene	609.8	10.0	"	500.000	ND	122	70-124	3.12	24	
2-Hexanone (MBK)	1283	50.0	"	1103.00	ND	116	53-141	0.799	24	
Dibromochloromethane	485.7	10.0	"	495.000	ND	98.1	74-122	0.390	21	
1,2-Dibromoethane	493.4	10.0	"	500.000	ND	98.7	66-127	0.667	23	
Chlorobenzene	457.3	10.0	"	500.000	ND	91.5	76-116	1.97	21	
1,1,1,2-Tetrachloroethane	460.8	10.0	"	500.000	ND	92.2	77-121	0.972	25	
Ethylbenzene	466.0	10.0	"	500.000	ND	93.2	73-124	2.73	20	
Xylenes, total	1404	20.0	"	1500.00	ND	93.6	75-123	2.09	20	
Styrene	452.7	10.0	"	500.000	ND	90.5	70-120	1.03	23	
Bromoform	477.5	10.0	"	500.000	ND	95.5	70-124	2.82	22	
1,2,3-Trichloropropane	489.6	10.0	"	500.000	ND	97.9	62-135	1.44	28	
trans-1,4-Dichloro-2-butene	897.2	50.0	"	1024.00	ND	87.6	50-120	0.604	26	
1,1,2,2-Tetrachloroethane	552.3	10.0	"	498.500	ND	111	63-126	0.218	24	
1,4-Dichlorobenzene	470.0	10.0	"	500.000	ND	94.0	72-119	3.66	24	
1,2-Dichlorobenzene	472.3	10.0	"	500.000	ND	94.5	71-117	2.98	24	
1,2-Dibromo-3-chloropropane	496.4	50.0	"	500.000	ND	99.3	49-134	0.643	28	
Batch 1GD0406 - EPA 5030B										
Blank (1GD0406-BLK1)				Prepared & Analyzed: 04/10/23						
Surrogate: Dibromofluoromethane	*55.7*		*ug/L*	*50.3520*		*111*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*45.2*		*"*	*50.4080*		*89.7*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*45.2*		*"*	*50.4080*		*89.7*	*63-138*			
Surrogate: Toluene-d8	*49.7*		*"*	*50.2360*		*99.0*	*87-116*			
Surrogate: Toluene-d8	*49.7*		*"*	*50.2360*		*99.0*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*51.5*		*"*	*50.4200*		*102*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*51.5*		*"*	*50.4200*		*102*	*85-111*			
Dichlorodifluoromethane	ND	1.0	"							
Chloromethane	ND	1.0	"							
Vinyl Chloride	ND	1.0	"							
Bromomethane	ND	1.0	"							
Chloroethane	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
Acrolein	ND	10.0	"							
1,1-Dichloroethylene	ND	1.0	"							
Acetone	ND	10.0	"							
Methyl Iodide	ND	2.0	"							
Carbon Disulfide	ND	1.0	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0406 - EPA 5030B										
Blank (1GD0406-BLK1)				Prepared & Analyzed: 04/10/23						
Acetonitrile	ND	10.0	ug/L							
Methylene Chloride	ND	5.0	"							
Acrylonitrile	ND	5.0	"							
trans-1,2-Dichloroethylene	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
Vinyl Acetate	ND	5.0	"							
2,2-Dichloropropane	ND	1.0	"							
cis-1,2-Dichloroethylene	ND	1.0	"							
2-Butanone (MEK)	ND	5.0	"							
Bromochloromethane	ND	1.0	"							
Chloroform	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
Carbon Tetrachloride	ND	1.0	"							
Benzene	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
Trichloroethylene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
Dibromomethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
4-Methyl-2-pentanone (MIBK)	ND	5.0	"							
Toluene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							
Ethyl Methacrylate	ND	10.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
Tetrachloroethylene	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
2-Hexanone (MBK)	ND	5.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromoethane	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	2.0	"							
Styrene	ND	1.0	"							
Bromoform	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
trans-1,4-Dichloro-2-butene	ND	5.0	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0406 - EPA 5030B										
Blank (1GD0406-BLK1)				Prepared & Analyzed: 04/10/23						
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
LCS (1GD0406-BS1)				Prepared & Analyzed: 04/10/23						
Surrogate: Dibromofluoromethane	*51.7*		*ug/L*	*50.3520*		*103*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*44.2*		*"*	*50.4080*		*87.8*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*44.2*		*"*	*50.4080*		*87.8*	*63-138*			
Surrogate: Toluene-d8	*50.5*		*"*	*50.2360*		*101*	*87-116*			
Surrogate: Toluene-d8	*50.5*		*"*	*50.2360*		*101*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*49.7*		*"*	*50.4200*		*98.7*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*49.7*		*"*	*50.4200*		*98.7*	*85-111*			
Dichlorodifluoromethane	19.64	1.0	"	30.0000		65.5	44-139			
Chloromethane	25.18	1.0	"	30.0000		83.9	56-152			
Vinyl Chloride	23.50	1.0	"	30.0000		78.3	62-151			
Bromomethane	22.73	1.0	"	30.0000		75.8	61-162			
Chloroethane	23.75	1.0	"	30.0000		79.2	69-138			
Trichlorofluoromethane	21.37	1.0	"	30.0000		71.2	70-143			
Acrolein	89.04	10.0	"	100.200		88.9	27-144			
1,1-Dichloroethylene	41.73	1.0	"	50.0000		83.5	76-140			
Acetone	95.74	10.0	"	104.100		92.0	51-156			
Methyl Iodide	95.84	2.0	"	112.563		85.1	81-166			
Carbon Disulfide	86.12	1.0	"	106.400		80.9	76-147			
Acetonitrile	100.3	10.0	"	101.996		98.3	46-156			
Methylene Chloride	39.20	5.0	"	50.0000		78.4	67-139			
Acrylonitrile	84.85	5.0	"	100.500		84.4	67-144			
trans-1,2-Dichloroethylene	39.70	1.0	"	50.0000		79.4	72-135			
1,1-Dichloroethane	39.47	1.0	"	50.0000		78.9	72-129			
Vinyl Acetate	146.3	5.0	"	103.300		142	24-144			
2,2-Dichloropropane	37.28	1.0	"	50.0000		74.6	64-131			
cis-1,2-Dichloroethylene	47.15	1.0	"	50.0000		94.3	81-137			
2-Butanone (MEK)	95.01	5.0	"	106.200		89.5	47-149			
Bromochloromethane	42.78	1.0	"	50.0000		85.6	75-138			
Chloroform	38.51	1.0	"	50.0000		77.0	78-131			QS-01
1,1,1-Trichloroethane	34.06	1.0	"	49.9750		68.2	67-121			
1,1-Dichloropropene	39.97	1.0	"	50.0000		79.9	80-131			QS-01

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0406 - EPA 5030B										
LCS (1GD0406-BS1)				Prepared & Analyzed: 04/10/23						
Carbon Tetrachloride	40.98	1.0	ug/L	50.0000		82.0	71-131			
Benzene	46.31	1.0	"	50.0000		92.6	77-130			
1,2-Dichloroethane	45.99	1.0	"	50.0000		92.0	76-126			
Trichloroethylene	37.51	1.0	"	50.0000		75.0	80-124			QS-01
1,2-Dichloropropane	49.20	1.0	"	50.0000		98.4	81-125			
Dibromomethane	48.67	1.0	"	50.0000		97.3	84-134			
Bromodichloromethane	45.66	1.0	"	50.0000		91.3	78-121			
cis-1,3-Dichloropropene	46.86	1.0	"	50.3250		93.1	78-120			
4-Methyl-2-pentanone (MIBK)	105.0	5.0	"	103.100		102	67-143			
Toluene	44.69	1.0	"	50.0000		89.4	77-130			
trans-1,3-Dichloropropene	46.40	1.0	"	50.4250		92.0	77-123			
Ethyl Methacrylate	117.0	10.0	"	122.700		95.3	52-148			
1,1,2-Trichloroethane	44.38	1.0	"	50.0000		88.8	78-124			
Tetrachloroethylene	61.21	1.0	"	50.0000		122	73-124			
1,3-Dichloropropane	53.31	1.0	"	50.0000		107	78-131			
2-Hexanone (MBK)	118.6	5.0	"	110.300		107	57-145			
Dibromochloromethane	48.62	1.0	"	49.5000		98.2	78-126			
1,2-Dibromoethane	47.71	1.0	"	50.0000		95.4	69-126			
Chlorobenzene	44.84	1.0	"	50.0000		89.7	76-120			
1,1,1,2-Tetrachloroethane	45.70	1.0	"	50.0000		91.4	81-122			
Ethylbenzene	45.91	1.0	"	50.0000		91.8	74-121			
Xylenes, total	137.7	2.0	"	150.000		91.8	75-122			
Styrene	44.35	1.0	"	50.0000		88.7	76-119			
Bromoform	47.86	1.0	"	50.0000		95.7	74-127			
1,2,3-Trichloropropane	47.10	1.0	"	50.0000		94.2	73-125			
trans-1,4-Dichloro-2-butene	89.47	5.0	"	102.400		87.4	55-135			
1,1,2,2-Tetrachloroethane	52.22	1.0	"	49.8500		105	58-133			
1,3-Dichlorobenzene	45.23	1.0	"	50.0000		90.5	70-125			
1,4-Dichlorobenzene	46.38	1.0	"	50.0000		92.8	69-128			
1,2-Dichlorobenzene	45.58	1.0	"	50.0000		91.2	70-125			
1,2-Dibromo-3-chloropropane	47.07	1.0	"	50.0000		94.1	54-147			
1,2,4-Trichlorobenzene	44.85	1.0	"	50.0000		89.7	55-149			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0406 - EPA 5030B										
LCS Dup (1GD0406-BSD1)				Prepared & Analyzed: 04/10/23						
Surrogate: Dibromofluoromethane	*51.6*		*ug/L*	*50.3520*		*102*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*44.7*		*"*	*50.4080*		*88.6*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*44.7*		*"*	*50.4080*		*88.6*	*63-138*			
Surrogate: Toluene-d8	*50.5*		*"*	*50.2360*		*100*	*87-116*			
Surrogate: Toluene-d8	*50.5*		*"*	*50.2360*		*100*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*50.0*		*"*	*50.4200*		*99.3*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*50.0*		*"*	*50.4200*		*99.3*	*85-111*			
Dichlorodifluoromethane	19.31	1.0	"	30.0000		64.4	44-139	1.69	30	
Chloromethane	24.95	1.0	"	30.0000		83.2	56-152	0.918	30	
Vinyl Chloride	23.06	1.0	"	30.0000		76.9	62-151	1.89	28	
Bromomethane	22.65	1.0	"	30.0000		75.5	61-162	0.353	28	
Chloroethane	23.61	1.0	"	30.0000		78.7	69-138	0.591	29	
Trichlorofluoromethane	20.85	1.0	"	30.0000		69.5	70-143	2.46	27	QS-01
Acrolein	89.42	10.0	"	100.200		89.2	27-144	0.426	30	
1,1-Dichloroethylene	41.12	1.0	"	50.0000		82.2	76-140	1.47	30	
Acetone	97.84	10.0	"	104.100		94.0	51-156	2.17	30	
Methyl Iodide	94.64	2.0	"	112.563		84.1	81-166	1.26	29	
Carbon Disulfide	84.72	1.0	"	106.400		79.6	76-147	1.64	27	
Acetonitrile	102.5	10.0	"	101.996		100	46-156	2.15	30	
Methylene Chloride	39.68	5.0	"	50.0000		79.4	67-139	1.22	26	
Acrylonitrile	85.73	5.0	"	100.500		85.3	67-144	1.03	24	
trans-1,2-Dichloroethylene	39.42	1.0	"	50.0000		78.8	72-135	0.708	28	
1,1-Dichloroethane	39.28	1.0	"	50.0000		78.6	72-129	0.483	26	
Vinyl Acetate	108.5	5.0	"	103.300		105	24-144	29.6	30	
2,2-Dichloropropane	36.57	1.0	"	50.0000		73.1	64-131	1.92	26	
cis-1,2-Dichloroethylene	46.92	1.0	"	50.0000		93.8	81-137	0.489	27	
2-Butanone (MEK)	94.31	5.0	"	106.200		88.8	47-149	0.739	30	
Bromochloromethane	42.81	1.0	"	50.0000		85.6	75-138	0.0701	24	
Chloroform	38.49	1.0	"	50.0000		77.0	78-131	0.0519	27	QS-01
1,1,1-Trichloroethane	33.52	1.0	"	49.9750		67.1	67-121	1.60	28	
1,1-Dichloropropene	39.00	1.0	"	50.0000		78.0	80-131	2.46	30	QS-01
Carbon Tetrachloride	40.38	1.0	"	50.0000		80.8	71-131	1.47	28	
Benzene	46.24	1.0	"	50.0000		92.5	77-130	0.151	25	
1,2-Dichloroethane	46.80	1.0	"	50.0000		93.6	76-126	1.75	24	
Trichloroethylene	37.54	1.0	"	50.0000		75.1	80-124	0.0800	27	QS-01
1,2-Dichloropropane	49.57	1.0	"	50.0000		99.1	81-125	0.749	25	
Dibromomethane	50.06	1.0	"	50.0000		100	84-134	2.82	23	
Bromodichloromethane	45.67	1.0	"	50.0000		91.3	78-121	0.0219	25	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0406 - EPA 5030B										
LCS Dup (1GD0406-BSD1)				Prepared & Analyzed: 04/10/23						
cis-1,3-Dichloropropene	47.07	1.0	ug/L	50.3250		93.5	78-120	0.447	26	
4-Methyl-2-pentanone (MIBK)	107.2	5.0	"	103.100		104	67-143	2.16	26	
Toluene	44.39	1.0	"	50.0000		88.8	77-130	0.674	27	
trans-1,3-Dichloropropene	47.01	1.0	"	50.4250		93.2	77-123	1.31	28	
Ethyl Methacrylate	119.5	10.0	"	122.700		97.4	52-148	2.11	30	
1,1,2-Trichloroethane	44.49	1.0	"	50.0000		89.0	78-124	0.248	24	
Tetrachloroethylene	60.24	1.0	"	50.0000		120	73-124	1.60	26	
1,3-Dichloropropane	53.74	1.0	"	50.0000		107	78-131	0.803	24	
2-Hexanone (MBK)	121.1	5.0	"	110.300		110	57-145	2.09	30	
Dibromochloromethane	49.07	1.0	"	49.5000		99.1	78-126	0.921	23	
1,2-Dibromoethane	47.90	1.0	"	50.0000		95.8	69-126	0.397	22	
Chlorobenzene	44.78	1.0	"	50.0000		89.6	76-120	0.134	25	
1,1,1,2-Tetrachloroethane	45.53	1.0	"	50.0000		91.1	81-122	0.373	23	
Ethylbenzene	45.40	1.0	"	50.0000		90.8	74-121	1.12	27	
Xylenes, total	136.3	2.0	"	150.000		90.9	75-122	1.02	26	
Styrene	44.28	1.0	"	50.0000		88.6	76-119	0.158	26	
Bromoform	49.38	1.0	"	50.0000		98.8	74-127	3.13	22	
1,2,3-Trichloropropane	48.00	1.0	"	50.0000		96.0	73-125	1.89	20	
trans-1,4-Dichloro-2-butene	90.29	5.0	"	102.400		88.2	55-135	0.912	26	
1,1,2,2-Tetrachloroethane	51.22	1.0	"	49.8500		103	58-133	1.93	28	
1,3-Dichlorobenzene	45.46	1.0	"	50.0000		90.9	70-125	0.507	27	
1,4-Dichlorobenzene	47.52	1.0	"	50.0000		95.0	69-128	2.43	29	
1,2-Dichlorobenzene	46.98	1.0	"	50.0000		94.0	70-125	3.03	25	
1,2-Dibromo-3-chloropropane	48.77	1.0	"	50.0000		97.5	54-147	3.55	29	
1,2,4-Trichlorobenzene	45.85	1.0	"	50.0000		91.7	55-149	2.21	30	
Matrix Spike (1GD0406-MS1)		**Source: 1GD0185-09**		Prepared & Analyzed: 04/10/23						
Surrogate: Dibromofluoromethane	*491*		*ug/L*	*503.520*		*97.5*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*467*		*"*	*504.080*		*92.7*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*467*		*"*	*504.080*		*92.7*	*63-138*			
Surrogate: Toluene-d8	*511*		*"*	*502.360*		*102*	*87-116*			
Surrogate: Toluene-d8	*511*		*"*	*502.360*		*102*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*503*		*"*	*504.200*		*99.7*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*503*		*"*	*504.200*		*99.7*	*85-111*			
Dichlorodifluoromethane	214.5	10.0	"	300.000	ND	71.5	47-137			
Chloromethane	281.4	10.0	"	300.000	ND	93.8	49-154			
Vinyl Chloride	266.2	10.0	"	300.000	ND	88.7	61-152			
Bromomethane	208.7	10.0	"	300.000	ND	69.6	47-168			
Chloroethane	265.3	10.0	"	300.000	ND	88.4	61-148			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0406 - EPA 5030B										
Matrix Spike (1GD0406-MS1)		**Source: 1GD0185-09**		Prepared & Analyzed: 04/10/23						
Trichlorofluoromethane	232.9	10.0	ug/L	300.000	ND	77.6	73-147			
Acrolein	1027	100	"	1002.00	ND	102	20-164			
1,1-Dichloroethylene	459.4	10.0	"	500.000	ND	91.9	68-153			
Acetone	1205	100	"	1041.00	ND	116	45-175			
Methyl Iodide	820.8	20.0	"	1125.63	ND	72.9	79-167			QM-19
Carbon Disulfide	915.4	10.0	"	1064.00	ND	86.0	72-156			
Acetonitrile	1203	100	"	1019.96	ND	118	38-166			
Methylene Chloride	426.7	50.0	"	500.000	ND	85.3	64-143			
Acrylonitrile	1007	50.0	"	1005.00	ND	100	58-151			
trans-1,2-Dichloroethylene	432.3	10.0	"	500.000	ND	86.5	65-145			
1,1-Dichloroethane	425.0	10.0	"	500.000	ND	85.0	68-136			
Vinyl Acetate	1064	50.0	"	1033.00	ND	103	58-143			
2,2-Dichloropropane	352.5	10.0	"	500.000	ND	70.5	50-118			
cis-1,2-Dichloroethylene	509.0	10.0	"	500.000	ND	102	67-153			
2-Butanone (MEK)	1213	50.0	"	1062.00	ND	114	52-159			
Bromochloromethane	470.7	10.0	"	500.000	ND	94.1	61-151			
Chloroform	410.7	10.0	"	500.000	ND	82.1	77-132			
1,1,1-Trichloroethane	359.4	10.0	"	499.750	ND	71.9	71-118			
1,1-Dichloropropene	425.9	10.0	"	500.000	ND	85.2	82-128			
Carbon Tetrachloride	430.7	10.0	"	500.000	ND	86.1	71-133			
Benzene	481.6	10.0	"	500.000	ND	96.3	81-125			
1,2-Dichloroethane	485.8	10.0	"	500.000	ND	97.2	75-125			
Trichloroethylene	423.9	10.0	"	500.000	ND	84.8	83-120			
1,2-Dichloropropane	513.3	10.0	"	500.000	ND	103	80-124			
Dibromomethane	511.3	10.0	"	500.000	ND	102	84-131			
Bromodichloromethane	460.6	10.0	"	500.000	ND	92.1	79-118			
cis-1,3-Dichloropropene	469.6	10.0	"	503.250	ND	93.3	75-116			
4-Methyl-2-pentanone (MIBK)	1276	50.0	"	1031.00	ND	124	65-149			
Toluene	460.7	10.0	"	500.000	ND	92.1	82-123			
trans-1,3-Dichloropropene	461.4	10.0	"	504.250	ND	91.5	75-117			
Ethyl Methacrylate	1341	100	"	1227.00	ND	109	73-135			
1,1,2-Trichloroethane	466.7	10.0	"	500.000	ND	93.3	77-122			
Tetrachloroethylene	611.6	10.0	"	500.000	ND	122	74-120			QS-02
1,3-Dichloropropane	553.3	10.0	"	500.000	ND	111	80-127			
2-Hexanone (MBK)	1460	50.0	"	1103.00	ND	132	57-150			
Dibromochloromethane	475.8	10.0	"	495.000	ND	96.1	80-120			
1,2-Dibromoethane	487.3	10.0	"	500.000	ND	97.5	67-125			
Chlorobenzene	453.7	10.0	"	500.000	ND	90.7	81-113			
1,1,1,2-Tetrachloroethane	458.9	10.0	"	500.000	ND	91.8	80-119			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0406 - EPA 5030B										
Matrix Spike (1GD0406-MS1)		**Source: 1GD0185-09**		Prepared & Analyzed: 04/10/23						
Ethylbenzene	469.8	10.0	ug/L	500.000	ND	94.0	78-114			
Xylenes, total	1431	20.0	"	1500.00	ND	95.4	77-116			
Styrene	454.4	10.0	"	500.000	ND	90.9	78-114			
Bromoform	467.3	10.0	"	500.000	ND	93.5	69-125			
1,2,3-Trichloropropane	509.9	10.0	"	500.000	ND	102	72-125			
trans-1,4-Dichloro-2-butene	921.7	50.0	"	1024.00	ND	90.0	48-131			
1,1,2,2-Tetrachloroethane	542.7	10.0	"	498.500	ND	109	51-138			
1,3-Dichlorobenzene	458.4	10.0	"	500.000	ND	91.7	70-122			
1,4-Dichlorobenzene	470.5	10.0	"	500.000	ND	94.1	70-124			
1,2-Dichlorobenzene	467.1	10.0	"	500.000	ND	93.4	68-123			
1,2-Dibromo-3-chloropropane	522.7	10.0	"	500.000	ND	105	46-149			
1,2,4-Trichlorobenzene	462.6	10.0	"	500.000	ND	92.5	60-137			
Matrix Spike Dup (1GD0406-MSD1)		**Source: 1GD0185-09**		Prepared & Analyzed: 04/10/23						
Surrogate: Dibromofluoromethane	*492*		*ug/L*	*503.520*		*97.8*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*465*		*"*	*504.080*		*92.3*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*465*		*"*	*504.080*		*92.3*	*63-138*			
Surrogate: Toluene-d8	*509*		*"*	*502.360*		*101*	*87-116*			
Surrogate: Toluene-d8	*509*		*"*	*502.360*		*101*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*508*		*"*	*504.200*		*101*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*508*		*"*	*504.200*		*101*	*85-111*			
Dichlorodifluoromethane	217.5	10.0	"	300.000	ND	72.5	47-137	1.39	20	
Chloromethane	286.4	10.0	"	300.000	ND	95.5	49-154	1.76	25	
Vinyl Chloride	264.8	10.0	"	300.000	ND	88.3	61-152	0.527	24	
Bromomethane	235.4	10.0	"	300.000	ND	78.5	47-168	12.0	30	
Chloroethane	263.9	10.0	"	300.000	ND	88.0	61-148	0.529	29	
Trichlorofluoromethane	237.4	10.0	"	300.000	ND	79.1	73-147	1.91	24	
Acrolein	1045	100	"	1002.00	ND	104	20-164	1.73	24	
1,1-Dichloroethylene	470.7	10.0	"	500.000	ND	94.1	68-153	2.43	21	
Acetone	1192	100	"	1041.00	ND	114	45-175	1.14	23	
Methyl Iodide	972.3	20.0	"	1125.63	ND	86.4	79-167	16.9	14	QM-19
Carbon Disulfide	951.8	10.0	"	1064.00	ND	89.5	72-156	3.90	19	
Acetonitrile	1176	100	"	1019.96	ND	115	38-166	2.29	20	
Methylene Chloride	437.6	50.0	"	500.000	ND	87.5	64-143	2.52	19	
Acrylonitrile	1003	50.0	"	1005.00	ND	99.8	58-151	0.368	15	
trans-1,2-Dichloroethylene	441.7	10.0	"	500.000	ND	88.3	65-145	2.15	18	
1,1-Dichloroethane	437.5	10.0	"	500.000	ND	87.5	68-136	2.90	17	
Vinyl Acetate	1005	50.0	"	1033.00	ND	97.3	58-143	5.64	14	
2,2-Dichloropropane	360.0	10.0	"	500.000	ND	72.0	50-118	2.11	17	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0406 - EPA 5030B										
Matrix Spike Dup (1GD0406-MSD1)		**Source: 1GD0185-09**		Prepared & Analyzed: 04/10/23						
cis-1,2-Dichloroethylene	523.4	10.0	ug/L	500.000	ND	105	67-153	2.79	22	
2-Butanone (MEK)	1246	50.0	"	1062.00	ND	117	52-159	2.70	28	
Bromochloromethane	474.8	10.0	"	500.000	ND	95.0	61-151	0.867	27	
Chloroform	418.3	10.0	"	500.000	ND	83.7	77-132	1.83	17	
1,1,1-Trichloroethane	372.9	10.0	"	499.750	ND	74.6	71-118	3.69	15	
1,1-Dichloropropene	444.6	10.0	"	500.000	ND	88.9	82-128	4.30	16	
Carbon Tetrachloride	451.6	10.0	"	500.000	ND	90.3	71-133	4.74	14	
Benzene	492.2	10.0	"	500.000	ND	98.4	81-125	2.18	12	
1,2-Dichloroethane	489.1	10.0	"	500.000	ND	97.8	75-125	0.677	13	
Trichloroethylene	434.3	10.0	"	500.000	ND	86.9	83-120	2.42	11	
1,2-Dichloropropane	522.8	10.0	"	500.000	ND	105	80-124	1.83	11	
Dibromomethane	521.5	10.0	"	500.000	ND	104	84-131	1.98	13	
Bromodichloromethane	471.2	10.0	"	500.000	ND	94.2	79-118	2.28	11	
cis-1,3-Dichloropropene	478.9	10.0	"	503.250	ND	95.2	75-116	1.96	11	
4-Methyl-2-pentanone (MIBK)	1272	50.0	"	1031.00	ND	123	65-149	0.251	14	
Toluene	476.5	10.0	"	500.000	ND	95.3	82-123	3.37	12	
trans-1,3-Dichloropropene	476.0	10.0	"	504.250	ND	94.4	75-117	3.12	11	
Ethyl Methacrylate	1366	100	"	1227.00	ND	111	73-135	1.81	10	
1,1,2-Trichloroethane	477.0	10.0	"	500.000	ND	95.4	77-122	2.18	11	
Tetrachloroethylene	638.4	10.0	"	500.000	ND	128	74-120	4.29	17	QS-02
1,3-Dichloropropane	564.5	10.0	"	500.000	ND	113	80-127	2.00	13	
2-Hexanone (MBK)	1454	50.0	"	1103.00	ND	132	57-150	0.391	17	
Dibromochloromethane	490.1	10.0	"	495.000	ND	99.0	80-120	2.96	12	
1,2-Dibromoethane	501.2	10.0	"	500.000	ND	100	67-125	2.81	12	
Chlorobenzene	468.5	10.0	"	500.000	ND	93.7	81-113	3.21	14	
1,1,1,2-Tetrachloroethane	470.2	10.0	"	500.000	ND	94.0	80-119	2.43	15	
Ethylbenzene	486.3	10.0	"	500.000	ND	97.3	78-114	3.45	14	
Xylenes, total	1479	20.0	"	1500.00	ND	98.6	77-116	3.33	13	
Styrene	468.1	10.0	"	500.000	ND	93.6	78-114	2.97	12	
Bromoform	483.5	10.0	"	500.000	ND	96.7	69-125	3.41	14	
1,2,3-Trichloropropane	518.6	10.0	"	500.000	ND	104	72-125	1.69	18	
trans-1,4-Dichloro-2-butene	945.5	50.0	"	1024.00	ND	92.3	48-131	2.55	17	
1,1,2,2-Tetrachloroethane	562.6	10.0	"	498.500	ND	113	51-138	3.60	30	
1,3-Dichlorobenzene	472.3	10.0	"	500.000	ND	94.5	70-122	2.99	30	
1,4-Dichlorobenzene	481.2	10.0	"	500.000	ND	96.2	70-124	2.25	28	
1,2-Dichlorobenzene	480.6	10.0	"	500.000	ND	96.1	68-123	2.85	29	
1,2-Dibromo-3-chloropropane	525.7	10.0	"	500.000	ND	105	46-149	0.572	30	
1,2,4-Trichlorobenzene	468.0	10.0	"	500.000	ND	93.6	60-137	1.16	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0871 - EPA 5030B										
Blank (1GD0871-BLK1)				Prepared & Analyzed: 04/17/23						
Surrogate: Dibromofluoromethane	*51.8*		*ug/L*	*50.3520*		*103*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*52.8*		*"*	*50.4080*		*105*	*63-138*			
Surrogate: Toluene-d8	*51.6*		*"*	*50.2360*		*103*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*50.2*		*"*	*50.4200*		*99.6*	*85-111*			
Allyl chloride	ND	1.0	"							
Chloroprene	ND	1.0	"							
Methacrylonitrile	ND	1.0	"							
Methyl Methacrylate	ND	1.0	"							
Propionitrile	ND	10.0	"							
LCS (1GD0871-BS1)				Prepared & Analyzed: 04/17/23						
Surrogate: Dibromofluoromethane	*49.0*		*ug/L*	*50.3520*		*97.4*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*49.0*		*"*	*50.4080*		*97.3*	*63-138*			
Surrogate: Toluene-d8	*52.6*		*"*	*50.2360*		*105*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*50.8*		*"*	*50.4200*		*101*	*85-111*			
Allyl chloride	41.56	1.0	"	50.1000		83.0	76-134			
Chloroprene	23.53	1.0	"	25.0450		94.0	74-141			
Methacrylonitrile	46.70	1.0	"	49.9800		93.4	73-143			
Methyl Methacrylate	50.78	1.0	"	50.1000		101	72-123			
Propionitrile	43.09	10.0	"	50.1000		86.0	50-151			
LCS Dup (1GD0871-BSD1)				Prepared & Analyzed: 04/17/23						
Surrogate: Dibromofluoromethane	*50.7*		*ug/L*	*50.3520*		*101*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*51.1*		*"*	*50.4080*		*101*	*63-138*			
Surrogate: Toluene-d8	*49.4*		*"*	*50.2360*		*98.4*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*50.4*		*"*	*50.4200*		*99.9*	*85-111*			
Allyl chloride	38.71	1.0	"	50.1000		77.3	76-134	7.10	30	
Chloroprene	20.46	1.0	"	25.0450		81.7	74-141	14.0	30	
Methacrylonitrile	43.64	1.0	"	49.9800		87.3	73-143	6.77	30	
Methyl Methacrylate	47.35	1.0	"	50.1000		94.5	72-123	6.99	30	
Propionitrile	43.09	10.0	"	50.1000		86.0	50-151	0.00	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of General Solvents - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0694 - Semi-Vol GC										
Blank (1GD0694-BLK1)				Prepared: 04/13/23 Analyzed: 04/14/23						
Isobutanol	ND	1.0	mg/L							
LCS (1GD0694-BS1)				Prepared: 04/13/23 Analyzed: 04/14/23						
Isobutanol	46.16	1.0	mg/L	49.6560		93.0	40-135			
Matrix Spike (1GD0694-MS1)		**Source: 1GD0185-09**		Prepared: 04/13/23 Analyzed: 04/14/23						
Isobutanol	51.16	1.0	mg/L	49.6560	ND	103	63-135			
Matrix Spike Dup (1GD0694-MSD1)		**Source: 1GD0185-09**		Prepared: 04/13/23 Analyzed: 04/14/23						
Isobutanol	51.90	1.0	mg/L	49.6560	ND	105	63-135	1.44	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0431 - EPA 625 BNA										
Blank (1GD0431-BLK1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Nitrobenzene-d5	*53.8*		*ug/L*	*62.8500*		*85.6*	*29-130*			
Surrogate: 2-Fluorobiphenyl	*51.4*		*"*	*61.0000*		*84.3*	*23-113*			
Surrogate: Terphenyl-dl4	*58.6*		*"*	*65.1000*		*89.9*	*27-141*			
Bis(2-Ethylhexyl) Phthalate	ND	6	"							
LCS (1GD0431-BS1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Nitrobenzene-d5	*25.4*		*ug/L*	*62.8500*		*40.4*	*38-115*			
Surrogate: 2-Fluorobiphenyl	*26.9*		*"*	*61.0000*		*44.1*	*33-110*			
Surrogate: Terphenyl-dl4	*30.9*		*"*	*65.1000*		*47.4*	*30-142*			
Bis(2-Ethylhexyl) Phthalate	36.2	6	"	41.6667		86.9	33-184			
LCS Dup (1GD0431-BSD1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Nitrobenzene-d5	*37.8*		*ug/L*	*62.8500*		*60.1*	*38-115*			
Surrogate: 2-Fluorobiphenyl	*45.1*		*"*	*61.0000*		*73.9*	*33-110*			
Surrogate: Terphenyl-dl4	*51.3*		*"*	*65.1000*		*78.7*	*30-142*			
Bis(2-Ethylhexyl) Phthalate	32.5	6	"	41.6667		78.0	33-184	10.8	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Blank (1GD0434-BLK1)				Prepared: 04/10/23 Analyzed: 04/26/23						
Surrogate: 2-Fluorophenol	*42.2*		*ug/L*	*60.6000*		*69.7*	*24-136*			
Surrogate: Phenol-d6	*45.6*		*"*	*61.9000*		*73.7*	*15-140*			
Surrogate: Nitrobenzene-d5	*40.1*		*"*	*62.8500*		*63.7*	*29-130*			
Surrogate: 2-Fluorobiphenyl	*39.5*		*"*	*61.0000*		*64.8*	*23-113*			
Surrogate: 2,4,6-Tribromophenol	*52.6*		*"*	*62.2500*		*84.4*	*15-139*			
Surrogate: Terphenyl-dl4	*67.0*		*"*	*65.1000*		*103*	*27-141*			
N-Nitrosodimethylamine	ND	8	"							
Methyl Methanesulfonate	ND	8	"							
N-Nitrosodiethylamine	ND	8	"							
N-Nitrosomethylethylamine	ND	8	"							
Ethyl Methanesulfonate	ND	8	"							
Phenol	ND	8	"							
Bis(2-Chloroethyl) Ether	ND	8	"							
2-Chlorophenol	ND	8	"							
Benzyl Alcohol	ND	8	"							
2-Methylphenol (o-Cresol)	ND	8	"							
Bis[2-Chloroisopropyl]ether	ND	8	"							
n-Nitroso-di-n-propylamine	ND	8	"							
N-Nitrosopyrrolidine	ND	8	"							
Acetophenone	ND	8	"							
o-Toluidine	ND	8	"							
(3 & 4)-Methylphenol	ND	8	"							
Hexachloroethane	ND	8	"							
Nitrobenzene	ND	8	"							
N-Nitrosopiperidine	ND	8	"							
Isophorone	ND	8	"							
2-Nitrophenol	ND	8	"							
2,4-Dimethylphenol	ND	8	"							
Bis (2-Chloroethoxy) Methane	ND	8	"							
2,4-Dichlorophenol	ND	8	"							
Naphthalene	ND	8	"							
4-Chloroaniline	ND	8	"							
2,6-Dichlorophenol	ND	8	"							
Hexachloropropene	ND	8	"							
Hexachlorobutadiene	ND	8	"							
N-Nitrosodi-n-butylamine	ND	8	"							
1,4-Phenylenediamine	ND	8	"							
4-Chloro-3-methylphenol	ND	8	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Blank (1GD0434-BLK1)				Prepared: 04/10/23 Analyzed: 04/26/23						
2-Methylnaphthalene	ND	8	ug/L							
Isosafrole	ND	8	"							
1,2,4,5-Tetrachlorobenzene	ND	8	"							
Hexachlorocyclopentadiene	ND	8	"							
2,4,6-Trichlorophenol	ND	8	"							
2,4,5-Trichlorophenol	ND	8	"							
Safrole	ND	8	"							
2-Chloronaphthalene	ND	8	"							
2-Nitroaniline	ND	8	"							
1,4-Naphthoquinone	ND	8	"							
Dimethylphthalate	ND	8	"							
1,3-Dinitrobenzene	ND	8	"							
1,2-Dinitrobenzene	ND	8	"							
2,6-Dinitrotoluene	ND	8	"							
Acenaphthylene	ND	8	"							
3-Nitroaniline	ND	8	"							
Acenaphthene	ND	8	"							
2,4-Dinitrophenol	ND	8	"							
4-Nitrophenol	ND	8	"							
Dibenzofuran	ND	8	"							
2,4-Dinitrotoluene	ND	8	"							
2,3,4,6-Tetrachlorophenol	ND	8	"							
Pentachlorobenzene	ND	8	"							
1-Naphthylamine	ND	8	"							
2-Naphthylamine	ND	8	"							
Diethyl Phthalate	ND	8	"							
Fluorene	ND	8	"							
4-Chlorophenyl Phenyl Ether	ND	8	"							
4-Nitroaniline	ND	8	"							
5-Nitro-o-toluidine	ND	8	"							
4,6-Dinitro-2-methylphenol	ND	8	"							
N-Nitrosodiphenylamine	ND	8	"							
Diphenylamine	ND	8	"							
Azobenzene	ND	8	"							
Diallate	ND	8	"							
1,3,5-Trinitrobenzene	ND	8	"							
Phenacetin	ND	8	"							
4-Bromophenyl Phenyl Ether	ND	8	"							
4-Aminobiphenyl	ND	8	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Blank (1GD0434-BLK1)				Prepared: 04/10/23 Analyzed: 04/26/23						
Pentachlorophenol	ND	8	ug/L							
Pronamide	ND	8	"							
Pentachloronitrobenzene (PCNB)	ND	8	"							
Phenanthrene	ND	8	"							
Anthracene	ND	8	"							
Di-n-butyl Phthalate	ND	8	"							
Methapyrilene	ND	8	"							
Fluoranthene	ND	8	"							
Isodrin	ND	8	"							
Chlorobenzilate	ND	8	"							
Pyrene	ND	8	"							
p-(Dimethylamino)azobenzene	ND	8	"							
3,3-Dimethylbenzidine	ND	8	"							
Butyl Benzyl Phthalate	ND	8	"							
Benzo(a)anthracene	ND	8	"							
Chrysene	ND	8	"							
Bis(2-Ethylhexyl) Phthalate	ND	6	"							
Kepone	ND	8	"							
3,3´-Dichlorobenzidine	ND	8	"							
2-Acetylaminofluorene	ND	8	"							
Di-n-octyl Phthalate	ND	8	"							
Benzo(b)Fluoranthene	ND	8	"							
7,12-Dimethylbenz [a] anthracene	ND	8	"							
Benzo(k)Fluoranthene	ND	8	"							
Benzo(a)Pyrene	ND	8	"							
3-Methylcholanthrene	ND	8	"							
Dibenzo(a,h)anthracene	ND	8	"							
Indeno(1,2,3-cd)Pyrene	ND	8	"							
Benzo(g,h,i)perylene	ND	8	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
LCS (1GD0434-BS1)				Prepared: 04/10/23 Analyzed: 04/27/23						
Surrogate: 2-Fluorophenol	*28.1*		*ug/L*	*60.6000*		*46.3*	*24-136*			
Surrogate: Phenol-d6	*29.3*		*"*	*61.9000*		*47.4*	*15-140*			
Surrogate: Nitrobenzene-d5	*32.4*		*"*	*62.8500*		*51.5*	*38-115*			
Surrogate: 2-Fluorobiphenyl	*32.3*		*"*	*61.0000*		*53.0*	*33-110*			
Surrogate: 2,4,6-Tribromophenol	*34.3*		*"*	*62.2500*		*55.1*	*15-139*			
Surrogate: Terphenyl-dl4	*35.9*		*"*	*65.1000*		*55.2*	*30-142*			
N-Nitrosodimethylamine	15.0	8	"	41.6667		36.0	36-138			QS-01
Phenol	20.6	8	"	41.6667		49.3	50-112			QS-01
Bis(2-Chloroethyl) Ether	23.5	8	"	41.6667		56.4	39-151			
2-Chlorophenol	20.6	8	"	41.6667		49.5	56-116			QS-01
Benzyl Alcohol	17.1	8	"	41.6667		41.1	13-158			
2-Methylphenol (o-Cresol)	24.6	8	"	41.6667		59.1	53-131			
Bis[2-Chloroisopropyl]ether	22.8	8	"	41.6667		54.7	50-121			
n-Nitroso-di-n-propylamine	21.1	8	"	41.6667		50.6	50-138			
(3 & 4)-Methylphenol	18.0	8	"	41.6667		43.3	30-164			
Hexachloroethane	17.0	8	"	41.6667		40.7	10-110			
Nitrobenzene	21.3	8	"	41.6667		51.2	47-134			
Isophorone	20.7	8	"	41.6667		49.6	54-128			QS-01
2-Nitrophenol	25.5	8	"	41.6667		61.3	54-117			
2,4-Dimethylphenol	20.9	8	"	41.6667		50.1	52-118			QS-01
Bis (2-Chloroethoxy) Methane	20.8	8	"	41.6667		50.0	13-132			
2,4-Dichlorophenol	20.2	8	"	41.6667		48.6	58-114			QS-01
Naphthalene	20.8	8	"	41.6667		49.8	37-116			
4-Chloroaniline	14.2	8	"	41.6667		34.1	10-198			
Hexachlorobutadiene	18.7	8	"	41.6667		45.0	14-110			
4-Chloro-3-methylphenol	17.6	8	"	41.6667		42.4	57-136			QS-01
2-Methylnaphthalene	19.0	8	"	41.6667		45.6	44-111			
Hexachlorocyclopentadiene	10.7	8	"	41.6667		25.8	11-110			
2,4,6-Trichlorophenol	21.0	8	"	41.6667		50.4	55-120			QS-01
2,4,5-Trichlorophenol	20.8	8	"	41.6667		49.9	55-121			QS-01
2-Chloronaphthalene	35.2	8	"	41.6667		84.5	47-127			
2-Nitroaniline	22.9	8	"	41.6667		55.0	36-143			
Dimethylphthalate	22.4	8	"	41.6667		53.7	59-128			QS-01
1,3-Dinitrobenzene	26.1	8	"	41.6667		62.7	63-125			QS-01
1,2-Dinitrobenzene	26.7	8	"	41.6667		64.1	63-123			
2,6-Dinitrotoluene	25.3	8	"	41.6667		60.7	60-127			
Acenaphthylene	20.3	8	"	41.6667		48.8	49-113			QS-01
3-Nitroaniline	21.6	8	"	41.6667		51.7	10-162			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
LCS (1GD0434-BS1)				Prepared: 04/10/23 Analyzed: 04/27/23						
Acenaphthene	20.7	8	ug/L	41.6667		49.7	50-119			QS-01
2,4-Dinitrophenol	21.0	8	"	41.6667		50.5	27-157			
4-Nitrophenol	21.0	8	"	41.6667		50.5	49-154			
Dibenzofuran	21.4	8	"	41.6667		51.3	56-121			QS-01
2,4-Dinitrotoluene	24.9	8	"	41.6667		59.8	53-138			
2,3,4,6-Tetrachlorophenol	20.2	8	"	41.6667		48.6	47-132			
Diethyl Phthalate	22.2	8	"	41.6667		53.2	53-138			
Fluorene	20.5	8	"	41.6667		49.2	54-125			QS-01
4-Chlorophenyl Phenyl Ether	20.9	8	"	41.6667		50.2	51-122			QS-01
4-Nitroaniline	20.6	8	"	41.6667		49.4	10-136			
4,6-Dinitro-2-methylphenol	24.9	8	"	41.6667		59.8	49-137			
Diphenylamine	22.4	8	"	41.6667		53.8	35-151			
Azobenzene	23.1	8	"	41.6667		55.5	16-156			
4-Bromophenyl Phenyl Ether	22.3	8	"	41.6667		53.5	53-122			
Pentachlorophenol	14.6	8	"	41.6667		35.1	18-152			
Phenanthrene	21.8	8	"	41.6667		52.2	59-131			QS-01
Anthracene	21.1	8	"	41.6667		50.7	59-127			QS-01
Di-n-butyl Phthalate	22.0	8	"	41.6667		52.8	64-148			QS-01
Fluoranthene	21.5	8	"	41.6667		51.5	62-132			QS-01
Pyrene	22.3	8	"	41.6667		53.6	58-135			QS-01
Butyl Benzyl Phthalate	24.0	8	"	41.6667		57.6	52-150			
Benzo(a)anthracene	23.4	8	"	41.6667		56.2	58-131			QS-01
Chrysene	23.7	8	"	41.6667		56.8	59-131			QS-01
Bis(2-Ethylhexyl) Phthalate	27.9	6	"	41.6667		67.0	33-184			
Di-n-octyl Phthalate	21.5	8	"	41.6667		51.7	48-162			
Benzo(b)Fluoranthene	21.7	8	"	41.6667		52.0	50-146			
Benzo(k)Fluoranthene	21.8	8	"	41.6667		52.4	54-144			QS-01
Benzo(a)Pyrene	20.9	8	"	41.6667		50.2	39-148			
Dibenzo(a,h)anthracene	20.2	8	"	41.6667		48.5	46-153			
Indeno(1,2,3-cd)Pyrene	20.7	8	"	41.6667		49.8	48-152			
Benzo(g,h,i)perylene	20.5	8	"	41.6667		49.3	47-161			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Matrix Spike (1GD0434-MS1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/26/23						
Surrogate: 2-Fluorophenol	*41.0*		*ug/L*	*60.0595*		*68.2*	*24-136*			
Surrogate: Phenol-d6	*44.6*		*"*	*61.3479*		*72.6*	*15-140*			
Surrogate: Nitrobenzene-d5	*42.8*		*"*	*62.2894*		*68.8*	*28-133*			
Surrogate: 2-Fluorobiphenyl	*43.8*		*"*	*60.4559*		*72.5*	*39-110*			
Surrogate: 2,4,6-Tribromophenol	*66.3*		*"*	*61.6948*		*107*	*15-139*			
Surrogate: Terphenyl-dl4	*66.5*		*"*	*64.5193*		*103*	*41-135*			
N-Nitrosodimethylamine	27.9	8	"	41.2950	ND	67.6	60-140			
Methyl Methanesulfonate	10.8	8	"	24.7770	ND	43.4	60-140			QS-06
N-Nitrosodiethylamine	31.5	8	"	49.5540	ND	63.5	60-140			
N-Nitrosomethylethylamine	28.9	8	"	49.5540	ND	58.3	60-140			QS-06
Ethyl Methanesulfonate	12.4	8	"	24.7770	ND	50.0	60-140			QS-06
Phenol	28.9	8	"	41.2950	ND	70.1	60-139			
Bis(2-Chloroethyl) Ether	31.2	8	"	41.2950	ND	75.6	60-140			
2-Chlorophenol	29.9	8	"	41.2950	ND	72.3	42-104			
Benzyl Alcohol	15.6	8	"	41.2950	1.2	34.8	60-140			QS-06
2-Methylphenol (o-Cresol)	31.0	8	"	41.2950	ND	75.1	44-110			
Bis[2-Chloroisopropyl]ether	30.4	8	"	41.2950	ND	73.7	60-140			
n-Nitroso-di-n-propylamine	32.1	8	"	41.2950	ND	77.8	50-138			
N-Nitrosopyrrolidine	35.4	8	"	49.5540	ND	71.4	60-140			
Acetophenone	17.2	8	"	24.7770	ND	69.4	60-140			
(3 & 4)-Methylphenol	31.9	8	"	41.2950	ND	77.4	42-117			
Hexachloroethane	25.4	8	"	41.2950	ND	61.6	18-200			
Nitrobenzene	28.4	8	"	41.2950	ND	68.7	11-156			
N-Nitrosopiperidine	30.9	8	"	49.5540	ND	62.4	60-140			
Isophorone	28.0	8	"	41.2950	ND	67.7	60-140			
2-Nitrophenol	32.3	8	"	41.2950	ND	78.2	38-112			
2,4-Dimethylphenol	30.7	8	"	41.2950	ND	74.3	32-110			
Bis (2-Chloroethoxy) Methane	26.0	8	"	41.2950	ND	63.0	60-140			
2,4-Dichlorophenol	29.8	8	"	41.2950	ND	72.1	43-104			
Naphthalene	27.2	8	"	41.2950	ND	65.8	60-140			
2,6-Dichlorophenol	18.4	8	"	24.7770	ND	74.2	60-140			
Hexachlorobutadiene	17.4	8	"	41.2950	ND	42.2	20-200			
N-Nitrosodi-n-butylamine	27.8	8	"	49.5540	ND	56.1	60-140			QS-06
4-Chloro-3-methylphenol	32.2	8	"	41.2950	ND	78.1	49-125			
2-Methylnaphthalene	25.5	8	"	41.2950	ND	61.7	65-127			QS-06
Isosafrole	18.4	8	"	24.7770	ND	74.3	60-140			
1,2,4,5-Tetrachlorobenzene	16.0	8	"	24.7770	ND	64.6	60-140			
Hexachlorocyclopentadiene	12.6	8	"	41.2950	ND	30.5	60-140			QS-06

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Matrix Spike (1GD0434-MS1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/26/23						
2,4,6-Trichlorophenol	34.6	8	ug/L	41.2950	ND	83.9	13-147			
2,4,5-Trichlorophenol	37.0	8	"	41.2950	ND	89.5	35-145			
Safrole	18.8	8	"	24.7770	ND	75.7	60-140			
2-Chloronaphthalene	47.9	8	"	41.2950	ND	116	60-140			
2-Nitroaniline	41.2	8	"	41.2950	ND	99.8	60-140			
1,4-Naphthoquinone	43.6	8	"	24.7770	ND	176	60-140			QS-02
Dimethylphthalate	37.7	8	"	41.2950	ND	91.3	63-110			
1,3-Dinitrobenzene	38.7	8	"	41.2950	ND	93.6	60-140			
1,2-Dinitrobenzene	41.3	8	"	41.2950	ND	100	60-140			
2,6-Dinitrotoluene	40.7	8	"	41.2950	ND	98.5	59-127			
Acenaphthylene	29.6	8	"	41.2950	ND	71.6	63-133			
3-Nitroaniline	4.7	8	"	41.2950	ND	11.4	60-140			QS-06
Acenaphthene	30.9	8	"	41.2950	ND	74.8	60-140			
2,4-Dinitrophenol	37.2	8	"	41.2950	ND	90.0	60-138			
4-Nitrophenol	39.8	8	"	41.2950	ND	96.5	37-169			
Dibenzofuran	33.3	8	"	41.2950	ND	80.6	60-140			
2,4-Dinitrotoluene	45.1	8	"	41.2950	ND	109	29-142			
2,3,4,6-Tetrachlorophenol	34.4	8	"	41.2950	ND	83.3	60-140			
Pentachlorobenzene	19.4	8	"	24.7770	ND	78.4	60-140			
Diethyl Phthalate	39.7	8	"	41.2950	ND	96.1	60-140			
Fluorene	34.9	8	"	41.2950	ND	84.6	50-140			
4-Chlorophenyl Phenyl Ether	32.4	8	"	41.2950	ND	78.5	60-140			
4-Nitroaniline	25.7	8	"	41.2950	ND	62.3	60-140			
5-Nitro-o-toluidine	19.8	8	"	49.5540	ND	39.9	60-140			QS-06
4,6-Dinitro-2-methylphenol	40.8	8	"	41.2950	ND	98.7	60-135			
Diphenylamine	34.3	8	"	41.2950	ND	83.1	60-140			
Azobenzene	33.6	8	"	41.2950	ND	81.3	60-140			
Diallate	25.1	8	"	24.7770	ND	101	60-140			
1,3,5-Trinitrobenzene	34.1	8	"	24.7770	ND	138	60-140			
Phenacetin	25.2	8	"	24.7770	ND	102	60-140			
4-Bromophenyl Phenyl Ether	33.4	8	"	41.2950	ND	80.8	60-140			
Pentachlorophenol	26.2	8	"	41.2950	ND	63.4	14-164			
Pronamide	23.1	8	"	24.7770	ND	93.2	60-140			
Pentachloronitrobenzene (PCNB)	26.2	8	"	24.7770	ND	106	60-140			
Phenanthrene	36.3	8	"	41.2950	ND	87.8	72-111			
Anthracene	34.5	8	"	41.2950	ND	83.5	53-110			
Di-n-butyl Phthalate	40.6	8	"	41.2950	ND	98.4	56-138			
Fluoranthene	38.7	8	"	41.2950	ND	93.8	62-110			
Isodrin	19.3	8	"	24.7770	ND	78.0	60-140			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Matrix Spike (1GD0434-MS1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/26/23						
Chlorobenzilate	22.1	8	ug/L	24.7770	ND	89.2	60-140			
Pyrene	37.6	8	"	41.2950	ND	91.0	50-122			
p-(Dimethylamino)azobenzene	35.3	8	"	49.5540	ND	71.2	60-140			
Butyl Benzyl Phthalate	40.1	8	"	41.2950	ND	97.1	60-140			
Benzo(a)anthracene	38.9	8	"	41.2950	ND	94.2	60-140			
Chrysene	37.1	8	"	41.2950	ND	89.7	53-140			
Bis(2-Ethylhexyl) Phthalate	47.7	6	"	41.2950	7.4	97.5	60-140			
Kepone	12.8	8	"	24.7770	ND	51.5	17-151			
2-Acetylaminofluorene	57.8	8	"	49.5540	ND	117	60-140			
Di-n-octyl Phthalate	44.5	8	"	41.2950	ND	108	60-140			
Benzo(b)Fluoranthene	43.4	8	"	41.2950	ND	105	60-140			
7,12-Dimethylbenz [a] anthracene	20.6	8	"	24.7770	ND	83.3	60-140			
Benzo(k)Fluoranthene	39.9	8	"	41.2950	ND	96.7	60-140			
Benzo(a)Pyrene	38.5	8	"	41.2950	ND	93.2	60-140			
3-Methylcholanthrene	19.2	8	"	24.7770	ND	77.6	60-140			
Dibenzo(a,h)anthracene	37.4	8	"	41.2950	ND	90.5	60-140			
Indeno(1,2,3-cd)Pyrene	37.7	8	"	41.2950	ND	91.3	60-140			
Benzo(g,h,i)perylene	36.1	8	"	41.2950	ND	87.3	60-140			
Matrix Spike Dup (1GD0434-MSD1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/26/23						
Surrogate: 2-Fluorophenol	*48.3*		*ug/L*	*60.4790*		*79.8*	*24-136*			
Surrogate: Phenol-d6	*52.9*		*"*	*61.7764*		*85.6*	*15-140*			
Surrogate: Nitrobenzene-d5	*45.4*		*"*	*62.7246*		*72.3*	*28-133*			
Surrogate: 2-Fluorobiphenyl	*49.0*		*"*	*60.8782*		*80.5*	*39-110*			
Surrogate: 2,4,6-Tribromophenol	*67.8*		*"*	*62.1258*		*109*	*15-139*			
Surrogate: Terphenyl-dl4	*65.5*		*"*	*64.9701*		*101*	*41-135*			
N-Nitrosodimethylamine	31.4	8	"	41.5835	ND	75.5	60-140	11.8	40	
Methyl Methanesulfonate	12.2	8	"	24.9501	ND	48.9	60-140	12.7	40	QS-06
N-Nitrosodiethylamine	36.7	8	"	49.9002	ND	73.6	60-140	15.5	30	
N-Nitrosomethylethylamine	34.5	8	"	49.9002	ND	69.1	60-140	17.6	40	
Ethyl Methanesulfonate	14.1	8	"	24.9501	ND	56.4	60-140	12.8	40	QS-06
Phenol	34.6	8	"	41.5835	ND	83.2	60-139	17.8	40	
Bis(2-Chloroethyl) Ether	35.0	8	"	41.5835	ND	84.1	60-140	11.3	40	
2-Chlorophenol	34.2	8	"	41.5835	ND	82.1	42-104	13.4	40	
Benzyl Alcohol	18.2	8	"	41.5835	1.2	40.9	60-140	15.6	40	QS-06
2-Methylphenol (o-Cresol)	35.7	8	"	41.5835	ND	85.8	44-110	14.0	22	
Bis[2-Chloroisopropyl]ether	34.2	8	"	41.5835	ND	82.3	60-140	11.8	40	
n-Nitroso-di-n-propylamine	38.1	8	"	41.5835	ND	91.6	50-138	17.0	18	
N-Nitrosopyrrolidine	43.6	8	"	49.9002	ND	87.4	60-140	20.9	40	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Matrix Spike Dup (1GD0434-MSD1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/26/23						
Acetophenone	19.5	8	ug/L	24.9501	ND	78.2	60-140	12.5	40	
(3 & 4)-Methylphenol	37.7	8	"	41.5835	ND	90.6	42-117	16.4	40	
Hexachloroethane	29.8	8	"	41.5835	ND	71.6	18-200	15.7	30	
Nitrobenzene	30.8	8	"	41.5835	ND	74.1	11-156	8.29	15	
N-Nitrosopiperidine	35.9	8	"	49.9002	ND	71.9	60-140	14.9	40	
Isophorone	31.7	8	"	41.5835	ND	76.1	60-140	12.4	40	
2-Nitrophenol	35.0	8	"	41.5835	ND	84.2	38-112	8.02	40	
2,4-Dimethylphenol	33.5	8	"	41.5835	ND	80.6	32-110	8.84	40	
Bis (2-Chloroethoxy) Methane	29.8	8	"	41.5835	ND	71.6	60-140	13.5	40	
2,4-Dichlorophenol	33.4	8	"	41.5835	ND	80.4	43-104	11.5	40	
Naphthalene	29.6	8	"	41.5835	ND	71.1	60-140	8.41	40	
2,6-Dichlorophenol	20.3	8	"	24.9501	ND	81.4	60-140	10.0	40	
Hexachlorobutadiene	24.1	8	"	41.5835	ND	57.9	20-200	32.0	24	QR-02
N-Nitrosodi-n-butylamine	33.1	8	"	49.9002	ND	66.4	60-140	17.5	40	
4-Chloro-3-methylphenol	36.5	8	"	41.5835	ND	87.7	49-125	12.2	40	
2-Methylnaphthalene	29.7	8	"	41.5835	ND	71.4	65-127	15.2	23	
Isosafrole	19.2	8	"	24.9501	ND	77.0	60-140	4.19	40	
1,2,4,5-Tetrachlorobenzene	18.0	8	"	24.9501	ND	72.1	60-140	11.7	40	
Hexachlorocyclopentadiene	17.4	8	"	41.5835	ND	41.9	60-140	32.2	40	QS-06
2,4,6-Trichlorophenol	37.5	8	"	41.5835	ND	90.1	13-147	7.92	16	
2,4,5-Trichlorophenol	39.1	8	"	41.5835	ND	93.9	35-145	5.46	27	
Safrole	20.2	8	"	24.9501	ND	80.9	60-140	7.29	40	
2-Chloronaphthalene	40.1	8	"	41.5835	ND	96.5	60-140	17.8	40	
2-Nitroaniline	43.1	8	"	41.5835	ND	104	60-140	4.52	40	
1,4-Naphthoquinone	44.2	8	"	24.9501	ND	177	60-140	1.33	40	QS-02
Dimethylphthalate	39.4	8	"	41.5835	ND	94.7	63-110	4.31	40	
1,3-Dinitrobenzene	42.0	8	"	41.5835	ND	101	60-140	8.20	40	
1,2-Dinitrobenzene	43.8	8	"	41.5835	ND	105	60-140	5.93	40	
2,6-Dinitrotoluene	43.1	8	"	41.5835	ND	104	59-127	5.71	26	
Acenaphthylene	31.9	8	"	41.5835	ND	76.7	63-133	7.49	26	
3-Nitroaniline	8.6	8	"	41.5835	ND	20.7	60-140	58.4	40	QS-06
Acenaphthene	33.8	8	"	41.5835	ND	81.3	60-140	9.09	10.1	
2,4-Dinitrophenol	42.0	8	"	41.5835	ND	101	60-138	12.2	40	
4-Nitrophenol	44.4	8	"	41.5835	ND	107	37-169	10.8	20	
Dibenzofuran	35.6	8	"	41.5835	ND	85.7	60-140	6.87	40	
2,4-Dinitrotoluene	47.5	8	"	41.5835	ND	114	29-142	5.17	22	
2,3,4,6-Tetrachlorophenol	37.9	8	"	41.5835	ND	91.1	60-140	9.59	40	
Pentachlorobenzene	20.9	8	"	24.9501	ND	83.6	60-140	7.17	40	
Diethyl Phthalate	41.5	8	"	41.5835	ND	99.8	60-140	4.52	25	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Matrix Spike Dup (1GD0434-MSD1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/26/23						
Fluorene	36.6	8	ug/L	41.5835	ND	88.1	50-140	4.73	200	
4-Chlorophenyl Phenyl Ether	34.4	8	"	41.5835	ND	82.7	60-140	5.94	40	
4-Nitroaniline	25.5	8	"	41.5835	ND	61.3	60-140	0.819	40	
5-Nitro-o-toluidine	27.8	8	"	49.9002	ND	55.7	60-140	33.6	40	QS-06
4,6-Dinitro-2-methylphenol	44.2	8	"	41.5835	ND	106	60-135	8.14	40	
Diphenylamine	34.6	8	"	41.5835	ND	83.1	60-140	0.667	40	
Azobenzene	36.3	8	"	41.5835	ND	87.3	60-140	7.75	40	
Diallate	26.7	8	"	24.9501	ND	107	60-140	6.15	40	
1,3,5-Trinitrobenzene	35.6	8	"	24.9501	ND	143	60-140	4.34	40	QS-02
Phenacetin	25.7	8	"	24.9501	ND	103	60-140	2.18	40	
4-Bromophenyl Phenyl Ether	35.4	8	"	41.5835	ND	85.2	60-140	5.99	40	
Pentachlorophenol	28.3	8	"	41.5835	ND	68.0	14-164	7.64	30	
Pronamide	25.0	8	"	24.9501	ND	100	60-140	7.97	40	
Pentachloronitrobenzene (PCNB)	27.3	8	"	24.9501	ND	109	60-140	3.93	40	
Phenanthrene	37.5	8	"	41.5835	ND	90.1	72-111	3.31	40	
Anthracene	35.3	8	"	41.5835	ND	84.9	53-110	2.35	40	
Di-n-butyl Phthalate	40.8	8	"	41.5835	ND	98.1	56-138	0.403	40	
Fluoranthene	39.6	8	"	41.5835	ND	95.3	62-110	2.27	24	
Isodrin	21.0	8	"	24.9501	ND	84.2	60-140	8.24	40	
Chlorobenzilate	22.8	8	"	24.9501	ND	91.3	60-140	2.96	40	
Pyrene	38.8	8	"	41.5835	ND	93.3	50-122	3.12	40	
p-(Dimethylamino)azobenzene	39.1	8	"	49.9002	ND	78.4	60-140	10.4	40	
Butyl Benzyl Phthalate	41.4	8	"	41.5835	ND	99.5	60-140	3.11	40	
Benzo(a)anthracene	38.5	8	"	41.5835	ND	92.6	60-140	1.05	40	
Chrysene	37.5	8	"	41.5835	ND	90.2	53-140	1.18	18	
Bis(2-Ethylhexyl) Phthalate	85.3	6	"	41.5835	7.4	187	60-140	56.6	40	QS-02
Kepone	13.3	8	"	24.9501	ND	53.2	17-151	3.90	22	
2-Acetylaminofluorene	60.2	8	"	49.9002	ND	121	60-140	4.03	40	
Di-n-octyl Phthalate	45.6	8	"	41.5835	ND	110	60-140	2.59	40	
Benzo(b)Fluoranthene	43.6	8	"	41.5835	ND	105	60-140	0.490	40	
7,12-Dimethylbenz [a] anthracene	21.6	8	"	24.9501	ND	86.4	60-140	4.33	40	
Benzo(k)Fluoranthene	41.3	8	"	41.5835	ND	99.4	60-140	3.44	40	
Benzo(a)Pyrene	39.0	8	"	41.5835	ND	93.7	60-140	1.29	19	
3-Methylcholanthrene	19.0	8	"	24.9501	ND	76.3	60-140	0.916	40	
Dibenzo(a,h)anthracene	38.4	8	"	41.5835	ND	92.3	60-140	2.69	40	
Indeno(1,2,3-cd)Pyrene	38.3	8	"	41.5835	ND	92.1	60-140	1.51	40	
Benzo(g,h,i)perylene	36.7	8	"	41.5835	ND	88.3	60-140	1.84	40	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Reference (1GD0434-SRM1)				Prepared: 04/10/23 Analyzed: 04/26/23						
Surrogate: 2-Fluorophenol	*65.1*		*ug/L*	*60.6000*		*107*	*24-136*			
Surrogate: Phenol-d6	*67.1*		*"*	*61.9000*		*108*	*15-140*			
Surrogate: Nitrobenzene-d5	*52.1*		*"*	*62.8500*		*82.9*	*29-130*			
Surrogate: 2-Fluorobiphenyl	*67.7*		*"*	*61.0000*		*111*	*23-113*			
Surrogate: 2,4,6-Tribromophenol	*69.5*		*"*	*62.2500*		*112*	*15-139*			
Surrogate: Terphenyl-dl4	*76.6*		*"*	*65.1000*		*118*	*27-141*			
N-Nitrosodimethylamine	40.1	8	"	41.6667		96.3	80-120			
Methyl Methanesulfonate	19.3	8	"	25.0000		77.2	80-120			QR-06
N-Nitrosodiethylamine	46.3	8	"	50.0000		92.6	80-120			
N-Nitrosomethylethylamine	43.1	8	"	50.0000		86.2	80-120			
Ethyl Methanesulfonate	21.5	8	"	25.0000		86.0	80-120			
Phenol	50.1	8	"	41.6667		120	80-120			QR-05
Bis(2-Chloroethyl) Ether	47.7	8	"	41.6667		115	80-120			
2-Chlorophenol	44.4	8	"	41.6667		107	80-120			
Benzyl Alcohol	22.6	8	"	41.6667		54.2	80-120			QR-06
2-Methylphenol (o-Cresol)	43.9	8	"	41.6667		105	80-120			
Bis[2-Chloroisopropyl]ether	44.6	8	"	41.6667		107	80-120			
n-Nitroso-di-n-propylamine	48.4	8	"	41.6667		116	80-120			
N-Nitrosopyrrolidine	53.7	8	"	50.0000		107	80-120			
Acetophenone	24.6	8	"	25.0000		98.4	80-120			
(3 & 4)-Methylphenol	46.6	8	"	41.6667		112	80-120			
Hexachloroethane	43.8	8	"	41.6667		105	80-120			
Nitrobenzene	36.3	8	"	41.6667		87.0	80-120			
Isophorone	36.4	8	"	41.6667		87.5	80-120			
2-Nitrophenol	40.0	8	"	41.6667		95.9	80-120			
2,4-Dimethylphenol	36.8	8	"	41.6667		88.3	80-120			
Bis (2-Chloroethoxy) Methane	35.4	8	"	41.6667		85.0	80-120			
2,4-Dichlorophenol	36.9	8	"	41.6667		88.6	80-120			
Naphthalene	36.3	8	"	41.6667		87.2	80-120			
2,6-Dichlorophenol	22.6	8	"	25.0000		90.2	80-120			
Hexachlorobutadiene	40.7	8	"	41.6667		97.7	80-120			
N-Nitrosodi-n-butylamine	36.4	8	"	50.0000		72.8	80-120			QR-06
4-Chloro-3-methylphenol	39.0	8	"	41.6667		93.7	80-120			
2-Methylnaphthalene	37.2	8	"	41.6667		89.3	80-120			
Isosafrole	24.4	8	"	25.0000		97.6	80-120			
1,2,4,5-Tetrachlorobenzene	25.1	8	"	25.0000		100	80-120			
Hexachlorocyclopentadiene	24.0	8	"	41.6667		57.6	80-120			QR-06
2,4,6-Trichlorophenol	34.2	8	"	41.6667		82.2	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Reference (1GD0434-SRM1)				Prepared: 04/10/23 Analyzed: 04/26/23						
2,4,5-Trichlorophenol	36.8	8	ug/L	41.6667		88.4	80-120			
Safrole	25.7	8	"	25.0000		103	80-120			
2-Chloronaphthalene	52.5	8	"	41.6667		126	80-120			QR-06
2-Nitroaniline	47.5	8	"	41.6667		114	80-120			
1,4-Naphthoquinone	24.6	8	"	25.0000		98.5	80-120			
Dimethylphthalate	43.3	8	"	41.6667		104	80-120			
1,3-Dinitrobenzene	45.0	8	"	41.6667		108	80-120			
1,2-Dinitrobenzene	48.6	8	"	41.6667		117	80-120			
2,6-Dinitrotoluene	47.0	8	"	41.6667		113	80-120			
Acenaphthylene	42.0	8	"	41.6667		101	80-120			
3-Nitroaniline	46.6	8	"	41.6667		112	80-120			
Acenaphthene	41.7	8	"	41.6667		100	80-120			
2,4-Dinitrophenol	39.0	8	"	41.6667		93.6	80-120			
4-Nitrophenol	42.5	8	"	41.6667		102	80-120			
Dibenzofuran	43.4	8	"	41.6667		104	80-120			
2,4-Dinitrotoluene	49.9	8	"	41.6667		120	80-120			
2,3,4,6-Tetrachlorophenol	31.5	8	"	41.6667		75.6	80-120			QR-06
Pentachlorobenzene	26.4	8	"	25.0000		106	80-120			
Diethyl Phthalate	45.5	8	"	41.6667		109	80-120			
Fluorene	45.0	8	"	41.6667		108	80-120			
4-Chlorophenyl Phenyl Ether	43.0	8	"	41.6667		103	80-120			
4-Nitroaniline	44.4	8	"	41.6667		107	80-120			
5-Nitro-o-toluidine	65.7	8	"	50.0000		131	80-120			QR-06
4,6-Dinitro-2-methylphenol	46.0	8	"	41.6667		110	80-120			
Diphenylamine	42.6	8	"	41.6667		102	80-120			
Azobenzene	42.6	8	"	41.6667		102	80-120			
Diallate	29.6	8	"	25.0000		119	80-120			
1,3,5-Trinitrobenzene	39.3	8	"	25.0000		157	80-120			QR-06
Phenacetin	27.4	8	"	25.0000		110	80-120			
4-Bromophenyl Phenyl Ether	42.4	8	"	41.6667		102	80-120			
Pentachlorophenol	18.9	8	"	41.6667		45.4	80-120			QR-06
Pronamide	27.0	8	"	25.0000		108	80-120			
Pentachloronitrobenzene (PCNB)	29.0	8	"	25.0000		116	80-120			
Phenanthrene	42.2	8	"	41.6667		101	80-120			
Anthracene	42.1	8	"	41.6667		101	80-120			
Di-n-butyl Phthalate	44.6	8	"	41.6667		107	80-120			
Fluoranthene	43.7	8	"	41.6667		105	80-120			
Isodrin	21.8	8	"	25.0000		87.4	80-120			
Chlorobenzilate	24.3	8	"	25.0000		97.1	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0434 - 3520C BNA Cont Liq										
Reference (1GD0434-SRM1)				Prepared: 04/10/23 Analyzed: 04/26/23						
Pyrene	43.6	8	ug/L	41.6667		105	80-120			
p-(Dimethylamino)azobenzene	56.6	8	"	50.0000		113	80-120			
Butyl Benzyl Phthalate	50.6	8	"	41.6667		121	80-120			QR-06
Benzo(a)anthracene	43.7	8	"	41.6667		105	80-120			
Chrysene	41.8	8	"	41.6667		100	80-120			
Bis(2-Ethylhexyl) Phthalate	44.8	6	"	41.6667		107	80-120			
2-Acetylaminofluorene	63.4	8	"	50.0000		127	80-120			QR-06
Di-n-octyl Phthalate	49.7	8	"	41.6667		119	80-120			
Benzo(b)Fluoranthene	47.7	8	"	41.6667		114	80-120			
7,12-Dimethylbenz [a] anthracene	26.7	8	"	25.0000		107	80-120			
Benzo(k)Fluoranthene	44.8	8	"	41.6667		108	80-120			
Benzo(a)Pyrene	45.1	8	"	41.6667		108	80-120			
3-Methylcholanthrene	25.3	8	"	25.0000		101	80-120			
Dibenzo(a,h)anthracene	41.4	8	"	41.6667		99.3	80-120			
Indeno(1,2,3-cd)Pyrene	41.5	8	"	41.6667		99.6	80-120			
Benzo(g,h,i)perylene	39.8	8	"	41.6667		95.4	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Organophosphorus Insecticides - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0484 - 3510C NP/OC Sep Fnl										
Blank (1GD0484-BLK1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: 2-Nitro-m-xylene	*7.58*		*ug/L*	*8.18000*		*92.7*	*38-122*			
O,O,O-Triethyl phosphorothioate	ND	0.4	"							
Thionazin	ND	0.4	"							
Phorate	ND	0.4	"							
Dimethoate	ND	0.4	"							
Disulfoton	ND	0.4	"							
Methyl Parathion	ND	0.4	"							
Parathion	ND	0.4	"							
Famphur	ND	0.4	"							
LCS (1GD0484-BS1)				Prepared: 04/10/23 Analyzed: 04/26/23						
Surrogate: 2-Nitro-m-xylene	*14.2*		*ug/L*	*16.3600*		*86.6*	*38-122*			
O,O,O-Triethyl phosphorothioate	6.75	0.4	"	16.0000		42.2	42-115			
Thionazin	8.28	0.4	"	16.0000		51.7	28-118			
Phorate	3.04	0.4	"	16.0000		19.0	18-159			
Dimethoate	0.54	0.4	"	16.0000		3.34	43-155			QS-01
Disulfoton	7.68	0.4	"	16.0000		48.0	37-126			
Methyl Parathion	9.16	0.4	"	16.0000		57.3	28-145			
Parathion	8.09	0.4	"	16.0000		50.6	52-121			QS-01
Famphur	7.50	0.4	"	16.1600		46.4	44-144			
Matrix Spike (1GD0484-MS1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/26/23						
Surrogate: 2-Nitro-m-xylene	*6.22*		*ug/L*	*7.98049*		*78.0*	*38-122*			
O,O,O-Triethyl phosphorothioate	3.34	0.4	"	3.90244	ND	85.6	70-130			
Thionazin	4.19	0.4	"	3.90244	ND	107	70-130			
Phorate	2.88	0.4	"	3.90244	ND	73.8	62-127			
Dimethoate	3.65	0.4	"	3.90244	ND	93.6	70-130			
Disulfoton	3.83	0.4	"	3.90244	ND	98.2	70-130			
Methyl Parathion	4.63	0.4	"	3.90244	ND	119	70-130			
Parathion	3.53	0.4	"	3.90244	ND	90.5	70-130			
Famphur	3.93	0.4	"	3.94146	ND	99.8	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Organophosphorus Insecticides - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0484 - 3510C NP/OC Sep Fnl										
Matrix Spike Dup (1GD0484-MSD1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/26/23						
Surrogate: 2-Nitro-m-xylene	*9.43*		*ug/L*	*8.14741*		*116*	*38-122*			
O,O,O-Triethyl phosphorothioate	3.91	0.4	"	3.98406	ND	98.1	70-130	15.7	20	
Thionazin	4.95	0.4	"	3.98406	ND	124	70-130	16.6	20	
Phorate	3.68	0.4	"	3.98406	ND	92.4	62-127	24.5	20	QR-02
Dimethoate	4.38	0.4	"	3.98406	ND	110	70-130	18.1	20	
Disulfoton	4.40	0.4	"	3.98406	ND	110	70-130	13.8	20	
Methyl Parathion	5.52	0.4	"	3.98406	ND	139	70-130	17.5	20	QM-07
Parathion	4.48	0.4	"	3.98406	ND	112	70-130	23.7	20	QR-02
Famphur	4.39	0.4	"	4.02390	ND	109	70-130	11.1	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Chlorinated Phenoxy Herbicides - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0480 - EPA 8151A										
Blank (1GD0480-BLK1)				Prepared: 04/10/23 Analyzed: 04/27/23						
Surrogate: 2,5-Dichlorobenzoic Acid	*0.925*		*ug/L*	*2.04000*		*45.3*	*31-116*			
2,4-D	ND	2.0	"							
2,4,5-TP (Silvex)	ND	0.5	"							
2,4,5-T	ND	0.5	"							
Dinoseb	ND	0.5	"							
LCS (1GD0480-BS1)				Prepared: 04/10/23 Analyzed: 04/27/23						
Surrogate: 2,5-Dichlorobenzoic Acid	*1.06*		*ug/L*	*2.04000*		*52.2*	*31-116*			
2,4-D	0.56	2.0	"	1.15000		48.3	16-161			
2,4,5-TP (Silvex)	0.37	0.5	"	0.575000		64.3	35-141			
2,4,5-T	0.30	0.5	"	0.575000		52.2	54-149			QS-01
Dinoseb	0.82	0.5	"	1.15000		70.9	10-133			
Matrix Spike (1GD0480-MS1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/27/23						
Surrogate: 2,5-Dichlorobenzoic Acid	*1.36*		*ug/L*	*2.04000*		*66.4*	*31-116*			
2,4-D	0.75	2.0	"	1.15000	ND	65.2	50-131			
2,4,5-TP (Silvex)	0.46	0.5	"	0.575000	ND	79.1	50-129			
2,4,5-T	0.36	0.5	"	0.575000	ND	62.6	50-123			
Dinoseb	0.75	0.5	"	1.15000	ND	65.2	50-138			
Matrix Spike Dup (1GD0480-MSD1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/27/23						
Surrogate: 2,5-Dichlorobenzoic Acid	*1.52*		*ug/L*	*2.04000*		*74.3*	*31-116*			
2,4-D	0.75	2.0	"	1.15000	ND	65.2	50-131	0.00	30	
2,4,5-TP (Silvex)	0.47	0.5	"	0.575000	ND	81.7	50-129	3.24	30	
2,4,5-T	0.40	0.5	"	0.575000	ND	69.6	50-123	10.5	30	
Dinoseb	0.71	0.5	"	1.15000	ND	61.7	50-138	5.48	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Organochlorine Insecticides & Metabolites - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0482 - 3510C NP/OC Sep Fnl										
Blank (1GD0482-BLK1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Tetrachloro-m-xylene	*0.373*		*ug/L*	*0.600000*		*62.2*	*10-121*			
Alpha-BHC	ND	0.05	"							
Gamma-BHC [Lindane]	ND	0.05	"							
Beta-BHC	ND	0.05	"							
Heptachlor	ND	0.05	"							
Delta-BHC	ND	0.05	"							
Aldrin	ND	0.05	"							
Heptachlor Epoxide	ND	0.05	"							
Endosulfan I	ND	0.05	"							
4,4`-DDE	ND	0.05	"							
Dieldrin	ND	0.05	"							
Endrin	ND	0.05	"							
4,4`-DDD	ND	0.05	"							
Endosulfan II	ND	0.05	"							
4,4`-DDT	ND	0.05	"							
Endrin Aldehyde	ND	0.05	"							
Endosulfan Sulfate	ND	0.05	"							
Methoxychlor	ND	0.05	"							
Chlordane	ND	0.10	"							
Toxaphene	ND	0.20	"							
Hexachlorobenzene	ND	0.05	"							
LCS (1GD0482-BS1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Tetrachloro-m-xylene	*0.758*		*ug/L*	*0.600000*		*126*	*10-121*			*S-07*
Alpha-BHC	0.258	0.05	"	0.250000		103	33-123			
Gamma-BHC [Lindane]	0.270	0.05	"	0.250000		108	34-120			
Beta-BHC	0.261	0.05	"	0.250000		104	33-125			
Heptachlor	0.140	0.05	"	0.250000		55.8	32-117			
Delta-BHC	0.285	0.05	"	0.250000		114	24-140			
Aldrin	0.250	0.05	"	0.250000		99.9	29-122			
Heptachlor Epoxide	0.295	0.05	"	0.250000		118	37-137			
Endosulfan I	0.305	0.05	"	0.250000		122	27-141			
4,4`-DDE	0.256	0.05	"	0.250000		102	38-147			
Dieldrin	0.306	0.05	"	0.250000		123	32-137			
Endrin	0.318	0.05	"	0.250000		127	25-142			
4,4`-DDD	0.305	0.05	"	0.250000		122	43-146			
Endosulfan II	0.291	0.05	"	0.250000		116	36-140			
4,4`-DDT	0.323	0.05	"	0.250000		129	39-140			
Endrin Aldehyde	0.323	0.05	"	0.250000		129	17-150			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Organochlorine Insecticides & Metabolites - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0482 - 3510C NP/OC Sep Fnl										
LCS (1GD0482-BS1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Endosulfan Sulfate	0.285	0.05	ug/L	0.250000		114	41-135			
Methoxychlor	0.320	0.05	"	0.250000		128	40-148			
Matrix Spike (1GD0482-MS1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Tetrachloro-m-xylene	*0.408*		*ug/L*	*0.591716*		*69.0*	*10-121*			
Alpha-BHC	0.024	0.05	"	0.246548	ND	9.58	64-116			QM-07
Gamma-BHC [Lindane]	0.023	0.05	"	0.246548	ND	9.51	62-125			QM-07
Beta-BHC	0.022	0.05	"	0.246548	ND	8.99	60-119			QM-07
Heptachlor	0.024	0.05	"	0.246548	ND	9.86	51-136			QM-07
Delta-BHC	0.024	0.05	"	0.246548	ND	9.63	58-134			QM-07
Aldrin	0.017	0.05	"	0.246548	ND	6.89	60-121			QM-07
Heptachlor Epoxide	0.025	0.05	"	0.246548	ND	10.3	55-140			QM-07
Endosulfan I	0.025	0.05	"	0.246548	ND	10.1	74-131			QM-07
4,4`-DDE	0.019	0.05	"	0.246548	ND	7.54	72-125			QM-07
Dieldrin	0.026	0.05	"	0.246548	ND	10.4	60-143			QM-07
Endrin	ND	0.05	"	0.246548	ND		63-139			QM-07
4,4`-DDD	0.024	0.05	"	0.246548	ND	9.92	63-143			QM-07
Endosulfan II	0.024	0.05	"	0.246548	0.008	9.84	68-143			QM-07
4,4`-DDT	0.024	0.05	"	0.246548	ND	9.71	46-172			QM-07
Endrin Aldehyde	0.033	0.05	"	0.246548	ND	13.5	50-110			QM-07
Endosulfan Sulfate	0.027	0.05	"	0.246548	ND	11.1	65-145			QM-07
Methoxychlor	0.030	0.05	"	0.246548	ND	12.2	60-125			QM-07
Matrix Spike Dup (1GD0482-MSD1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Tetrachloro-m-xylene	*0.394*		*ug/L*	*0.593472*		*66.4*	*10-121*			
Alpha-BHC	0.053	0.05	"	0.247280	ND	21.4	64-116	76.6	19	QM-07
Gamma-BHC [Lindane]	0.058	0.05	"	0.247280	ND	23.6	62-125	85.3	18	QM-07
Beta-BHC	0.061	0.05	"	0.247280	ND	24.8	60-119	93.7	18	QM-07
Heptachlor	0.054	0.05	"	0.247280	ND	21.7	51-136	75.4	23	QM-07
Delta-BHC	0.065	0.05	"	0.247280	ND	26.2	58-134	92.8	21	QM-07
Aldrin	0.044	0.05	"	0.247280	ND	18.0	60-121	89.4	21	QM-07
Heptachlor Epoxide	0.070	0.05	"	0.247280	ND	28.4	55-140	93.8	19	QM-07
Endosulfan I	0.067	0.05	"	0.247280	ND	27.2	74-131	92.1	19	QM-07
4,4`-DDE	0.052	0.05	"	0.247280	ND	20.9	72-125	94.0	22	QM-07
Dieldrin	0.065	0.05	"	0.247280	ND	26.4	60-143	87.4	18	QM-07
Endrin	0.079	0.05	"	0.247280	ND	32.1	63-139		23	QM-07
4,4`-DDD	0.067	0.05	"	0.247280	ND	27.1	63-143	93.1	23	QM-07
Endosulfan II	0.067	0.05	"	0.247280	0.008	27.1	68-143	93.8	19	QM-07
4,4`-DDT	0.076	0.05	"	0.247280	ND	30.7	46-172	104	26	QM-07

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Organochlorine Insecticides & Metabolites - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0482 - 3510C NP/OC Sep Fnl										
Matrix Spike Dup (1GD0482-MSD1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/25/23						
Endrin Aldehyde	0.075	0.05	ug/L	0.247280	ND	30.4	50-110	77.3	24	QM-07
Endosulfan Sulfate	0.069	0.05	"	0.247280	ND	27.9	65-145	86.4	26	QM-07
Methoxychlor	0.084	0.05	"	0.247280	ND	34.0	60-125	94.8	26	QM-07

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Polychlorinated Biphenyls (PCB) - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0483 - 3510C NP/OC Sep Fnl										
Blank (1GD0483-BLK1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Tetrachloro-m-xylene	*0.390*		*ug/L*	*0.600000*		*65.0*	*38-121*			
Surrogate: Decachlorobiphenyl	*0.360*		*"*	*0.600000*		*60.0*	*25-119*			
Arochlor 1016	ND	0.10	"							
Arochlor 1221	ND	0.20	"							
Arochlor 1232	ND	0.20	"							
Arochlor 1242	ND	0.20	"							
Arochlor 1248	ND	0.20	"							
Arochlor 1254	ND	0.10	"							
Arochlor 1260	ND	0.10	"							
LCS (1GD0483-BS1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Tetrachloro-m-xylene	*0.715*		*ug/L*	*0.600000*		*119*	*38-121*			
Surrogate: Decachlorobiphenyl	*0.905*		*"*	*0.600000*		*151*	*25-119*			*S-GC*
Arochlor 1016	3.780	0.10	"	2.80000		135	25-126			QS-01
Arochlor 1260	4.065	0.10	"	2.80000		145	29-142			QS-01
Matrix Spike (1GD0483-MS1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Tetrachloro-m-xylene	*0.365*		*ug/L*	*0.584795*		*62.5*	*38-121*			
Surrogate: Decachlorobiphenyl	*0.585*		*"*	*0.584795*		*100*	*25-119*			
Arochlor 1016	2.320	0.10	"	2.72904	ND	85.0	61-127			
Arochlor 1260	2.256	0.10	"	2.72904	ND	82.7	58-140			
Matrix Spike Dup (1GD0483-MSD1)		**Source: 1GD0765-15**		Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Tetrachloro-m-xylene	*0.413*		*ug/L*	*0.590551*		*70.0*	*38-121*			
Surrogate: Decachlorobiphenyl	*0.531*		*"*	*0.590551*		*90.0*	*25-119*			
Arochlor 1016	1.924	0.10	"	2.75591	ND	69.8	61-127	18.6	10	QR-02
Arochlor 1260	2.023	0.10	"	2.75591	ND	73.4	58-140	10.9	25	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0441 - Wet Chem Preparation										
Blank (1GD0441-BLK1)				Prepared & Analyzed: 04/10/23						
Sulfide, total	ND	0.10	mg/L							
LCS (1GD0441-BS1)				Prepared & Analyzed: 04/10/23						
Sulfide, total	0.144	0.10	mg/L	0.195160		73.7	59-110			
Matrix Spike (1GD0441-MS1)		**Source: 1GD0185-09**		Prepared & Analyzed: 04/10/23						
Sulfide, total	0.0714	0.10	mg/L	0.195160	ND	36.6	50-150			QM-07
Matrix Spike Dup (1GD0441-MSD1)		**Source: 1GD0185-09**		Prepared & Analyzed: 04/10/23						
Sulfide, total	0.0805	0.10	mg/L	0.195160	ND	41.2	50-150	11.9	30	QM-07
Batch 1GD0473 - Wet Chem Preparation										
Blank (1GD0473-BLK1)				Prepared & Analyzed: 04/11/23						
Cyanide, total	ND	0.005	mg/L							
LCS (1GD0473-BS1)				Prepared & Analyzed: 04/11/23						
Cyanide, total	0.102	0.005	mg/L	0.111111		92.0	67-110			
Matrix Spike (1GD0473-MS1)		**Source: 1GD0563-02**		Prepared & Analyzed: 04/11/23						
Cyanide, total	0.112	0.005	mg/L	0.111111	ND	101	53-120			
Matrix Spike Dup (1GD0473-MSD1)		**Source: 1GD0563-02**		Prepared & Analyzed: 04/11/23						
Cyanide, total	0.112	0.005	mg/L	0.111111	ND	101	53-120	0.0989	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0305 - EPA 7470A Hg Water										
Blank (1GD0305-BLK1)				Prepared: 04/06/23 Analyzed: 04/10/23						
Mercury, total	ND	0.00050	mg/L							
LCS (1GD0305-BS1)				Prepared: 04/06/23 Analyzed: 04/10/23						
Mercury, total	0.00257	0.00050	mg/L	0.00250000		103	80-120			
Matrix Spike (1GD0305-MS1)		**Source: 1GD0563-03**		Prepared: 04/06/23 Analyzed: 04/10/23						
Mercury, total	0.00278	0.00050	mg/L	0.00250000	ND	111	75-125			
Matrix Spike Dup (1GD0305-MSD1)		**Source: 1GD0563-03**		Prepared: 04/06/23 Analyzed: 04/10/23						
Mercury, total	0.00266	0.00050	mg/L	0.00250000	ND	106	75-125	4.54	20	
Batch 1GD0464 - EPA 3005A Total Recoverable Metals										
Blank (1GD0464-BLK1)				Prepared: 04/10/23 Analyzed: 04/12/23						
Antimony, total	ND	0.0020	mg/L							
Arsenic, total	ND	0.0040	"							
Barium, total	ND	0.0040	"							
Beryllium, total	ND	0.0040	"							
Cadmium, total	ND	0.0008	"							
Chromium, total	ND	0.0080	"							
Cobalt, total	ND	0.0004	"							
Copper, total	ND	0.0040	"							
Lead, total	ND	0.0040	"							
Nickel, total	ND	0.0040	"							
Selenium, total	ND	0.0040	"							
Silver, total	ND	0.0040	"							
Thallium, total	ND	0.0020	"							
Tin, total	ND	0.0200	"							
Vanadium, total	ND	0.0200	"							
Zinc, total	ND	0.0200	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0464 - EPA 3005A Total Recoverable Metals										
LCS (1GD0464-BS1)				Prepared: 04/10/23 Analyzed: 04/12/23						
Antimony, total	0.0915	0.0020	mg/L	0.100000		91.5	80-120			
Arsenic, total	0.0946	0.0040	"	0.100000		94.6	80-120			
Barium, total	0.102	0.0040	"	0.100000		102	80-120			
Beryllium, total	0.0939	0.0040	"	0.100000		93.9	80-120			
Cadmium, total	0.0935	0.0008	"	0.100000		93.5	80-120			
Chromium, total	0.0917	0.0080	"	0.100000		91.7	80-120			
Cobalt, total	0.103	0.0004	"	0.100000		103	80-120			
Copper, total	0.0996	0.0040	"	0.100000		99.6	80-120			
Lead, total	0.0979	0.0040	"	0.100000		97.9	80-120			
Nickel, total	0.100	0.0040	"	0.100000		100	80-120			
Selenium, total	0.0948	0.0040	"	0.100000		94.8	80-120			
Silver, total	0.0987	0.0040	"	0.100000		98.7	80-120			
Thallium, total	0.0866	0.0020	"	0.100000		86.6	80-120			
Tin, total	0.0972	0.0200	"	0.100000		97.2	80-120			
Vanadium, total	0.0964	0.0200	"	0.100000		96.4	80-120			
Zinc, total	0.0986	0.0200	"	0.100000		98.6	80-120			
Matrix Spike (1GD0464-MS1)		**Source: 1GD0741-01**		Prepared: 04/10/23 Analyzed: 04/12/23						
Antimony, total	0.0912	0.0020	mg/L	0.100000	ND	91.2	75-125			
Arsenic, total	0.0944	0.0040	"	0.100000	0.0014	92.9	75-125			
Barium, total	0.196	0.0040	"	0.100000	0.0961	100	75-125			
Beryllium, total	0.0903	0.0040	"	0.100000	ND	90.3	75-125			
Cadmium, total	0.0921	0.0008	"	0.100000	ND	92.1	75-125			
Chromium, total	0.0900	0.0080	"	0.100000	0.0006	89.3	75-125			
Cobalt, total	0.0987	0.0004	"	0.100000	ND	98.7	75-125			
Copper, total	0.0901	0.0040	"	0.100000	0.0012	88.8	75-125			
Lead, total	0.0928	0.0040	"	0.100000	ND	92.8	75-125			
Nickel, total	0.0967	0.0040	"	0.100000	0.0015	95.2	75-125			
Selenium, total	0.0933	0.0040	"	0.100000	ND	93.3	75-125			
Silver, total	0.0961	0.0040	"	0.100000	ND	96.1	75-125			
Thallium, total	0.0847	0.0020	"	0.100000	0.0010	83.7	75-125			
Tin, total	0.0960	0.0200	"	0.100000	ND	96.0	75-125			
Vanadium, total	0.0971	0.0200	"	0.100000	ND	97.1	75-125			
Zinc, total	0.111	0.0200	"	0.100000	0.0213	89.7	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0464 - EPA 3005A Total Recoverable Metals										
Matrix Spike Dup (1GD0464-MSD1)		**Source: 1GD0741-01**		Prepared: 04/10/23 Analyzed: 04/12/23						
Antimony, total	0.0910	0.0020	mg/L	0.100000	ND	91.0	75-125	0.236	20	
Arsenic, total	0.0968	0.0040	"	0.100000	0.0014	95.4	75-125	2.56	20	
Barium, total	0.198	0.0040	"	0.100000	0.0961	102	75-125	0.707	20	
Beryllium, total	0.0911	0.0040	"	0.100000	ND	91.1	75-125	0.907	20	
Cadmium, total	0.0909	0.0008	"	0.100000	ND	90.9	75-125	1.33	20	
Chromium, total	0.0904	0.0080	"	0.100000	0.0006	89.7	75-125	0.408	20	
Cobalt, total	0.0997	0.0004	"	0.100000	ND	99.7	75-125	0.935	20	
Copper, total	0.0933	0.0040	"	0.100000	0.0012	92.1	75-125	3.55	20	
Lead, total	0.0926	0.0040	"	0.100000	ND	92.6	75-125	0.167	20	
Nickel, total	0.0990	0.0040	"	0.100000	0.0015	97.5	75-125	2.34	20	
Selenium, total	0.0943	0.0040	"	0.100000	ND	94.3	75-125	1.13	20	
Silver, total	0.0966	0.0040	"	0.100000	ND	96.6	75-125	0.502	20	
Thallium, total	0.0847	0.0020	"	0.100000	0.0010	83.7	75-125	0.00189	20	
Tin, total	0.0972	0.0200	"	0.100000	ND	97.2	75-125	1.30	20	
Vanadium, total	0.0968	0.0200	"	0.100000	ND	96.8	75-125	0.271	20	
Zinc, total	0.112	0.0200	"	0.100000	0.0213	91.1	75-125	1.23	20	
Post Spike (1GD0464-PS1)		**Source: 1GD0741-01**		Prepared: 04/10/23 Analyzed: 04/12/23						
Antimony, total	0.0741		mg/L	0.0800000	0.0001	92.5	80-120			
Arsenic, total	0.0790		"	0.0800000	0.0014	97.0	80-120			
Barium, total	0.174		"	0.0800000	0.0942	100	80-120			
Beryllium, total	0.0747		"	0.0800000	0.000004	93.4	80-120			
Cadmium, total	0.0730		"	0.0800000	0.00006	91.2	80-120			
Chromium, total	0.0734		"	0.0800000	0.0006	91.0	80-120			
Cobalt, total	0.0820		"	0.0800000	0.0001	102	80-120			
Copper, total	0.0753		"	0.0800000	0.0012	92.6	80-120			
Lead, total	0.0742		"	0.0800000	0.0002	92.6	80-120			
Nickel, total	0.0814		"	0.0800000	0.0015	99.9	80-120			
Selenium, total	0.0720		"	0.0800000	0.00001	90.0	80-120			
Silver, total	0.0791		"	0.0800000	0.0015	97.0	80-120			
Thallium, total	0.0689		"	0.0800000	0.0009	85.0	80-120			
Tin, total	0.0812		"	0.0800000	0.0002	101	75-125			
Vanadium, total	0.0806		"	0.0800000	0.0049	94.7	80-120			
Zinc, total	0.0927		"	0.0800000	0.0209	89.7	80-120			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0741

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
ASTM D7511-12(2017) in Water		
	Cyanide, total	KS-NT,SIA1X
EPA 6020A in Water		
	Antimony, total	SIA1X,KS-NT
	Arsenic, total	SIA1X,KS-NT
	Barium, total	SIA1X,KS-NT
	Beryllium, total	SIA1X,KS-NT
	Cadmium, total	SIA1X,KS-NT
	Chromium, total	SIA1X,KS-NT
	Cobalt, total	SIA1X,KS-NT
	Copper, total	SIA1X,KS-NT
	Lead, total	SIA1X,KS-NT
	Nickel, total	SIA1X,KS-NT
	Selenium, total	SIA1X,KS-NT
	Silver, total	SIA1X,KS-NT
	Thallium, total	SIA1X,KS-NT
	Vanadium, total	SIA1X,KS-NT
	Zinc, total	SIA1X,KS-NT
EPA 7470A in Water		
	Mercury, total	KS-NT,SIA1X
EPA 8081 in Water		
	Alpha-BHC	KS-NT,SIA1X
	Gamma-BHC [Lindane]	KS-NT,SIA1X
	Beta-BHC	KS-NT,SIA1X
	Heptachlor	KS-NT,SIA1X
	Delta-BHC	KS-NT,SIA1X
	Aldrin	KS-NT,SIA1X
	Heptachlor Epoxide	KS-NT,SIA1X
	Endosulfan I	KS-NT,SIA1X
	4,4`-DDE	KS-NT,SIA1X
	Dieldrin	KS-NT,SIA1X
	Endrin	KS-NT,SIA1X
	4,4`-DDD	KS-NT,SIA1X
	Endosulfan II	KS-NT,SIA1X
	4,4`-DDT	KS-NT,SIA1X
	Endrin Aldehyde	KS-NT,SIA1X
	Endosulfan Sulfate	KS-NT,SIA1X
	Methoxychlor	KS-NT,SIA1X
	Chlordane	KS-NT,SIA1X
	Toxaphene	KS-NT,SIA1X
	Hexachlorobenzene	KS-NT
EPA 8082 in Water		
	Arochlor 1016	KS-NT,SIA1X
	Arochlor 1221	KS-NT,SIA1X
	Arochlor 1232	KS-NT,SIA1X
	Arochlor 1242	KS-NT,SIA1X
	Arochlor 1248	KS-NT,SIA1X

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

	Arochlor 1254	KS-NT,SIA1X
	Arochlor 1260	KS-NT,SIA1X
EPA 8141 in Water		
	Phorate	KS-NT,SIA1X
	Disulfoton	KS-NT,SIA1X
	Methyl Parathion	KS-NT
EPA 8151A in Water		
	2,4-D	KS-NT,SIA1X
	2,4,5-TP (Silvex)	KS-NT,SIA1X
	2,4,5-T	KS-NT
	Dinoseb	KS-NT
EPA 8260B in Water		
	Dichlorodifluoromethane	KS-NT,SIA1X
	Chloromethane	KS-NT,SIA1X
	Chloromethane	KS-NT,SIA1X
	Vinyl Chloride	KS-NT,SIA1X
	Vinyl Chloride	KS-NT,SIA1X
	Bromomethane	KS-NT,SIA1X
	Bromomethane	KS-NT,SIA1X
	Chloroethane	KS-NT,SIA1X
	Chloroethane	KS-NT,SIA1X
	Trichlorofluoromethane	KS-NT,SIA1X
	Trichlorofluoromethane	KS-NT,SIA1X
	Acrolein	KS-NT,SIA1X
	1,1-Dichloroethylene	KS-NT,SIA1X
	1,1-Dichloroethylene	KS-NT,SIA1X
	Acetone	KS-NT,SIA1X
	Acetone	KS-NT,SIA1X
	Methyl Iodide	SIA1X
	Methyl Iodide	SIA1X
	Carbon Disulfide	KS-NT,SIA1X
	Carbon Disulfide	KS-NT,SIA1X
	Methylene Chloride	KS-NT,SIA1X
	Methylene Chloride	KS-NT,SIA1X
	Acrylonitrile	KS-NT,SIA1X
	trans-1,2-Dichloroethylene	KS-NT,SIA1X
	trans-1,2-Dichloroethylene	KS-NT,SIA1X
	1,1-Dichloroethane	KS-NT,SIA1X
	1,1-Dichloroethane	KS-NT,SIA1X
	Vinyl Acetate	KS-NT,SIA1X
	Vinyl Acetate	KS-NT,SIA1X
	2,2-Dichloropropane	SIA1X
	cis-1,2-Dichloroethylene	KS-NT,SIA1X
	cis-1,2-Dichloroethylene	KS-NT,SIA1X
	2-Butanone (MEK)	KS-NT,SIA1X
	2-Butanone (MEK)	KS-NT,SIA1X
	Bromochloromethane	KS-NT,SIA1X
	Bromochloromethane	KS-NT,SIA1X
	Chloroform	KS-NT,SIA1X
	Chloroform	KS-NT,SIA1X
	1,1,1-Trichloroethane	KS-NT,SIA1X

1,1,1-Trichloroethane	KS-NT,SIA1X
Carbon Tetrachloride	KS-NT,SIA1X
Carbon Tetrachloride	KS-NT,SIA1X
Benzene	KS-NT,SIA1X
Benzene	KS-NT,SIA1X
1,2-Dichloroethane	KS-NT,SIA1X
1,2-Dichloroethane	KS-NT,SIA1X
Trichloroethylene	KS-NT,SIA1X
Trichloroethylene	KS-NT,SIA1X
1,2-Dichloropropane	KS-NT,SIA1X
1,2-Dichloropropane	KS-NT,SIA1X
Dibromomethane	SIA1X
Dibromomethane	SIA1X
Bromodichloromethane	KS-NT,SIA1X
Bromodichloromethane	KS-NT,SIA1X
cis-1,3-Dichloropropene	KS-NT,SIA1X
cis-1,3-Dichloropropene	KS-NT,SIA1X
4-Methyl-2-pentanone (MIBK)	KS-NT,SIA1X
4-Methyl-2-pentanone (MIBK)	KS-NT,SIA1X
Toluene	KS-NT,SIA1X
Toluene	KS-NT,SIA1X
trans-1,3-Dichloropropene	KS-NT,SIA1X
trans-1,3-Dichloropropene	KS-NT,SIA1X
1,1,2-Trichloroethane	KS-NT,SIA1X
1,1,2-Trichloroethane	KS-NT,SIA1X
Tetrachloroethylene	KS-NT,SIA1X
Tetrachloroethylene	KS-NT,SIA1X
2-Hexanone (MBK)	KS-NT,SIA1X
2-Hexanone (MBK)	KS-NT,SIA1X
Dibromochloromethane	KS-NT,SIA1X
Dibromochloromethane	KS-NT,SIA1X
1,2-Dibromoethane	KS-NT,SIA1X
1,2-Dibromoethane	KS-NT,SIA1X
Chlorobenzene	KS-NT,SIA1X
Chlorobenzene	KS-NT,SIA1X
1,1,1,2-Tetrachloroethane	KS-NT,SIA1X
1,1,1,2-Tetrachloroethane	KS-NT,SIA1X
Ethylbenzene	KS-NT,SIA1X
Ethylbenzene	KS-NT,SIA1X
Xylenes, total	KS-NT,SIA1X
Xylenes, total	KS-NT,SIA1X
Styrene	KS-NT,SIA1X
Styrene	KS-NT,SIA1X
Bromoform	KS-NT,SIA1X
Bromoform	KS-NT,SIA1X
1,2,3-Trichloropropane	KS-NT,SIA1X
1,2,3-Trichloropropane	KS-NT,SIA1X
trans-1,4-Dichloro-2-butene	SIA1X
trans-1,4-Dichloro-2-butene	SIA1X
1,1,2,2-Tetrachloroethane	KS-NT,SIA1X
1,1,2,2-Tetrachloroethane	KS-NT,SIA1X

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

	1,3-Dichlorobenzene	KS-NT,SIA1X
	1,4-Dichlorobenzene	KS-NT,SIA1X
	1,4-Dichlorobenzene	KS-NT,SIA1X
	1,2-Dichlorobenzene	KS-NT,SIA1X
	1,2-Dichlorobenzene	KS-NT,SIA1X
	1,2-Dibromo-3-chloropropane	KS-NT,SIA1X
	1,2-Dibromo-3-chloropropane	KS-NT,SIA1X
	Allyl chloride	SIA1X
	Methacrylonitrile	SIA1X
	Methyl Methacrylate	SIA1X
	Propionitrile	SIA1X
EPA 8270C in Water		
	N-Nitrosodimethylamine	KS-NT,SIA1X
	Methyl Methanesulfonate	SIA1X
	N-Nitrosomethylethylamine	SIA1X
	Ethyl Methanesulfonate	SIA1X
	Phenol	KS-NT,SIA1X
	Bis(2-Chloroethyl) Ether	SIA1X
	2-Chlorophenol	KS-NT,SIA1X
	Benzyl Alcohol	KS-NT,SIA1X
	2-Methylphenol (o-Cresol)	KS-NT,SIA1X
	Bis[2-Chloroisopropyl]ether	KS-NT,SIA1X
	n-Nitroso-di-n-propylamine	KS-NT,SIA1X
	N-Nitrosopyrrolidine	SIA1X
	Acetophenone	SIA1X
	o-Toluidine	SIA1X
	(3 & 4)-Methylphenol	KS-NT,SIA1X
	Hexachloroethane	KS-NT,SIA1X
	Nitrobenzene	KS-NT,SIA1X
	N-Nitrosopiperidine	SIA1X
	Isophorone	KS-NT,SIA1X
	2-Nitrophenol	KS-NT,SIA1X
	2,4-Dimethylphenol	KS-NT,SIA1X
	Bis (2-Chloroethoxy) Methane	KS-NT,SIA1X
	2,4-Dichlorophenol	KS-NT,SIA1X
	Naphthalene	KS-NT,SIA1X
	4-Chloroaniline	KS-NT,SIA1X
	2,6-Dichlorophenol	SIA1X
	Hexachloropropene	SIA1X
	Hexachlorobutadiene	KS-NT,SIA1X
	N-Nitrosodi-n-butylamine	SIA1X
	1,4-Phenylenediamine	SIA1X
	4-Chloro-3-methylphenol	KS-NT,SIA1X
	2-Methylnaphthalene	KS-NT,SIA1X
	Isosafrole	SIA1X
	1,2,4,5-Tetrachlorobenzene	SIA1X
	Hexachlorocyclopentadiene	KS-NT,SIA1X
	2,4,6-Trichlorophenol	KS-NT,SIA1X
	2,4,5-Trichlorophenol	KS-NT,SIA1X
	Safrole	SIA1X
	2-Chloronaphthalene	KS-NT,SIA1X

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

2-Nitroaniline	KS-NT,SIA1X
1,4-Naphthoquinone	SIA1X
Dimethylphthalate	KS-NT,SIA1X
1,3-Dinitrobenzene	SIA1X
2,6-Dinitrotoluene	KS-NT,SIA1X
Acenaphthylene	KS-NT,SIA1X
3-Nitroaniline	SIA1X
Acenaphthene	KS-NT,SIA1X
2,4-Dinitrophenol	KS-NT,SIA1X
4-Nitrophenol	KS-NT,SIA1X
Dibenzofuran	KS-NT,SIA1X
2,4-Dinitrotoluene	KS-NT,SIA1X
2,3,4,6-Tetrachlorophenol	SIA1X
Pentachlorobenzene	SIA1X
1-Naphthylamine	SIA1X
2-Naphthylamine	SIA1X
Diethyl Phthalate	KS-NT,SIA1X
Fluorene	KS-NT,SIA1X
4-Chlorophenyl Phenyl Ether	KS-NT,SIA1X
4-Nitroaniline	KS-NT,SIA1X
Bis(2-Ethylhexyl) Phthalate	KS-NT,SIA1X
5-Nitro-o-toluidine	SIA1X
4,6-Dinitro-2-methylphenol	KS-NT,SIA1X
N-Nitrosodiphenylamine	KS-NT
Diphenylamine	SIA1X
Diallate	SIA1X
1,3,5-Trinitrobenzene	SIA1X
Phenacetin	SIA1X
4-Bromophenyl Phenyl Ether	KS-NT,SIA1X
Hexachlorobenzene	KS-NT,SIA1X
4-Aminobiphenyl	SIA1X
Pentachlorophenol	KS-NT,SIA1X
Pronamide	SIA1X
Pentachloronitrobenzene (PCNB)	SIA1X
Phenanthrene	KS-NT,SIA1X
Anthracene	KS-NT,SIA1X
Di-n-butyl Phthalate	KS-NT,SIA1X
Methapyrilene	SIA1X
Fluoranthene	KS-NT,SIA1X
Isodrin	SIA1X
Chlorobenzilate	SIA1X
Pyrene	KS-NT,SIA1X
p-(Dimethylamino)azobenzene	SIA1X
3,3-Dimethylbenzidine	SIA1X
Butyl Benzyl Phthalate	KS-NT,SIA1X
Benzo(a)anthracene	KS-NT,SIA1X
Chrysene	KS-NT,SIA1X
Bis(2-Ethylhexyl) Phthalate	KS-NT,SIA1X
Kepone	SIA1X
3,3´-Dichlorobenzidine	KS-NT,SIA1X
2-Acetylaminofluorene	SIA1X

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Di-n-octyl Phthalate	KS-NT,SIA1X
Benzo(b)Fluoranthene	KS-NT,SIA1X
7,12-Dimethylbenz [a] anthracene	SIA1X
Benzo(k)Fluoranthene	KS-NT,SIA1X
Benzo(a)Pyrene	KS-NT,SIA1X
Dibenzo(a,h)anthracene	KS-NT,SIA1X
Indeno(1,2,3-cd)Pyrene	KS-NT,SIA1X
Benzo(g,h,i)perylene	KS-NT,SIA1X

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2024
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2023
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

Notes and Definitions

QM-05	The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QM-07	The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-19	The MS or MSD recovery was outside acceptance limits.This resulted in an unacceptable RPD. All other QC was acceptable.
QM-21	The recovery for the blank spike was outside the established laboratory control limits. The batch was accepted based upon the acceptable recovery of the CCV.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR-05	The reference standard was outside of established control limits. The batch was accepted based on acceptable LCS, MS/MSD and RPD results.
QR-06	The reference standard was outside of established control limits.
QS-01	The blank spike recovery and/or blank spike duplicate recovery were outside the established acceptance limits. Batch was accepted based on acceptable MS/MSD/RPD results.
QS-02	The spike recovery for this QC sample exceeded established acceptance limits. However, all samples were below the reporting and/or regulatory limit so the data is acceptable.
QS-06	The spike recovery for this QC sample was outside of established control limits.
S-07	The surrogate recovery for this sample is outside of established control limits.
S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF

Keystone
LABORATORIES, INC.

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

1 G D 0 7 4 1

HLW Engineering
PM: Sue Thompson

Printed: 3/28/2023 6:50:49AM

www.keystonelabs.co

SITE INFORMATION

Sampler: JGH

Project: FMC SLF - New Regs
6026

REPORT TO

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

INVOICE TO

Christian Fox
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

Turn Around Time

☒ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1GD0741
Temperature 1.2 / 1.6
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
01-001	MW-9 (up)	Water	GRAB	4/6/23	9:42	7	lndfill-appl-voc-group	lndfill-appl-metals-6020	01
02-001	MW-14 (up)	Water	GRAB	4/6/23	9:28	7	lndfill-appl-voc-group	lndfill-appl-metals-6020	02
03-001	MW-4 (up)	Water	GRAB	4/6/23	10:17	7	lndfill-appl-voc-group	lndfill-appl-metals-6020	03
04-001	MW-5 (up)	Water	GRAB	4/6/23	9:49	7	lndfill-appl-voc-group	lndfill-appl-metals-6020	04
05-001	MW-11	Water	GRAB	4/6/23	11:14	7	lndfill-appl-voc-group	lndfill-appl-metals-6020	05
06-001	MW-12	Water	GRAB	4/6/23	11:31	7	lndfill-appl-voc-group	lndfill-appl-metals-6020	06
07-001	MW-15	Water	GRAB	4/6/23	11:49	7	lndfill-appl-voc-group	lndfill-appl-metals-6020	07

Relinquished By: [signature] Date/Time: 4/6/23

Relinquished By Date/Time

Received By Date/Time

Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF

Keystone LABORATORIES, INC.

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

1 G D 0 7 4 1

HLW Engineering
PM: Sue Thompson

Printed: 3/28/2023 6:50:49AM

www.keystonelabs.co

SITE INFORMATION

Sampler: JGH

Project: FMC SLF - New Regs
6028

REPORT TO

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

INVOICE TO

Christian Fox
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

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

LAB USE ONLY

Work Order 1GD0741
Temperature 1.2 / 1.6
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
08-001	MW-16	Water	GRAB	4/6/23	12:09	8	8270-110 lndfill-app1-voc-group lndfill-app1-metals-6020		08
09-001	MW-2	Water	GRAB	4/6/23	11:00	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	09
10-001	MW-3	Water	GRAB	4/6/23	10:38	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	10
11-001	MW-6	Water	GRAB	4/6/23	13:41	17	lndfll-app2-inorg-6020	lndfll-app2-org	11
12-001	MW-7	Water	GRAB	4/6/23	13:04	17	lndfll-app2-inorg-6020	lndfll-app2-org	12
13-001	Duplicate	Water	GRAB	4/6/23	12:36	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	13

[signature] 4/6/23
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

[signature] 4-7-23 5:27
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Project Description

FMC SLF - New Regs

For:

Todd Whipple

HLW Engineering

PO Box 314

Story City, IA 50248

Heather Murphy

Customer Relationship Specialist

Thursday, November 16, 2023

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Keystone Laboratories - 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.

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

HLW Engineering

Todd Whipple
PO Box 314
Story City, IA 50248

Project Name: FMC SLF - New Regs

Project / PO Number: / 6028
Received: 10/11/2023
Reported: 11/16/2023

Case Narrative

Amended Report, November 15, 2023: The total Barium result originally reported for sample 1GJ1145-13 was not correct due to an error during the analysis. The sample was re-analyzed for Barium and that result is included in this report.

James Eggers
Quality Assurance Officer

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-9 (up)	1GJ1145-01	Water	GRAB		10/10/23 11:30	10/11/23 10:03
MW-14 (up)	1GJ1145-02	Water	GRAB		10/10/23 11:16	10/11/23 10:03
MW-4 (up)	1GJ1145-03	Water	GRAB		10/10/23 10:59	10/11/23 10:03
MW-5 (up)	1GJ1145-04	Water	GRAB		10/10/23 09:26	10/11/23 10:03
MW-11	1GJ1145-05	Water	GRAB		10/10/23 09:26	10/11/23 10:03
MW-12	1GJ1145-06	Water	GRAB		10/10/23 09:43	10/11/23 10:03
MW-15	1GJ1145-07	Water	GRAB		10/10/23 10:02	10/11/23 10:03
MW-16	1GJ1145-08	Water	GRAB		10/10/23 10:18	10/11/23 10:03
MW-2	1GJ1145-09	Water	GRAB		10/10/23 09:12	10/11/23 10:03
MW-3	1GJ1145-10	Water	GRAB		10/10/23 08:53	10/11/23 10:03
MW-6	1GJ1145-11	Water	GRAB		10/10/23 10:56	10/11/23 10:03
MW-7	1GJ1145-12	Water	GRAB		10/10/23 10:37	10/11/23 10:03
Duplicate	1GJ1145-13	Water	GRAB		10/10/23 00:00	10/11/23 10:03

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Analytical Testing Parameters

Client Sample ID:	MW-9 (up)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-01	**Collection Date:**	10/10/2023 11:30

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-9 (up)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-01	**Collection Date:**	10/10/2023 11:30

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1204	LJS
Surrogate: Dibromofluoromethane	92.8	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1204	LJS
Surrogate: Dibromofluoromethane	92.8	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1204	LJS
Surrogate: 1,2-Dichloroethane-d4	97.4	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1204	LJS
Surrogate: 1,2-Dichloroethane-d4	97.4	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1204	LJS
Surrogate: Toluene-d8	104	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1204	LJS
Surrogate: Toluene-d8	104	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1204	LJS
Surrogate: 4-Bromofluorobenzene	118	Limit: 80-116	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1204	LJS
Surrogate: 4-Bromofluorobenzene	118	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1204	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		10/16/23 1629	10/18/23 1722	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Barium, total	**0.0898**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1722	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1722	RVV

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-14 (up)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-02	**Collection Date:**	10/10/2023 11:16

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		10/16/23 0000	10/16/23 1243	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-14 (up)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-02	**Collection Date:**	10/10/2023 11:16

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		10/16/23 0000	10/16/23 1243	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1243	LJS
Surrogate: Dibromofluoromethane	94.4	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1243	LJS
Surrogate: Dibromofluoromethane	94.4	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1243	LJS
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1243	LJS
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1243	LJS
Surrogate: Toluene-d8	106	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1243	LJS
Surrogate: Toluene-d8	106	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1243	LJS
Surrogate: 4-Bromofluorobenzene	118	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1243	LJS
Surrogate: 4-Bromofluorobenzene	118	Limit: 80-116	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1243	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		10/16/23 1629	10/18/23 1746	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Barium, total	**0.140**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1746	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1746	RVV

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-4 (up)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-03	**Collection Date:**	10/10/2023 10:59

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		10/16/23 0000	10/16/23 1322	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-4 (up)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-03	**Collection Date:**	10/10/2023 10:59

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		10/16/23 0000	10/16/23 1322	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1322	LJS
Surrogate: Dibromofluoromethane	95.9	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1322	LJS
Surrogate: Dibromofluoromethane	95.9	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1322	LJS
Surrogate: 1,2-Dichloroethane-d4	107	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1322	LJS
Surrogate: 1,2-Dichloroethane-d4	107	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1322	LJS
Surrogate: Toluene-d8	106	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1322	LJS
Surrogate: Toluene-d8	106	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1322	LJS
Surrogate: 4-Bromofluorobenzene	115	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1322	LJS
Surrogate: 4-Bromofluorobenzene	115	Limit: 80-116	% Rec	1		10/16/23 0000	10/16/23 1322	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		10/16/23 1629	10/18/23 1752	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Barium, total	**0.0674**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1752	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1752	RVV

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-5 (up)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-04	**Collection Date:**	10/10/2023 9:26

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS

Keystone LABORATORIES
A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-5 (up)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-04	**Collection Date:**	10/10/2023 9:26

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1401	LJS
Surrogate: Dibromofluoromethane	97.1	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1401	LJS
Surrogate: Dibromofluoromethane	97.1	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1401	LJS
Surrogate: 1,2-Dichloroethane-d4	108	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1401	LJS
Surrogate: 1,2-Dichloroethane-d4	108	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1401	LJS
Surrogate: Toluene-d8	106	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1401	LJS
Surrogate: Toluene-d8	106	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1401	LJS
Surrogate: 4-Bromofluorobenzene	117	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1401	LJS
Surrogate: 4-Bromofluorobenzene	117	Limit: 80-116	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1401	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		10/16/23 1629	10/18/23 1758	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Barium, total	**0.202**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1758	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1758	RVV

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-11		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-05	**Collection Date:**	10/10/2023 9:26

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-11		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-05	**Collection Date:**	10/10/2023 9:26

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1440	LJS
Surrogate: Dibromofluoromethane	98.5	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1440	LJS
Surrogate: Dibromofluoromethane	98.5	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1440	LJS
Surrogate: 1,2-Dichloroethane-d4	111	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1440	LJS
Surrogate: 1,2-Dichloroethane-d4	111	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1440	LJS
Surrogate: Toluene-d8	105	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1440	LJS
Surrogate: Toluene-d8	105	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1440	LJS
Surrogate: 4-Bromofluorobenzene	116	Limit: 80-116	% Rec	1		10/16/23 0000	10/16/23 1440	LJS
Surrogate: 4-Bromofluorobenzene	116	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1440	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		10/16/23 1629	10/18/23 1804	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Barium, total	**0.0139**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1804	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1804	RVV

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-12		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-06	**Collection Date:**	10/10/2023 9:43

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-12		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-06	**Collection Date:**	10/10/2023 9:43

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1519	LJS
Surrogate: Dibromofluoromethane	97.6	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1519	LJS
Surrogate: Dibromofluoromethane	97.6	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1519	LJS
Surrogate: 1,2-Dichloroethane-d4	113	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1519	LJS
Surrogate: 1,2-Dichloroethane-d4	113	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1519	LJS
Surrogate: Toluene-d8	105	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1519	LJS
Surrogate: Toluene-d8	105	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1519	LJS
Surrogate: 4-Bromofluorobenzene	116	Limit: 80-116	% Rec	1		10/16/23 0000	10/16/23 1519	LJS
Surrogate: 4-Bromofluorobenzene	116	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1519	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		10/16/23 1629	10/18/23 1810	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Barium, total	**0.137**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1810	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1810	RVV

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-15		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-07	**Collection Date:**	10/10/2023 10:02

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		10/16/23 0000	10/16/23 1558	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-15		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-07	**Collection Date:**	10/10/2023 10:02

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		10/16/23 0000	10/16/23 1558	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1558	LJS
Surrogate: Dibromofluoromethane	98.9	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1558	LJS
Surrogate: Dibromofluoromethane	98.9	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1558	LJS
Surrogate: 1,2-Dichloroethane-d4	112	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1558	LJS
Surrogate: 1,2-Dichloroethane-d4	112	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1558	LJS
Surrogate: Toluene-d8	105	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1558	LJS
Surrogate: Toluene-d8	105	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1558	LJS
Surrogate: 4-Bromofluorobenzene	117	Limit: 80-116	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1558	LJS
Surrogate: 4-Bromofluorobenzene	117	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1558	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		10/16/23 1629	10/18/23 1816	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Barium, total	**0.0210**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Cadmium, total	**0.0024**	0.0008	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Nickel, total	**0.0095**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1816	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1816	RVV

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-16		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-08	**Collection Date:**	10/10/2023 10:18

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		10/16/23 0000	10/16/23 1637	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-16		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-08	**Collection Date:**	10/10/2023 10:18

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		10/16/23 0000	10/16/23 1637	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1637	LJS
Surrogate: Dibromofluoromethane	98.3	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1637	LJS
Surrogate: Dibromofluoromethane	98.3	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1637	LJS
Surrogate: 1,2-Dichloroethane-d4	110	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1637	LJS
Surrogate: 1,2-Dichloroethane-d4	110	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1637	LJS
Surrogate: Toluene-d8	106	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1637	LJS
Surrogate: Toluene-d8	106	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1637	LJS
Surrogate: 4-Bromofluorobenzene	115	Limit: 80-116	% Rec	1		10/16/23 0000	10/16/23 1637	LJS
Surrogate: 4-Bromofluorobenzene	115	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1637	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		10/16/23 1629	10/18/23 1834	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Barium, total	**0.0390**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1834	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1834	RVV

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-2		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-09	**Collection Date:**	10/10/2023 9:12

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		10/16/23 0000	10/16/23 1716	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-2		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-09	**Collection Date:**	10/10/2023 9:12

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		10/16/23 0000	10/16/23 1716	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1716	LJS
Surrogate: Dibromofluoromethane	97.4	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1716	LJS
Surrogate: Dibromofluoromethane	97.4	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1716	LJS
Surrogate: 1,2-Dichloroethane-d4	113	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1716	LJS
Surrogate: 1,2-Dichloroethane-d4	113	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1716	LJS
Surrogate: Toluene-d8	105	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1716	LJS
Surrogate: Toluene-d8	105	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1716	LJS
Surrogate: 4-Bromofluorobenzene	115	Limit: 80-116	% Rec	1		10/16/23 0000	10/16/23 1716	LJS
Surrogate: 4-Bromofluorobenzene	115	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1716	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		10/16/23 1629	10/18/23 1840	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Barium, total	**0.0367**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Cobalt, total	**0.0018**	0.0004	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1840	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1840	RVV

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-3		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-10	**Collection Date:**	10/10/2023 8:53

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		10/16/23 0000	10/16/23 1755	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-3		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-10	**Collection Date:**	10/10/2023 8:53

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		10/16/23 0000	10/16/23 1755	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 1755	LJS
Surrogate: Dibromofluoromethane	99.8	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 1755	LJS
Surrogate: Dibromofluoromethane	99.8	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 1755	LJS
Surrogate: 1,2-Dichloroethane-d4	114	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 1755	LJS
Surrogate: 1,2-Dichloroethane-d4	114	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 1755	LJS
Surrogate: Toluene-d8	106	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 1755	LJS
Surrogate: Toluene-d8	106	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 1755	LJS
Surrogate: 4-Bromofluorobenzene	117	Limit: 80-116	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1755	LJS
Surrogate: 4-Bromofluorobenzene	117	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 1755	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		10/16/23 1629	10/18/23 1846	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Barium, total	**0.104**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1846	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1846	RVV

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-6		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-11	**Collection Date:**	10/10/2023 10:56

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		10/16/23 0000	10/16/23 2229	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-6		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-11	**Collection Date:**	10/10/2023 10:56

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		10/16/23 0000	10/16/23 2229	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2229	LJS
Surrogate: Dibromofluoromethane	97.7	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 2229	LJS
Surrogate: Dibromofluoromethane	97.7	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 2229	LJS
Surrogate: 1,2-Dichloroethane-d4	109	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 2229	LJS
Surrogate: 1,2-Dichloroethane-d4	109	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 2229	LJS
Surrogate: Toluene-d8	106	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 2229	LJS
Surrogate: Toluene-d8	106	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 2229	LJS
Surrogate: 4-Bromofluorobenzene	117	Limit: 80-116	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 2229	LJS
Surrogate: 4-Bromofluorobenzene	117	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 2229	LJS

Determination of Base/Neutral Extractable Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 8270C								
Bis(2-Ethylhexyl) Phthalate	<6	6	ug/L	1		10/16/23 1106	10/30/23 1335	EPP
Surrogate: Nitrobenzene-d5	81.8	Limit: 29-130	% Rec	1		10/16/23 1106	10/30/23 1335	EPP
Surrogate: 2-Fluorobiphenyl	72.2	Limit: 23-113	% Rec	1		10/16/23 1106	10/30/23 1335	EPP
Surrogate: Terphenyl-dl4	90.8	Limit: 27-141	% Rec	1		10/16/23 1106	10/30/23 1335	EPP

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Barium, total	**0.0230**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Cobalt, total	**0.0005**	0.0004	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1852	RVV
Zinc, total	**0.0274**	0.0200	mg/L	4		10/16/23 1629	10/18/23 1852	RVV

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-7		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-12	**Collection Date:**	10/10/2023 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		10/16/23 0000	10/16/23 2308	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Bromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Chloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Acetone	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Chloroform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Benzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Dibromomethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Toluene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Xylenes, total	<2.0	2.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Styrene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Bromoform	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	MW-7		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-12	**Collection Date:**	10/10/2023 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		10/16/23 0000	10/16/23 2308	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		10/16/23 0000	10/16/23 2308	LJS
Surrogate: Dibromofluoromethane	95.9	Limit: 75-136	% Rec	1		10/16/23 0000	10/16/23 2308	LJS
Surrogate: Dibromofluoromethane	95.9	Limit: 80-126	% Rec	1		10/16/23 0000	10/16/23 2308	LJS
Surrogate: 1,2-Dichloroethane-d4	109	Limit: 61-142	% Rec	1		10/16/23 0000	10/16/23 2308	LJS
Surrogate: 1,2-Dichloroethane-d4	109	Limit: 63-138	% Rec	1		10/16/23 0000	10/16/23 2308	LJS
Surrogate: Toluene-d8	107	Limit: 82-121	% Rec	1		10/16/23 0000	10/16/23 2308	LJS
Surrogate: Toluene-d8	107	Limit: 87-116	% Rec	1		10/16/23 0000	10/16/23 2308	LJS
Surrogate: 4-Bromofluorobenzene	116	Limit: 85-111	% Rec	1	**S-GC**	10/16/23 0000	10/16/23 2308	LJS
Surrogate: 4-Bromofluorobenzene	116	Limit: 80-116	% Rec	1		10/16/23 0000	10/16/23 2308	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		10/16/23 1629	10/18/23 1858	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Barium, total	**0.108**	0.0040	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1858	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1858	RVV

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

Client Sample ID:	Duplicate		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1GJ1145-13	**Collection Date:**	10/10/2023

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Barium, total	**0.103**	0.0040	mg/L	4		10/16/23 1629	11/09/23 1537	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1904	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/16/23 1629	10/18/23 1904	RVV

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 8270C	1GJ0911	1GJ0911-BLK1	
		1GJ0911-BS1	
		1GJ0911-BSD1	
		1GJ0911-SRM1	
		1GJ1145-11	MW-6

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1GJ0960	1GJ0960-BLK1	
		1GJ0960-BS1	
		1GJ1145-01	MW-9 (up)
		1GJ0960-MS1	1GJ1145-01
		1GJ0960-MSD1	1GJ1145-01
		1GJ0960-PS1	1GJ1145-01
		1GJ1145-02	MW-14 (up)
		1GJ1145-03	MW-4 (up)
		1GJ1145-04	MW-5 (up)
		1GJ1145-05	MW-11
		1GJ1145-06	MW-12
		1GJ1145-07	MW-15
		1GJ1145-08	MW-16
		1GJ1145-09	MW-2
		1GJ1145-10	MW-3
		1GJ1145-11	MW-6
		1GJ1145-12	MW-7
		1GJ1145-13	Duplicate
		1GJ1145-13RE1	Duplicate

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1GJ0969	1GJ0969-BS1	
		1GJ0969-BSD1	
		1GJ0969-BLK1	
		1GJ1145-01	MW-9 (up)
		1GJ1145-02	MW-14 (up)
		1GJ1145-03	MW-4 (up)
		1GJ1145-04	MW-5 (up)
		1GJ1145-05	MW-11
		1GJ1145-06	MW-12
		1GJ1145-07	MW-15
		1GJ1145-08	MW-16
		1GJ1145-09	MW-2

EPA 8260B	1GJ0969	1GJ1145-10	MW-3
		1GJ0969-MS1	1GJ1145-09
		1GJ0969-MSD1	1GJ1145-09
		1GJ0969-BLK2	
		1GJ1145-11	MW-6
		1GJ1145-12	MW-7

Batch Quality Control Summary: Keystone Laboratories - Newton

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0969 - EPA 5030B - EPA 8260B										
Blank (1GJ0969-BLK1)			Prepared: 10/16/23 00:00 Analyzed: 10/16/23 10:38							
Chloromethane	<1.0	1.0	ug/L							
Vinyl Chloride	<1.0	1.0	ug/L							
Bromomethane	<1.0	1.0	ug/L							
Chloroethane	<1.0	1.0	ug/L							
Trichlorofluoromethane	<1.0	1.0	ug/L							
1,1-Dichloroethylene	<1.0	1.0	ug/L							
Acetone	<10.0	10.0	ug/L							
Methyl Iodide	<1.0	1.0	ug/L							
Carbon Disulfide	<1.0	1.0	ug/L							
Methylene Chloride	<5.0	5.0	ug/L							
Acrylonitrile	<5.0	5.0	ug/L							
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L							
1,1-Dichloroethane	<1.0	1.0	ug/L							
Vinyl Acetate	<5.0	5.0	ug/L							
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Bromochloromethane	<1.0	1.0	ug/L							
Chloroform	<1.0	1.0	ug/L							
1,1,1-Trichloroethane	<1.0	1.0	ug/L							
Carbon Tetrachloride	<1.0	1.0	ug/L							
Benzene	<1.0	1.0	ug/L							
1,2-Dichloroethane	<1.0	1.0	ug/L							
Trichloroethylene	<1.0	1.0	ug/L							
1,2-Dichloropropane	<1.0	1.0	ug/L							
Dibromomethane	<1.0	1.0	ug/L							
Bromodichloromethane	<1.0	1.0	ug/L							
cis-1,3-Dichloropropene	<1.0	1.0	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L							
Toluene	<1.0	1.0	ug/L							
trans-1,3-Dichloropropene	<1.0	1.0	ug/L							
1,1,2-Trichloroethane	<1.0	1.0	ug/L							
Tetrachloroethylene	<1.0	1.0	ug/L							
2-Hexanone (MBK)	<5.0	5.0	ug/L							
Dibromochloromethane	<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 1GJ0969 - EPA 5030B - EPA 8260B										
Blank (1GJ0969-BLK1)			Prepared: 10/16/23 00:00 Analyzed: 10/16/23 10:38							
1,2-Dibromoethane	<1.0	1.0	ug/L							
Chlorobenzene	<1.0	1.0	ug/L							
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L							
Ethylbenzene	<1.0	1.0	ug/L							
Xylenes, total	<2.0	2.0	ug/L							
Styrene	<1.0	1.0	ug/L							
Bromoform	<1.0	1.0	ug/L							
1,2,3-Trichloropropane	<1.0	1.0	ug/L							
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L							
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L							
1,4-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L							
Surrogate: Dibromofluoromethane	*46.6*		ug/L	*50.4*		*92.6*	*75-136*			
Surrogate: Dibromofluoromethane	*46.6*		ug/L	*50.4*		*92.6*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*52.3*		ug/L	*50.4*		*104*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*52.3*		ug/L	*50.4*		*104*	*61-142*			
Surrogate: Toluene-d8	*52.4*		ug/L	*50.2*		*104*	*87-116*			
Surrogate: Toluene-d8	*52.4*		ug/L	*50.2*		*104*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*59.8*		ug/L	*50.4*		*119*	*80-116*			*S-GC*
Surrogate: 4-Bromofluorobenzene	*59.8*		ug/L	*50.4*		*119*	*85-111*			*S-GC*
Blank (1GJ0969-BLK2)			Prepared: 10/16/23 00:00 Analyzed: 10/16/23 21:50							
Chloromethane	<1.0	1.0	ug/L							
Vinyl Chloride	<1.0	1.0	ug/L							
Bromomethane	<1.0	1.0	ug/L							
Chloroethane	<1.0	1.0	ug/L							
Trichlorofluoromethane	<1.0	1.0	ug/L							
1,1-Dichloroethylene	<1.0	1.0	ug/L							
Acetone	<10.0	10.0	ug/L							
Methyl Iodide	<1.0	1.0	ug/L							
Carbon Disulfide	<1.0	1.0	ug/L							
Methylene Chloride	<5.0	5.0	ug/L							
Acrylonitrile	<5.0	5.0	ug/L							
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L							
1,1-Dichloroethane	<1.0	1.0	ug/L							
Vinyl Acetate	<5.0	5.0	ug/L							
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Bromochloromethane	<1.0	1.0	ug/L							
Chloroform	<1.0	1.0	ug/L							
1,1,1-Trichloroethane	<1.0	1.0	ug/L							
Carbon Tetrachloride	<1.0	1.0	ug/L							
Benzene	<1.0	1.0	ug/L							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0969 - EPA 5030B - EPA 8260B										
Blank (1GJ0969-BLK2)			Prepared: 10/16/23 00:00 Analyzed: 10/16/23 21:50							
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	*48.3*		ug/L	*50.4*		*95.8*	*80-126*			
Surrogate: Dibromofluoromethane	*48.3*		ug/L	*50.4*		*95.8*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*55.1*		ug/L	*50.4*		*109*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*55.1*		ug/L	*50.4*		*109*	*61-142*			
Surrogate: Toluene-d8	*53.1*		ug/L	*50.2*		*106*	*87-116*			
Surrogate: Toluene-d8	*53.1*		ug/L	*50.2*		*106*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*59.0*		ug/L	*50.4*		*117*	*85-111*			*S-GC*
Surrogate: 4-Bromofluorobenzene	*59.0*		ug/L	*50.4*		*117*	*80-116*			*S-GC*
LCS (1GJ0969-BS1)			Prepared: 10/16/23 00:00 Analyzed: 10/16/23 08:41							
Chloromethane	27.86	1.0	ug/L	30.0		92.8	63-155			
Vinyl Chloride	25.92	1.0	ug/L	30.0		86.3	70-154			
Bromomethane	23.50	1.0	ug/L	30.1		78.1	52-176			
Chloroethane	26.09	1.0	ug/L	30.0		86.9	72-148			
Trichlorofluoromethane	27.41	1.0	ug/L	30.0		91.3	70-152			
1,1-Dichloroethylene	51.46	1.0	ug/L	50.1		103	70-148			
Acetone	123.6	10.0	ug/L	100		124	43-172			
Methyl Iodide	87.06	1.0	ug/L	100		86.9	69-170			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0969 - EPA 5030B - EPA 8260B										
LCS (1GJ0969-BS1)			Prepared: 10/16/23 00:00 Analyzed: 10/16/23 08:41							
Carbon Disulfide	104.2	1.0	ug/L	100		104	72-162			
Methylene Chloride	48.76	5.0	ug/L	50.2		97.2	68-142			
Acrylonitrile	55.58	5.0	ug/L	50.0		111	67-144			
trans-1,2-Dichloroethylene	54.03	1.0	ug/L	50.3		107	66-148			
1,1-Dichloroethane	56.19	1.0	ug/L	50.2		112	66-143			
Vinyl Acetate	88.08	5.0	ug/L	81.8		108	43-153			
cis-1,2-Dichloroethylene	47.81	1.0	ug/L	50.2		95.1	71-149			
2-Butanone (MEK)	118.2	10.0	ug/L	100		118	52-159			
Bromochloromethane	56.82	1.0	ug/L	50.3		113	69-143			
Chloroform	54.63	1.0	ug/L	50.2		109	69-144			
1,1,1-Trichloroethane	57.52	1.0	ug/L	50.3		114	62-129			
Carbon Tetrachloride	52.40	1.0	ug/L	50.2		104	63-141			
Benzene	54.29	1.0	ug/L	50.2		108	71-134			
1,2-Dichloroethane	67.77	1.0	ug/L	50.2		135	72-132			QS-02
Trichloroethylene	57.00	1.0	ug/L	50.3		113	71-135			
1,2-Dichloropropane	60.18	1.0	ug/L	50.2		120	69-136			
Dibromomethane	58.97	1.0	ug/L	50.3		117	73-147			
Bromodichloromethane	55.64	1.0	ug/L	50.3		111	68-129			
cis-1,3-Dichloropropene	60.91	1.0	ug/L	50.2		121	65-134			
4-Methyl-2-pentanone (MIBK)	131.2	5.0	ug/L	100		131	58-147			
Toluene	52.57	1.0	ug/L	50.4		104	72-133			
trans-1,3-Dichloropropene	64.08	1.0	ug/L	50.3		127	67-130			
1,1,2-Trichloroethane	57.19	1.0	ug/L	50.2		114	69-135			
Tetrachloroethylene	49.00	1.0	ug/L	50.2		97.6	69-130			
2-Hexanone (MBK)	133.3	5.0	ug/L	100		133	55-144			
Dibromochloromethane	57.40	1.0	ug/L	50.3		114	73-127			
1,2-Dibromoethane	57.94	1.0	ug/L	50.4		115	67-132			
Chlorobenzene	51.10	1.0	ug/L	50.2		102	72-123			
1,1,1,2-Tetrachloroethane	56.83	1.0	ug/L	50.2		113	73-127			
Ethylbenzene	54.97	1.0	ug/L	50.3		109	71-127			
Xylenes, total	171.6	2.0	ug/L	151		114	74-127			
Styrene	54.87	1.0	ug/L	50.3		109	66-126			
Bromoform	55.15	1.0	ug/L	50.2		110	68-130			
1,2,3-Trichloropropane	55.35	1.0	ug/L	50.2		110	63-136			
trans-1,4-Dichloro-2-butene	143.0	5.0	ug/L	100		143	54-134			QS-02
1,1,2,2-Tetrachloroethane	60.30	1.0	ug/L	50.2		120	61-131			
1,4-Dichlorobenzene	50.24	1.0	ug/L	50.2		100	70-129			
1,2-Dichlorobenzene	50.57	1.0	ug/L	50.2		101	69-126			
1,2-Dibromo-3-chloropropane	52.75	5.0	ug/L	50.4		105	50-143			
Surrogate: Dibromofluoromethane	*49.5*		ug/L	*50.4*		*98.4*	*80-126*			
Surrogate: Dibromofluoromethane	*49.5*		ug/L	*50.4*		*98.4*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*62.8*		ug/L	*50.4*		*125*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*62.8*		ug/L	*50.4*		*125*	*61-142*			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0969 - EPA 5030B - EPA 8260B										
LCS (1GJ0969-BS1)			Prepared: 10/16/23 00:00 Analyzed: 10/16/23 08:41							
Surrogate: Toluene-d8	*50.2*		ug/L	*50.2*		*100*	*87-116*			
Surrogate: Toluene-d8	*50.2*		ug/L	*50.2*		*100*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*59.8*		ug/L	*50.4*		*119*	*85-111*			*S-GC*
Surrogate: 4-Bromofluorobenzene	*59.8*		ug/L	*50.4*		*119*	*80-116*			*S-GC*
LCS Dup (1GJ0969-BSD1)			Prepared: 10/16/23 00:00 Analyzed: 10/16/23 09:20							
Chloromethane	26.70	1.0	ug/L	30.0		88.9	63-155	4.25	24	
Vinyl Chloride	25.56	1.0	ug/L	30.0		85.1	70-154	1.40	25	
Bromomethane	23.67	1.0	ug/L	30.1		78.6	52-176	0.721	27	
Chloroethane	25.63	1.0	ug/L	30.0		85.4	72-148	1.78	25	
Trichlorofluoromethane	26.67	1.0	ug/L	30.0		88.9	70-152	2.74	26	
1,1-Dichloroethylene	49.84	1.0	ug/L	50.1		99.4	70-148	3.20	24	
Acetone	121.6	10.0	ug/L	100		121	43-172	1.71	30	
Methyl Iodide	84.61	1.0	ug/L	100		84.4	69-170	2.85	30	
Carbon Disulfide	100.8	1.0	ug/L	100		101	72-162	3.32	24	
Methylene Chloride	47.65	5.0	ug/L	50.2		95.0	68-142	2.30	21	
Acrylonitrile	52.71	5.0	ug/L	50.0		105	67-144	5.30	24	
trans-1,2-Dichloroethylene	52.80	1.0	ug/L	50.3		105	66-148	2.30	27	
1,1-Dichloroethane	54.86	1.0	ug/L	50.2		109	66-143	2.40	24	
Vinyl Acetate	84.42	5.0	ug/L	81.8		103	43-153	4.24	30	
cis-1,2-Dichloroethylene	46.86	1.0	ug/L	50.2		93.3	71-149	2.01	26	
2-Butanone (MEK)	114.6	10.0	ug/L	100		114	52-159	3.02	27	
Bromochloromethane	56.87	1.0	ug/L	50.3		113	69-143	0.0880	23	
Chloroform	53.52	1.0	ug/L	50.2		107	69-144	2.05	23	
1,1,1-Trichloroethane	55.86	1.0	ug/L	50.3		111	62-129	2.93	24	
Carbon Tetrachloride	50.67	1.0	ug/L	50.2		101	63-141	3.36	25	
Benzene	53.39	1.0	ug/L	50.2		106	71-134	1.67	24	
1,2-Dichloroethane	66.07	1.0	ug/L	50.2		132	72-132	2.54	24	
Trichloroethylene	56.20	1.0	ug/L	50.3		112	71-135	1.41	24	
1,2-Dichloropropane	58.59	1.0	ug/L	50.2		117	69-136	2.68	24	
Dibromomethane	58.56	1.0	ug/L	50.3		117	73-147	0.698	25	
Bromodichloromethane	54.89	1.0	ug/L	50.3		109	68-129	1.36	22	
cis-1,3-Dichloropropene	59.67	1.0	ug/L	50.2		119	65-134	2.06	23	
4-Methyl-2-pentanone (MIBK)	127.6	5.0	ug/L	100		127	58-147	2.78	27	
Toluene	51.14	1.0	ug/L	50.4		101	72-133	2.76	24	
trans-1,3-Dichloropropene	62.65	1.0	ug/L	50.3		125	67-130	2.26	24	
1,1,2-Trichloroethane	56.41	1.0	ug/L	50.2		112	69-135	1.37	23	
Tetrachloroethylene	48.87	1.0	ug/L	50.2		97.3	69-130	0.266	25	
2-Hexanone (MBK)	130.6	5.0	ug/L	100		130	55-144	2.09	25	
Dibromochloromethane	56.49	1.0	ug/L	50.3		112	73-127	1.60	22	
1,2-Dibromoethane	55.70	1.0	ug/L	50.4		111	67-132	3.94	24	
Chlorobenzene	50.51	1.0	ug/L	50.2		101	72-123	1.16	23	
1,1,1,2-Tetrachloroethane	55.51	1.0	ug/L	50.2		111	73-127	2.35	24	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0969 - EPA 5030B - EPA 8260B										
LCS Dup (1GJ0969-BSD1)			Prepared: 10/16/23 00:00 Analyzed: 10/16/23 09:20							
Ethylbenzene	54.19	1.0	ug/L	50.3		108	71-127	1.43	26	
Xylenes, total	170.0	2.0	ug/L	151		113	74-127	0.943	25	
Styrene	55.10	1.0	ug/L	50.3		109	66-126	0.418	23	
Bromoform	53.86	1.0	ug/L	50.2		107	68-130	2.37	23	
1,2,3-Trichloropropane	54.02	1.0	ug/L	50.2		108	63-136	2.43	24	
trans-1,4-Dichloro-2-butene	140.6	5.0	ug/L	100		140	54-134	1.69	27	QS-02
1,1,2,2-Tetrachloroethane	59.61	1.0	ug/L	50.2		119	61-131	1.15	29	
1,4-Dichlorobenzene	50.56	1.0	ug/L	50.2		101	70-129	0.635	24	
1,2-Dichlorobenzene	50.46	1.0	ug/L	50.2		101	69-126	0.218	26	
1,2-Dibromo-3-chloropropane	52.33	5.0	ug/L	50.4		104	50-143	0.799	30	
Surrogate: Dibromofluoromethane	*48.4*		ug/L	*50.4*		*96.2*	*80-126*			
Surrogate: Dibromofluoromethane	*48.4*		ug/L	*50.4*		*96.2*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*61.8*		ug/L	*50.4*		*123*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*61.8*		ug/L	*50.4*		*123*	*61-142*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.2*		*100*	*87-116*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.2*		*100*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*59.0*		ug/L	*50.4*		*117*	*85-111*			*S-GC*
Surrogate: 4-Bromofluorobenzene	*59.0*		ug/L	*50.4*		*117*	*80-116*			*S-GC*
Matrix Spike (1GJ0969-MS1)		**Source: 1GJ1145-09**	Prepared: 10/16/23 00:00 Analyzed: 10/16/23 19:53							
Chloromethane	278.3	10.0	ug/L	300	ND	92.7	61-152			
Vinyl Chloride	265.1	10.0	ug/L	300	ND	88.3	66-149			
Bromomethane	251.8	10.0	ug/L	301	ND	83.7	43-171			
Chloroethane	268.4	10.0	ug/L	300	ND	89.4	69-148			
Trichlorofluoromethane	287.8	10.0	ug/L	300	ND	95.9	62-163			
1,1-Dichloroethylene	522.7	10.0	ug/L	501	ND	104	70-148			
Acetone	1251	100	ug/L	1000	ND	125	45-173			
Methyl Iodide	858.9	10.0	ug/L	1000	ND	85.7	62-167			
Carbon Disulfide	1068	10.0	ug/L	1000	ND	107	71-163			
Methylene Chloride	497.6	50.0	ug/L	502	ND	99.2	69-140			
Acrylonitrile	550.8	50.0	ug/L	500	ND	110	58-151			
trans-1,2-Dichloroethylene	552.1	10.0	ug/L	503	ND	110	69-144			
1,1-Dichloroethane	577.1	10.0	ug/L	502	ND	115	70-138			
Vinyl Acetate	859.5	50.0	ug/L	818	ND	105	58-142			
cis-1,2-Dichloroethylene	496.2	10.0	ug/L	502	ND	98.7	68-151			
2-Butanone (MEK)	1180	100	ug/L	1000	ND	118	50-160			
Bromochloromethane	579.7	10.0	ug/L	503	ND	115	65-143			
Chloroform	561.5	10.0	ug/L	502	ND	112	71-143			
1,1,1-Trichloroethane	599.1	10.0	ug/L	503	ND	119	63-133			
Carbon Tetrachloride	538.4	10.0	ug/L	502	ND	107	63-142			
Benzene	553.0	10.0	ug/L	502	ND	110	69-133			
1,2-Dichloroethane	661.8	10.0	ug/L	502	ND	132	63-138			
Trichloroethylene	582.4	10.0	ug/L	503	ND	116	71-133			
1,2-Dichloropropane	598.5	10.0	ug/L	502	ND	119	69-132			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0969 - EPA 5030B - EPA 8260B										
Matrix Spike (1GJ0969-MS1)	**Source: 1GJ1145-09**		Prepared: 10/16/23 00:00 Analyzed: 10/16/23 19:53							
Dibromomethane	603.1	10.0	ug/L	503	ND	120	70-147			
Bromodichloromethane	556.6	10.0	ug/L	503	ND	111	67-130			
cis-1,3-Dichloropropene	597.1	10.0	ug/L	502	ND	119	61-126			
4-Methyl-2-pentanone (MIBK)	1274	50.0	ug/L	1000	ND	127	55-147			
Toluene	533.9	10.0	ug/L	504	ND	106	71-133			
trans-1,3-Dichloropropene	622.3	10.0	ug/L	503	ND	124	63-124			
1,1,2-Trichloroethane	582.4	10.0	ug/L	502	ND	116	69-133			
Tetrachloroethylene	497.2	10.0	ug/L	502	ND	99.0	70-124			
2-Hexanone (MBK)	1265	50.0	ug/L	1000	ND	126	53-141			
Dibromochloromethane	557.8	10.0	ug/L	503	ND	111	74-122			
1,2-Dibromoethane	570.8	10.0	ug/L	504	ND	113	66-127			
Chlorobenzene	514.2	10.0	ug/L	502	ND	102	76-116			
1,1,1,2-Tetrachloroethane	545.4	10.0	ug/L	502	ND	109	77-121			
Ethylbenzene	553.5	10.0	ug/L	503	ND	110	73-124			
Xylenes, total	1723	20.0	ug/L	1510	ND	114	75-123			
Styrene	549.8	10.0	ug/L	503	ND	109	70-120			
Bromoform	541.4	10.0	ug/L	502	ND	108	70-124			
1,2,3-Trichloropropane	568.7	10.0	ug/L	502	ND	113	62-135			
trans-1,4-Dichloro-2-butene	1373	50.0	ug/L	1000	ND	137	50-120			QS-02
1,1,2,2-Tetrachloroethane	584.9	10.0	ug/L	502	ND	117	63-126			
1,4-Dichlorobenzene	496.2	10.0	ug/L	502	ND	98.9	72-119			
1,2-Dichlorobenzene	509.2	10.0	ug/L	502	ND	101	71-117			
1,2-Dibromo-3-chloropropane	505.2	50.0	ug/L	504	ND	100	49-134			
Surrogate: Dibromofluoromethane	*515*		ug/L	*504*		*102*	*80-126*			
Surrogate: Dibromofluoromethane	*515*		ug/L	*504*		*102*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*636*		ug/L	*504*		*126*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*636*		ug/L	*504*		*126*	*61-142*			
Surrogate: Toluene-d8	*508*		ug/L	*502*		*101*	*87-116*			
Surrogate: Toluene-d8	*508*		ug/L	*502*		*101*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*584*		ug/L	*504*		*116*	*85-111*			*S-GC*
Surrogate: 4-Bromofluorobenzene	*584*		ug/L	*504*		*116*	*80-116*			
Matrix Spike Dup (1GJ0969-MSD1)	**Source: 1GJ1145-09**		Prepared: 10/16/23 00:00 Analyzed: 10/16/23 20:32							
Chloromethane	271.8	10.0	ug/L	300	ND	90.5	61-152	2.36	26	
Vinyl Chloride	262.4	10.0	ug/L	300	ND	87.4	66-149	1.02	23	
Bromomethane	248.7	10.0	ug/L	301	ND	82.6	43-171	1.24	29	
Chloroethane	263.4	10.0	ug/L	300	ND	87.7	69-148	1.88	25	
Trichlorofluoromethane	277.5	10.0	ug/L	300	ND	92.5	62-163	3.64	25	
1,1-Dichloroethylene	513.0	10.0	ug/L	501	ND	102	70-148	1.87	22	
Acetone	1292	100	ug/L	1000	ND	129	45-173	3.20	30	
Methyl Iodide	849.3	10.0	ug/L	1000	ND	84.8	62-167	1.12	24	
Carbon Disulfide	1034	10.0	ug/L	1000	ND	103	71-163	3.29	22	
Methylene Chloride	480.5	50.0	ug/L	502	ND	95.8	69-140	3.50	19	
Acrylonitrile	547.7	50.0	ug/L	500	ND	110	58-151	0.564	15	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0969 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1GJ0969-MSD1)	**Source: 1GJ1145-09**	Prepared: 10/16/23 00:00 Analyzed: 10/16/23 20:32								
trans-1,2-Dichloroethylene	534.4	10.0	ug/L	503	ND	106	69-144	3.26	22	
1,1-Dichloroethane	566.5	10.0	ug/L	502	ND	113	70-138	1.85	20	
Vinyl Acetate	850.1	50.0	ug/L	818	ND	104	58-142	1.10	24	
cis-1,2-Dichloroethylene	475.7	10.0	ug/L	502	ND	94.7	68-151	4.22	22	
2-Butanone (MEK)	1172	100	ug/L	1000	ND	117	50-160	0.723	23	
Bromochloromethane	568.5	10.0	ug/L	503	ND	113	65-143	1.95	22	
Chloroform	545.1	10.0	ug/L	502	ND	109	71-143	2.96	21	
1,1,1-Trichloroethane	583.0	10.0	ug/L	503	ND	116	63-133	2.72	23	
Carbon Tetrachloride	519.7	10.0	ug/L	502	ND	104	63-142	3.53	22	
Benzene	529.9	10.0	ug/L	502	ND	105	69-133	4.27	18	
1,2-Dichloroethane	655.3	10.0	ug/L	502	ND	131	63-138	0.987	20	
Trichloroethylene	556.6	10.0	ug/L	503	ND	111	71-133	4.53	23	
1,2-Dichloropropane	580.7	10.0	ug/L	502	ND	116	69-132	3.02	20	
Dibromomethane	595.9	10.0	ug/L	503	ND	119	70-147	1.20	22	
Bromodichloromethane	541.2	10.0	ug/L	503	ND	108	67-130	2.81	21	
cis-1,3-Dichloropropene	583.9	10.0	ug/L	502	ND	116	61-126	2.24	21	
4-Methyl-2-pentanone (MIBK)	1268	50.0	ug/L	1000	ND	127	55-147	0.433	23	
Toluene	517.3	10.0	ug/L	504	ND	103	71-133	3.16	19	
trans-1,3-Dichloropropene	609.9	10.0	ug/L	503	ND	121	63-124	2.01	21	
1,1,2-Trichloroethane	567.7	10.0	ug/L	502	ND	113	69-133	2.56	19	
Tetrachloroethylene	482.6	10.0	ug/L	502	ND	96.1	70-124	2.98	24	
2-Hexanone (MBK)	1261	50.0	ug/L	1000	ND	126	53-141	0.356	24	
Dibromochloromethane	558.8	10.0	ug/L	503	ND	111	74-122	0.179	21	
1,2-Dibromoethane	564.9	10.0	ug/L	504	ND	112	66-127	1.04	23	
Chlorobenzene	502.0	10.0	ug/L	502	ND	99.9	76-116	2.40	21	
1,1,1,2-Tetrachloroethane	550.0	10.0	ug/L	502	ND	110	77-121	0.840	25	
Ethylbenzene	537.6	10.0	ug/L	503	ND	107	73-124	2.91	20	
Xylenes, total	1682	20.0	ug/L	1510	ND	112	75-123	2.38	20	
Styrene	539.3	10.0	ug/L	503	ND	107	70-120	1.93	23	
Bromoform	539.0	10.0	ug/L	502	ND	107	70-124	0.444	22	
1,2,3-Trichloropropane	555.1	10.0	ug/L	502	ND	111	62-135	2.42	28	
trans-1,4-Dichloro-2-butene	1347	50.0	ug/L	1000	ND	134	50-120	1.89	26	QS-02
1,1,2,2-Tetrachloroethane	583.1	10.0	ug/L	502	ND	116	63-126	0.308	24	
1,4-Dichlorobenzene	498.7	10.0	ug/L	502	ND	99.4	72-119	0.503	24	
1,2-Dichlorobenzene	500.5	10.0	ug/L	502	ND	99.7	71-117	1.72	24	
1,2-Dibromo-3-chloropropane	492.4	50.0	ug/L	504	ND	97.7	49-134	2.57	28	
Surrogate: Dibromofluoromethane	*518*		ug/L	*504*		*103*	*80-126*			
Surrogate: Dibromofluoromethane	*518*		ug/L	*504*		*103*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*638*		ug/L	*504*		*127*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*638*		ug/L	*504*		*127*	*61-142*			
Surrogate: Toluene-d8	*505*		ug/L	*502*		*101*	*87-116*			
Surrogate: Toluene-d8	*505*		ug/L	*502*		*101*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*597*		ug/L	*504*		*118*	*85-111*			*S-GC*

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0969 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1GJ0969-MSD1)		**Source: 1GJ1145-09**	Prepared: 10/16/23 00:00 Analyzed: 10/16/23 20:32							
Surrogate: 4-Bromofluorobenzene	*597*		ug/L	*504*		*118*	*80-116*			*S-GC*

Determination of Base/Neutral Extractable Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0911 - EPA 625 BNA - EPA 8270C										
Blank (1GJ0911-BLK1)			Prepared: 10/16/23 11:06 Analyzed: 10/30/23 11:57							
Bis(2-Ethylhexyl) Phthalate	<6	6	ug/L							
Surrogate: Nitrobenzene-d5	*39.3*		ug/L	*62.8*		*62.5*	*29-130*			
Surrogate: 2-Fluorobiphenyl	*38.7*		ug/L	*61.0*		*63.5*	*23-113*			
Surrogate: Terphenyl-dl4	*51.9*		ug/L	*65.1*		*79.7*	*27-141*			
LCS (1GJ0911-BS1)			Prepared: 10/16/23 11:06 Analyzed: 10/30/23 12:21							
Bis(2-Ethylhexyl) Phthalate	28.6	6	ug/L	40.0		71.6	33-184			
Surrogate: Nitrobenzene-d5	*37.6*		ug/L	*62.8*		*59.8*	*38-115*			
Surrogate: 2-Fluorobiphenyl	*34.5*		ug/L	*61.0*		*56.6*	*33-110*			
Surrogate: Terphenyl-dl4	*45.1*		ug/L	*65.1*		*69.3*	*30-142*			
LCS Dup (1GJ0911-BSD1)			Prepared: 10/16/23 11:06 Analyzed: 10/30/23 12:46							
Bis(2-Ethylhexyl) Phthalate	34.1	6	ug/L	40.0		85.2	33-184	17.4	30	
Surrogate: Nitrobenzene-d5	*49.2*		ug/L	*62.8*		*78.3*	*38-115*			
Surrogate: 2-Fluorobiphenyl	*46.5*		ug/L	*61.0*		*76.2*	*33-110*			
Surrogate: Terphenyl-dl4	*62.9*		ug/L	*65.1*		*96.7*	*30-142*			
Reference (1GJ0911-SRM1)			Prepared: 10/16/23 11:06 Analyzed: 10/30/23 13:10							
Bis(2-Ethylhexyl) Phthalate	36.4	6	ug/L	40.0		90.9	80-120			
Surrogate: Nitrobenzene-d5	*55.3*		ug/L	*62.8*		*88.0*	*29-130*			
Surrogate: 2-Fluorobiphenyl	*57.8*		ug/L	*61.0*		*94.8*	*23-113*			
Surrogate: Terphenyl-dl4	*66.3*		ug/L	*65.1*		*102*	*27-141*			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0960 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1GJ0960-BLK1)			Prepared: 10/16/23 16:29 Analyzed: 10/18/23 16:39							
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							

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0960 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1GJ0960-BLK1)			Prepared: 10/16/23 16:29 Analyzed: 10/18/23 16:39							
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 (1GJ0960-BS1)			Prepared: 10/16/23 16:29 Analyzed: 10/18/23 16:46							
Antimony, total	0.101	0.0020	mg/L	0.100		101	80-120			
Arsenic, total	0.0993	0.0040	mg/L	0.100		99.3	80-120			
Barium, total	0.108	0.0040	mg/L	0.100		108	80-120			
Beryllium, total	0.102	0.0040	mg/L	0.100		102	80-120			
Cadmium, total	0.101	0.0008	mg/L	0.100		101	80-120			
Chromium, total	0.100	0.0080	mg/L	0.100		100	80-120			
Cobalt, total	0.102	0.0004	mg/L	0.100		102	80-120			
Copper, total	0.323	0.0040	mg/L	0.100		323	80-120			QS-01
Lead, total	0.103	0.0040	mg/L	0.100		103	80-120			
Nickel, total	0.177	0.0040	mg/L	0.100		177	80-120			QS-01
Selenium, total	0.0986	0.0040	mg/L	0.100		98.6	80-120			
Silver, total	0.112	0.0040	mg/L	0.100		112	80-120			
Thallium, total	0.102	0.0020	mg/L	0.100		102	80-120			
Vanadium, total	0.101	0.0200	mg/L	0.100		101	80-120			
Zinc, total	0.101	0.0200	mg/L	0.100		101	80-120			
Matrix Spike (1GJ0960-MS1)		**Source: 1GJ1145-01**	Prepared: 10/16/23 16:29 Analyzed: 10/18/23 17:28							
Antimony, total	0.101	0.0020	mg/L	0.100	ND	101	75-125			
Arsenic, total	0.102	0.0040	mg/L	0.100	0.0011	101	75-125			
Barium, total	0.200	0.0040	mg/L	0.100	0.0898	110	75-125			
Beryllium, total	0.102	0.0040	mg/L	0.100	ND	102	75-125			
Cadmium, total	0.101	0.0008	mg/L	0.100	ND	101	75-125			
Chromium, total	0.0994	0.0080	mg/L	0.100	ND	99.4	75-125			
Cobalt, total	0.103	0.0004	mg/L	0.100	ND	103	75-125			
Copper, total	0.0955	0.0040	mg/L	0.100	ND	95.5	75-125			
Lead, total	0.0989	0.0040	mg/L	0.100	ND	98.9	75-125			
Nickel, total	0.0994	0.0040	mg/L	0.100	ND	99.4	75-125			
Selenium, total	0.0993	0.0040	mg/L	0.100	ND	99.3	75-125			
Silver, total	0.112	0.0040	mg/L	0.100	ND	112	75-125			
Thallium, total	0.101	0.0020	mg/L	0.100	ND	101	75-125			
Vanadium, total	0.106	0.0200	mg/L	0.100	ND	106	75-125			
Zinc, total	0.0985	0.0200	mg/L	0.100	ND	98.5	75-125			
Matrix Spike Dup (1GJ0960-MSD1)		**Source: 1GJ1145-01**	Prepared: 10/16/23 16:29 Analyzed: 10/18/23 17:34							
Antimony, total	0.109	0.0020	mg/L	0.100	ND	109	75-125	8.47	20	
Arsenic, total	0.111	0.0040	mg/L	0.100	0.0011	110	75-125	8.52	20	

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GJ0960 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Matrix Spike Dup (1GJ0960-MSD1)		**Source: 1GJ1145-01**	Prepared: 10/16/23 16:29 Analyzed: 10/18/23 17:34							
Barium, total	0.219	0.0040	mg/L	0.100	0.0898	129	75-125	8.85	20	QM-07
Beryllium, total	0.146	0.0040	mg/L	0.100	ND	146	75-125	35.7	20	QM-07
Cadmium, total	0.110	0.0008	mg/L	0.100	ND	110	75-125	8.12	20	
Chromium, total	0.109	0.0080	mg/L	0.100	ND	109	75-125	9.12	20	
Cobalt, total	0.111	0.0004	mg/L	0.100	ND	111	75-125	7.72	20	
Copper, total	0.103	0.0040	mg/L	0.100	ND	103	75-125	7.80	20	
Lead, total	0.108	0.0040	mg/L	0.100	ND	108	75-125	8.77	20	
Nickel, total	0.108	0.0040	mg/L	0.100	ND	108	75-125	8.28	20	
Selenium, total	0.1087	0.0040	mg/L	0.100	ND	109	75-125	9.05	20	
Silver, total	0.120	0.0040	mg/L	0.100	ND	120	75-125	7.13	20	
Thallium, total	0.110	0.0020	mg/L	0.100	ND	110	75-125	9.14	20	
Vanadium, total	0.116	0.0200	mg/L	0.100	ND	116	75-125	8.90	20	
Zinc, total	0.106	0.0200	mg/L	0.100	ND	106	75-125	7.18	20	
Post Spike (1GJ0960-PS1)		**Source: 1GJ1145-01**	Prepared: 10/16/23 16:29 Analyzed: 10/18/23 17:40							
Antimony, total	0.0803		mg/L	0.0800	0.0002	100	80-120			
Arsenic, total	0.0823		mg/L	0.0800	0.0011	102	80-120			
Barium, total	0.171		mg/L	0.0800	0.0880	103	80-120			
Beryllium, total	0.0798		mg/L	0.0800	0.0000008	99.8	80-120			
Cadmium, total	0.0777		mg/L	0.0800	0.00006	97.0	80-120			
Chromium, total	0.0775		mg/L	0.0800	0.0004	96.4	80-120			
Cobalt, total	0.0808		mg/L	0.0800	0.00002	101	80-120			
Copper, total	0.0744		mg/L	0.0800	0.00007	93.0	80-120			
Lead, total	0.0770		mg/L	0.0800	0.00003	96.2	80-120			
Nickel, total	0.0787		mg/L	0.0800	0.0002	98.1	80-120			
Selenium, total	0.0752		mg/L	0.0800	-0.0003	94.0	80-120			
Silver, total	0.0861		mg/L	0.0800	0.0014	106	80-120			
Thallium, total	0.0780		mg/L	0.0800	0.00006	97.4	80-120			
Vanadium, total	0.0850		mg/L	0.0800	0.0051	99.8	80-120			
Zinc, total	0.0743		mg/L	0.0800	0.0030	89.2	80-120			

Definitions

QM-07: The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

QS-01: The blank spike recovery and/or blank spike duplicate recovery were outside the established acceptance limits. Batch was accepted based on acceptable MS/MSD/RPD results.

QS-02: The spike recovery for this QC sample exceeded established acceptance limits. However, all samples were below the reporting and/or regulatory limit so 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: 4.9ºC

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1145

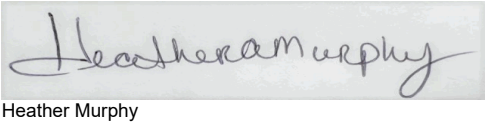
Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	Yes	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
11/16/23 09:56

CHAIN OF CU

Keystone
LABORATORIES
A Microbac Company

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

1 G J 1 1 4 5

HLW Engineering
PM: Sue Thompson

Printed: 9/5/2023 8:12:48AM
www.keystonelabs.com

SITE INFORMATION

Sampler: TODD WHIPPLE

Project: FMC SLF - New Regs
6028

REPORT TO

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

INVOICE TO

Christian Fox
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

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

LAB USE ONLY

Work Order 1GJ1145
Temperature 4.9
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
01-001	MW-9 (up)	Water	GRAB	10/10/23	11:30	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	01
02-001	MW-14 (up)	Water	GRAB	10/10/23	11:16	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	02
03-001	MW-4 (up)	Water	GRAB	10/10/23	10:59	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	03
04-001	MW-5 (up)	Water	GRAB	10/10/23	11:45	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	04
05-001	MW-11	Water	GRAB	10/10/23	9:26	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	05
06-001	MW-12	Water	GRAB	10/10/23	9:43	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	06
07-001	MW-15	Water	GRAB	10/10/23	10:02	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	07

Relinquished By: [signature] Date/Time: 10/11/23

Relinquished By: [signature] Date/Time: 10/11/23 10:03

Received By: Date/Time:

Received for Lab By: Date/Time:

Remarks:

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

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

1 G J 1 1 4 5

HLW Engineering
PM: Sue Thompson

Printed: 9/5/2023 8:12:48AM
www.keystonelabs.com

SITE INFORMATION

Sampler: TODD WHIPPLE

Project: FMC SLF - New Regs
6028

REPORT TO

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

INVOICE TO

Christian Fox
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

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

LAB USE ONLY

Work Order 1GJ1145
Temperature 4.9
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
08-001	MW-16	Water	GRAB	10/10/23	10:18	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	08
09-001	MW-2	Water	GRAB	10/10/23	9:12	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	09
10-001	MW-3	Water	GRAB	10/10/23	8:53	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	10
11-001	MW-6	Water	GRAB	10/10/23	10:56	8	8270-110 lndfill-app1-metals-6020	lndfill-app1-voc-group	11
12-001	MW-7	Water	GRAB	10/10/23	10:37	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	12
13-001	Duplicate	Water	GRAB	10/10/23	✓	1	lndfill-app1-voc-group	lndfill-app1-metals-6020	13

Todd Whipple 10/11/23
Relinquished By Date/Time

Maher 10/11/23 10:03
Relinquished By Date/Time

Remarks:

Received By Date/Time

Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Appendix D

Summary of Turbidity Data

FMC Sanitary Landfill

Field Turbidity Over Time

No-Purge Sampling

Well	10/14/14 NTU	1/12/15 NTU	4/14/15 NTU	7/21/15 NTU	9/22/15 NTU	11/24/15 NTU	4/12/16 NTU	10/11/16 NTU	1/17/17 NTU	4/20/17 NTU	10/12/17 NTU	4/23/18 NTU	7/5/18 NTU	10/12/18 NTU	4/16/19 NTU	10/17/19 NTU	4/9/20 NTU	10/8/20 NTU	4/15/21 NTU	10/28/21 NTU	4/13/22 NTU	10/19/22 NTU	4/6/23 NTU	10/10/23 NTU	Max	Min	Ave	Std Dev
2	23.84		196		8.03		108	132.9		263	30.29	386		21.0	3.72	42.7	164.5	51.4	77.78	26.51	40.15	119.00	126	3.96	**386.00**	**3.72**	**96.04**	**100.72**
3	0.6		0.3		0.41		0.21	0.2		1.61	0.19	1.73	1.37	1.4	0.82	0.62	1.68	3.44	1.38	1.73	1.29	2.83	2.48	3.61	**3.61**	**0.19**	**1.40**	**1.04**
4	113.8	2.44	1.95		1.35		5.79	1.71	40	78.6	0.83	98.9		18.9	2.11	60	1.22	1.49	2.1	0.8	2.6	134	706	3.78	**706.00**	**0.80**	**60.87**	**153.81**
5	5.82		1.74		6.17	0.21	1.82	5.75		7.32	1.9	3.25		0.8	1.81	1.95	1.08	1.9	2.03	0.96	1.33	2.00	19.2	4.08	**19.20**	**0.21**	**3.56**	**4.20**
6	22.48		152.3		51.75	2.88	106.2	47.97	265	204	1.7	12.6		1.85	13.6	29.8	12.83	7.33	65.82	4.18	7.49	8.7	78	22.29	**265.00**	**1.70**	**53.27**	**72.36**
7	0.71		1.01		2.29		5.47	2.4	1.52	1.32	0.17	0.77		1.92	5.02	0.84	0.71	1.27	1.64	2.91	2.87	1.11	1.25	1.31	**5.47**	**0.17**	**1.83**	**1.38**
9	1.01	2.87	0.42	1.34	0.25		0.14	0.56		0.43	0.24	0.39		2.24	0.35	1.03	2.84	1.58	1.71	0.91	1.08	1.33	2.54	1.9	**2.87**	**0.14**	**1.20**	**0.88**
11	0.96		1.21		11.99		0.43	0.56		2.16	0.26	0.44		0.62	0.59	0.57	0.79	1.86	2.29	1.79	1.81	4.05	11.7	1.75	**11.99**	**0.26**	**2.41**	**3.45**
12	3.08		0.53		0.06		0.23	0.57		1.23	0.32	1.1		0.44	0.42	0.4	0.89	2.06	1.91	0.81	1.3	12.1	3.77	3.03	**12.10**	**0.06**	**1.80**	**2.71**
14	2.95	1.81	0.72	6.67	0.12		0.13	0.31		0.56	0.15	1.89		0.78	2.96	0.76	0.88	1.1	1.61	0.42	0.97	1.55	3.52	2.49	**6.67**	**0.12**	**1.54**	**1.55**
15	1.73		1.06		0.57		0.51	12.55		0.77	0.14	1.6		0.4	0.52	0.84	1.14	1.68	1.57	0.67	0.98	1.86	10.7	2.58	**12.55**	**0.14**	**2.20**	**3.39**
16																0.66	0.67	1.35	2.7	1.25	0.6	2.17	1.83	3.53	**3.53**	**0.60**	**1.64**	**1.01**
Max	**113.80**	**21.20**	**196.00**	**8.37**	**51.75**	**2.88**	**108.00**	**132.90**	**265.00**	**263.00**	**30.29**	**386.00**	**1.37**	**23.30**	**13.60**	**60.00**	**164.50**	**51.38**	**77.78**	**26.51**	**40.15**	**134.00**	**706.00**	**22.29**				
Min	**0.52**	**1.81**	**0.10**	**1.34**	**0.04**	**0.21**	**0.13**	**0.20**	**0.80**	**0.43**	**0.14**	**0.39**	**1.37**	**0.40**	**0.35**	**0.40**	**0.67**	**1.10**	**1.38**	**0.42**	**0.60**	**1.11**	**1.25**	**1.31**				
Median	**3.02**	**2.87**	**1.14**	**6.67**	**1.82**	**1.55**	**1.35**	**2.06**	**20.76**	**1.47**	**0.26**	**1.73**	**1.37**	**1.63**	**1.81**	**0.84**	**1.11**	**1.77**	**1.97**	**1.11**	**1.32**	**2.50**	**7.24**	**3.28**				
Average	**14.69**	**7.60**	**28.44**	**5.46**	**6.85**	**1.55**	**18.99**	**16.26**	**76.83**	**46.80**	**3.29**	**46.24**	**1.37**	**6.14**	**2.90**	**11.68**	**15.77**	**6.37**	**13.55**	**3.58**	**5.21**	**24.23**	**80.58**	**4.53**				

Appendix E

Summary of Prediction Limit Exceedances

Spring 2016†		**Fall 2016**	
MW-2	Arsenic	MW-2	Cobalt
			Nickel
			Zinc
MW-4	None	MW-4	Zinc
MW-5	None	MW-5	Barium
MW-6	None	MW-6	Cobalt
MW-7	None	MW-7	Nickel
MW-15	None	MW-15	Bis (2ethylhexyl) phthalate
SW-1	None	SW-1	Cobalt
			Nickel

† Predates use of the validated Site Prediction Limits.

Spring 2017		**Fall 2017**	
MW-2	Arsenic	MW-2	Arsenic
	Cobalt		Cobalt
	Nickel		Nickel
			Zinc
			Bis (2ethylhexyl) phthalate
MW-4	Chromium	MW-4	None
	Cobalt		
	Copper		
	Nickel		
	Zinc		
MW-5	Barium	MW-5	Barium
	Zinc		
MW-6	Cobalt	MW-6	Zinc
MW-7	Zinc	MW-7	None
MW-15	None	MW-15	Bis (2ethylhexyl) phthalate
SW-1	Cobalt	SW-1	Connect to LCS
	Nickel		

Spring 2018		**Fall 2018**	
MW-2	Arsenic	MW-2	Cobalt
	Cobalt		Nickel
	Zinc		Zinc
MW-3	Zinc	MW-3	Zinc
MW-4	Cobalt	MW-4	Cobalt
	Nickel		Nickel
	Zinc		Zinc
	Bis (2ethylhexyl) phthalate		
MW-5	Barium	MW-5	Barium
	Zinc		Zinc
MW-6	Zinc	MW-6	Zinc
	Bis (2ethylhexyl) phthalate		
MW-7	None	MW-7	Zinc
MW-11	None	MW-11	Zinc
MW-12	None	MW-12	Zinc
MW-15	None	MW-15	Zinc
			Bis (2ethylhexyl) phthalate

Spring 2019		**Fall 2019**	
MW-2	Arsenic	MW-2	Nickel
	Cobalt		Zinc
	Nickel		Bis (2ethylhexyl) phthalate
	Zinc		
MW-3	Zinc	MW-3	Bis (2ethylhexyl) phthalate
MW-4	None	MW-4	Cobalt
			Copper
			Nickel
MW-5	None	MW-5	Barium
			Zinc
MW-6	Zinc	MW-6	Bis (2ethylhexyl) phthalate
MW-7	Zinc	MW-7	None
MW-11	Zinc	MW-11	None
MW-12	Bis (2ethylhexyl) phthalate	MW-12	None
MW-15	Zinc	MW-15	Zinc
	Bis (2ethylhexyl) phthalate		Bis (2ethylhexyl) phthalate

Spring 2020		**Fall 2020**	
MW-2	Cobalt	MW-2	Cobalt
MW-6	Cobalt	MW-6	None
MW-12	Bis (2ethylhexyl) phthalate	MW-12	None
MW-16	Cobalt	MW-16	Bis (2ethylhexyl) phthalate
	Nickel		

Spring 2021		**Fall 2021**	
MW-2	Cobalt	MW-2	Bis (2ethylhexyl) phthalate
MW-16	None	MW-16	Bis (2ethylhexyl) phthalate

Spring 2022		**Fall 2022**	
MW-2	Cobalt	MW-2	Arsenic
	Bis (2ethylhexyl) phthalate		Cobalt
			Nickel
MW-6	None	MW-6	Arsenic
			Cobalt
MW-7	None	MW-7	Nickel
MW-12	Copper	MW-12	None
MW-16	None	MW-16	Copper
			Bis (2ethylhexyl) phthalate

Spring 2023		**Fall 2023**	
MW-6	Arsenic	MW-6	None
	Bis (2ethylhexyl) phthalate		

Appendix F

Summary of Results - On-Going Assessment Monitoring

Bis(2-ethylhexyl)phthalate detections (ug/L)

Date	MW-11	MW-12	MW-15	MW-16	MW-2	MW-3	MW-6	MW-7
10/21/2013	NT	NT	**50.0**	---	NT	NT	NT	NT
4/8/2014	<8	NT	<8	---	NT	NT	NT	NT
10/14/2014	<8	NT	<10	---	NT	NT	NT	NT
4/14/2015	NT	NT	**11.0**	---	NT	NT	NT	NT
9/22/2015	NT	NT	<10	---	NT	NT	NT	NT
4/12/2016	NT	NT	<10	---	NT	NT	NT	NT
10/11/2016	NT	NT	**19.0**	---	<8	NT	NT	NT
4/20/2017	NT	NT	<6	---	NT	NT	<6	<6
10/12/2017	NT	NT	**15.0**	---	**35.0**	NT	NT	NT
4/23/2018	NT	NT	<6	---	<6	NT	**6.0**	<6
7/5/2018	NT	NT	NT	---	NT	NT	**8.0**	NT
10/12/2018	NT	NT	**6.0**	---	<6	<6	<6	NT
4/16/2019	<6	**16.0**	**7.0**	---	<6	NT	<6	NT
10/17/2019	NT	<6	**7.0**	---	**25.0**	<6	**10.0**	NT
4/9/2020	NT	**16.0**	<6	NT	<6	NT	<6	NT
10/8/2020	NT	<6	<6	**8.0**	<6	NT	<6	NT
12/9/2020	NT	NT	NT	<6	NT	NT	NT	NT
4/15/2021	NT	<6	<6	NT	<6	NT	<6	NT
10/28/2021	NT	<6	<6	**6.0**	**12.0**	NT	<6	NT
4/13/2022	NT	<6	<6	lab error	**11.0**	NT	<6	NT
10/19/2022	NT	NT	NT	**19.0**	<6	NT	NT	NT
4/6/2023	NT	NT	NT	<6	NT	NT	**7.0**	<6
10/10/2023	NT	NT	NT	NT	NT	NT	<6	NT

Appendix G

Leachate Collection System Performance Evaluation Report

Appendix G.1 - Treatment Agreement with Osage POTW

AMENDMENT TO NPDES PERMIT

Iowa NPDES Permit Number:	6663001	Date of Permit Issuance:	May 1, 2019
EPA Number:	IA00329556	Date of Permit Expiration:	April 30, 2024
		Date of this Amendment:	November 1, 2020

Name and Mailing Address of Applicant:
City of Osage
806 Main St
PO Box 29
Osage, IA 50461-0029

Identity and Location of Facility:
Osage City of STP
Off 357th St, West of town
Osage, IA 50461

Section 26, T98N, R17W
Mitchell County

Pursuant to the authority of Iowa Code Section 455B.174, and of Rule 567-64.3, Iowa Administrative Code, the Director of the Iowa Department of Natural Resources has issued the above referenced permit. Pursuant to the same authority, the Director hereby amends said permit as set forth below:

The permit is being amended to remove total Kjeldahl nitrogen and ammonia-nitrogen limits from Mitchell County Industrial Pretreatment Facility and replace them with total nitrogen limits. The amendment also adds Valent Biosciences (Utility & Low Load) as a significant industrial user, including adding monitoring and limits. The enclosed pages replace pages 23 – 33 of your original permit.

For the Department of Natural Resources:

By_____
Julie Faas
NPDES Section
ENVIRONMENTAL SERVICES DIVISION

IOWA DEPARTMENT OF NATURAL RESOURCES

National Pollutant Discharge Elimination System (NPDES) Permit

OWNER NAME & ADDRESS

CITY OF OSAGE
806 MAIN STREET
PO BOX 29
OSAGE, IA 50461-0029

FACILITY NAME & ADDRESS

OSAGE CITY OF STP
OFF OF 357TH STREET, WEST OF TOWN
OSAGE, IA 50461-0029

Section 26, T98N, R17W
Mitchell County

IOWA NPDES PERMIT NUMBER: 6663001
DATE OF ISSUANCE: 05/01/2019
DATE OF EXPIRATION: 04/30/2024

YOU ARE REQUIRED TO FILE FOR RENEWAL OF THIS PERMIT BY: 11/02/2023
EPA NUMBER: IA0032956

This permit is issued pursuant to the authority of section 402(b) of the Clean Water Act (33 U.S.C 1342(b)), Iowa Code section 455B.174, and rule 567-64.3, Iowa Administrative Code. You are authorized to operate the disposal system and to discharge the pollutants specified in this permit in accordance with the effluent limitations, monitoring requirements and other terms set forth in this permit.

You may appeal any condition of this permit by filing a written notice of appeal and request for administrative hearing with the director of this department within 30 days of your receipt of this permit.

Any existing unexpired Iowa operation permit or Iowa NPDES permit previously issued by the department for the facility identified above is revoked by the issuance of this permit. This provision does not apply to any authorization to discharge under the terms and conditions of a general permit issued by the department or to any permit issued exclusively for the discharge of stormwater.

FOR THE DEPARTMENT OF NATURAL RESOURCES

By _____

Ryan Olive
NPDES Section
ENVIRONMENTAL SERVICES DIVISION

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Outfall No.: 001 DISCHARGE FROM AN ACTIVATED SLUDGE WASTEWATER TREATMENT FACILITY.

Receiving Stream: SUGAR CREEK

Route of Flow: SUGAR CREEK

Class A2 waters are secondary contact recreational use waters in which recreational or other uses may result in contact with the water that is either incidental or accidental. During the recreational use, the probability of ingesting appreciable quantities of water is minimal. Class A2 uses include fishing, commercial and recreational boating, any limited contact incidental to shoreline activities and activities in which users do not swim or float in the water body while on a boating activity.

Waters designated Class B(WW2) are those in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.

Bypasses from any portion of a treatment facility or from a sanitary sewer collection system designed to carry only sewage are prohibited.

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Effluent Limitations:

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

001 DISCHARGE FROM AN ACTIVATED SLUDGE WASTEWATER TREATMENT FACILITY.

Outfall: 001 Effective Dates: 05/01/2019 to 04/30/2024			
Parameter	**Season**	**Limit Type**	**Limits**
CBOD5			**85% Removal Required**
	Yearly	7 Day Average	40 MG/L 357 LBS/DAY
	Yearly	30 Day Average	25 MG/L 223 LBS/DAY
TOTAL SUSPENDED SOLIDS			**85% Removal Required**
	Yearly	7 Day Average	45 MG/L 402 LBS/DAY
	Yearly	30 Day Average	30 MG/L 268 LBS/DAY
ACUTE TOXICITY, CERIODAPHNIA			
	Yearly	Daily Maximum	1 NO TOXICITY
ACUTE TOXICITY, PIMEPHALES			
	Yearly	Daily Maximum	1 NO TOXICITY
PH			
	Yearly	Daily Maximum	9.0 STD UNITS
	Yearly	Daily Minimum	6.5 STD UNITS
E. COLI			
	Yearly	Geometric Mean	126 #/100 ML

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Outfall: 001 Effective Dates: 09/01/2023 to 04/30/2024			
Parameter	**Season**	**Limit Type**	**Limits**
AMMONIA NITROGEN (N)			
	JAN	30 Day Average	4.1 MG/L 35.8 LBS/DAY
	JAN	Daily Maximum	15.3 MG/L 136.2 LBS/DAY
	FEB	30 Day Average	4.7 MG/L 41.4 LBS/DAY
	FEB	Daily Maximum	14.3 MG/L 127.4 LBS/DAY
	MAR	30 Day Average	2.5 MG/L 21.9 LBS/DAY
	MAR	Daily Maximum	14.7 MG/L 131.7 LBS/DAY
	APR	30 Day Average	1.8 MG/L 16.0 LBS/DAY
	APR	Daily Maximum	15.8 MG/L 140.7 LBS/DAY
	MAY	30 Day Average	2.1 MG/L 18.2 LBS/DAY
	MAY	Daily Maximum	15.2 MG/L 136.1 LBS/DAY
	JUN	30 Day Average	1.6 MG/L 13.7 LBS/DAY
	JUN	Daily Maximum	14.5 MG/L 129.4 LBS/DAY
	JUL	30 Day Average	1.2 MG/L 10.5 LBS/DAY
	JUL	Daily Maximum	17.6 MG/L 157.6 LBS/DAY
	AUG	30 Day Average	1.1 MG/L 10.0 LBS/DAY
	AUG	Daily Maximum	16.3 MG/L 145.4 LBS/DAY
	SEP	30 Day Average	1.3 MG/L 11.1 LBS/DAY
	SEP	Daily Maximum	16.5 MG/L 147.8 LBS/DAY
	OCT	30 Day Average	1.9 MG/L 16.3 LBS/DAY
	OCT	Daily Maximum	15.8 MG/L 140.7 LBS/DAY
	NOV	30 Day Average	2.8 MG/L 24.4 LBS/DAY
	NOV	Daily Maximum	14.7 MG/L 131.6 LBS/DAY
	DEC	30 Day Average	3.0 MG/L 26.0 LBS/DAY
	DEC	Daily Maximum	16.0 MG/L 143.0 LBS/DAY

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Outfall: 001 Effective Dates: 09/01/2023 to 04/30/2024			
Parameter	**Season**	**Limit Type**	**Limits**
NITROGEN, TOTAL (AS N)			
	Yearly	30 Day Average	239.2 LBS/DAY
	Yearly	Daily Maximum	391.5 LBS/DAY
DISSOLVED OXYGEN			
	Yearly	Daily Minimum	4.9 MG/L

Outfall: 001 Effective Dates: 04/01/2024 to 04/30/2024			
Parameter	**Season**	**Limit Type**	**Limits**
COPPER, TOTAL (AS CU)			
	Yearly	30 Day Average	0.01757 MG/L 0.1563 LBS/DAY
	Yearly	Daily Maximum	0.02700 MG/L 0.2411 LBS/DAY

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums and 30-day and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(e) Any records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(f) Chapter 63 of the Iowa Administrative Code contains further explanation of these monitoring requirements.

Facility Name: OSAGE CITY OF STP
Permit Number: 6663001

Outfall	Wastewater Parameter	Sample Frequency	Sample Type	Monitoring Location
The following monitoring requirements shall be in effect from 05/01/2019 to 04/30/2024				
001	FLOW	7/WEEK OR DAILY	CALCULATED	RAW WASTE - TOTAL
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	RAW WASTE - STORM WATER BASIN RETURN
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	RAW WASTE - STORM WATER BASIN INFLUENT
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	RAW WASTE - MECHANICAL PLANT INFLUENT
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	2 TIMES PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	NITROGEN, TOTAL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	NITROGEN, TOTAL KJELDAHL (AS N)	1 EVERY MONTH	24 HOUR COMPOSITE	RAW WASTE
001	PH	2 TIMES PER WEEK	GRAB	RAW WASTE
001	PHOSPHORUS, TOTAL (AS P)	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	TEMPERATURE	2 TIMES PER WEEK	GRAB	RAW WASTE
001	TOTAL SUSPENDED SOLIDS	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	FINAL EFFLUENT
001	ACUTE TOXICITY, CERIODAPHNIA	1 EVERY 12 MONTHS	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	ACUTE TOXICITY, PIMEPHALES	1 EVERY 12 MONTHS	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	AMMONIA NITROGEN (N)	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Outfall	Wastewater Parameter	Sample Frequency	Sample Type	Monitoring Location
The following monitoring requirements shall be in effect from 05/01/2019 to 04/30/2024				
001	CBOD5	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	CHLORIDE (AS CL)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	COPPER, TOTAL (AS CU)	1 EVERY 2 WEEKS	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	DISSOLVED OXYGEN	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	E. COLI	GEO. MEAN 1/3 MONTHS	GRAB	EFFLUENT AFTER DISINFECTION
001	NITROGEN, TOTAL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	PH	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	PHOSPHORUS, TOTAL (AS P)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	TEMPERATURE	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	TOTAL SUSPENDED SOLIDS	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Special Monitoring Requirements

Outfall #	Description
001	**FLOW**

To calculate the total raw waste flow (TOTAL RAW WASTE FLOW = MECHANICAL PLANT INFLUENT+ INFLUENT TO STORM WATER RETENTION BASIN- STORM WATER BASIN RETURN)

NITROGEN, TOTAL (AS N)

Total nitrogen shall be determined by testing for Total Kjeldahl Nitrogen (TKN) and nitrate + nitrite nitrogen and reporting the sum of the TKN and nitrate + nitrite results (reported as N). Nitrate + nitrite can be analyzed together or separately.

E. COLI

The limit for E. coli of 126 org/100 ml specified on page 3 of this permit for outfall(s) 001 is a geometric mean. The disinfection season is established in the Iowa Administrative Code, Subparagraph 567 IAC 61.3(3)“a”(1), and is in effect year-round. Any disinfection system (chlorine, UV light, etc.) shall be operated to comply with the limit during the entire disinfection season whenever wastewater is being discharged from outfall(s) 001.

The facility must collect and analyze a minimum of five samples in one calendar month during each sample period during the year. The recreational season sample periods are March 15 – May 31, June 1 – August 31, and September 1 – November 15. The winter sampling period is November 16 – March 14. For example, for the winter sample period, the operator may choose January as the calendar month to collect the 5 individual E. coli samples to determine compliance with the limits. The operator may also choose the months of December or February as well, as long as each of the 5 samples are collected during a single calendar month. The same principle applies to the other three sample periods during the year. The following requirements apply to the individual samples collected in one calendar month:
Samples must be spaced over one calendar month.
No more than one sample can be collected on any one day.
There must be a minimum of two days between each sample.
No more than two samples may be collected in a period of seven consecutive days.

If the effluent has been disinfected using chlorine, ultraviolet light (UV), or any other process intended to disrupt the biological integrity of the E. coli, the samples shall be analyzed using the Most Probable Number method found in Standard Method 9223B (Colilert® or Colilert-18® made by IDEXX Laboratories, Inc.). If the effluent has not been disinfected the samples may be analyzed using either the MPN method above or EPA Method 1603: Escherichia coli (E. coli) in water by membrane filtration using modified membrane-thermotolerant E. coli agar (modified mTEC) or mColiBlue-24® made by the Hach Company.

The geometric mean must be calculated using all valid sample results collected during a month. The geometric mean formula is as follows: Geometric Mean = (Sample one * Sample two * Sample three * Sample four *Sample five…Sample N)^(1/N), which is the Nth root of the result of the multiplication of all of the sample results where N = the number of samples. If a sample result is a less than value, the value reported by the lab without the less than sign should be used in the geometric mean calculation.

E. COLI (Continued)
The geometric mean can be calculated in one of the following ways:
Use a scientific calculator that can calculate the powers of numbers.
Enter the samples in Microsoft Excel and use the function "GEOMEAN" to perform the calculation.
Use the geometric mean calculator on the Iowa DNR webpage at: http://www.iowadnr.gov/Environmental-Protection/Water-Quality/NPDES-Wastewater-Permitting/NPDES-Operator-Information/Bacteria-Sampling

COPPER, TOTAL (AS CU)

EPA approved test methods shall be used to test at or below the limits on pages 5 of this permit. If a sample result is not at a detection level which is low enough to demonstrate compliance with the limit in the permit, the facility will be considered non-compliant with that limit.

Facility Name: OSAGE CITY OF STP
Permit Number: 6663001

Significant Industrial User Discharges:

Significant Industrial User: A-Z DRYING COMPANY (SOUTH PLANT)

Outfall #	**Outfall Description**
002	**SOUTH PLANT EFFLUENT PRIOR TO DISCHARGE TO CITY SEWER.**

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

A-Z DRYING COMPANY (SOUTH PLANT)
Outfall: 002 Effective Dates: 05/01/2019 to 04/30/2024

Parameter	Season	Limit Type	Limit Values
FLOW			
	Yearly	30 Day Average	0.075 MGD
	Yearly	DAILY MAXIMUM	0.175 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	400 LBS/DAY
	Yearly	DAILY MAXIMUM	500 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	475 LBS/DAY
	Yearly	DAILY MAXIMUM	710 LBS/DAY
PH			
	Yearly	DAILY MAXIMUM	9.0 STD UNITS
	Yearly	DAILY MINIMUM	6.0 STD UNITS

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums and 30-day and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(e) Any records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(f) Chapter 63 of the Iowa Administrative Code contains further explanation of these monitoring requirements.

Facility Name: OSAGE CITY OF STP
Permit Number: 6663001

A-Z DRYING COMPANY (SOUTH PLANT)				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
002	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
002	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
002	PH	1 TIME PER WEEK	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
002	TOTAL SUSPENDED SOLIDS	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER

Facility Name: OSAGE CITY OF STP
Permit Number: 6663001

Significant Industrial User Discharges:

Significant Industrial User: FOX RIVER MILLS INC.

Outfall #	**Outfall Description**
001	**EFFLUENT (WASTE) PRIOR TO DISCHARGE TO MUNICIPAL COLLECTION SYSTEM.**

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

FOX RIVER MILLS INC.
Outfall: 001 Effective Dates: 05/01/2019 to 04/30/2024

Parameter	Season	Limit Type	Limit Values
FLOW			
	Yearly	30 Day Average	0.150 MGD
	Yearly	DAILY MAXIMUM	0.200 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	350 LBS/DAY
	Yearly	DAILY MAXIMUM	500 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	200 LBS/DAY
	Yearly	DAILY MAXIMUM	350 LBS/DAY
PH			
	Yearly	DAILY MAXIMUM	9.3 STD UNITS
	Yearly	DAILY MINIMUM	5.7 STD UNITS

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums and 30-day and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(e) Any records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(f) Chapter 63 of the Iowa Administrative Code contains further explanation of these monitoring requirements.

Facility Name: OSAGE CITY OF STP
Permit Number: 6663001

FOX RIVER MILLS INC.				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 TIME PER WEEK	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Significant Industrial User Discharges:

Significant Industrial User: FLOYD-MITCHELL SOLID WASTE MANAGEMENT AGENCY

Outfall #	**Outfall Description**
001	**LANDFILL LEACHATE TRANSPORTED TO THE TREATMENT PLANT FOR DISPOSAL.**

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

FLOYD-MITCHELL SOLID WASTE MANAGEMENT AGENCY
Outfall: 001 Effective Dates: 05/01/2019 to 04/30/2024

Parameter	Season	Limit Type	Limit Values
FLOW			
	Yearly	30 Day Average	0.0100 MGD
	Yearly	DAILY MAXIMUM	0.0120 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	50 LBS/DAY
	Yearly	DAILY MAXIMUM	60 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	35 LBS/DAY
	Yearly	DAILY MAXIMUM	65 LBS/DAY
NITROGEN, TOTAL KJELDAHL (AS N)			
	Yearly	30 Day Average	13 LBS/DAY
	Yearly	DAILY MAXIMUM	24 LBS/DAY
PH			
	Yearly	DAILY MAXIMUM	9.0 STD UNITS
	Yearly	DAILY MINIMUM	6.2 STD UNITS

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums and 30-day and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(e) Any records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(f) Chapter 63 of the Iowa Administrative Code contains further explanation of these monitoring requirements.

Facility Name: OSAGE CITY OF STP
Permit Number: 6663001

FLOYD-MITCHELL SOLID WASTE MANAGEMENT AGENCY				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	1 EVERY BATCH	ESTIMATED	PRIOR TO DISCHARGE TO CITY SEWER
001	NITROGEN, TOTAL KJELDAHL (AS N)	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	SANITARY LANDFILL LEACHATE	1 EVERY 12 MONTHS	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

FLOYD-MITCHELL SOLID WASTE MANAGEMENT AGENCY Special Monitoring Requirements

Outfall #	Description
001	**SANITARY LANDFILL LEACHATE**
	REFER TO PAGES 21 AND 22 LISTING ADDITIONAL LEACHATE MONITORING REQUIREMENTS.

ADDITIONAL MONITORING REQUIREMENTS – FLOYD-MITCHELL SOLID WASTE MANAGEMENT AGENCY

The permittee shall analyze a representative sample of the leachate discharge from the Floyd-Mitchell Solid Waste Management Agency at least annually for each of the pollutants listed below.

Conventional Pollutants and Metals

Biochemical Oxygen Demand (BOD_5)
Total Organic Carbon
Total Dissolved Solids
Total Suspended Solids
Ammonia Nitrogen
pH
Arsenic, Total (as As)
Barium, Total (as Ba)
Cadmium, Total (as Cd)
Chromium, Total (as Cr)
Copper, Total (as Cu)
Iron, Total (as Fe)
Lead, Total (as Pb)
Mercury, Total (as Hg)
Nickel, Total (as Ni)
Selenium, Total (as Se)
Silver, Total (as Ag)
Zinc, Total (as Zn)

Volatile Compounds

Method of Analysis: EPA Methods 624 or 1624

Chloromethane (methyl chloride)
Bromomethane (methyl bromide)
Vinyl chloride
Chloroethane (ethyl chloride)
Methylene chloride (dichloromethane)
1,1-Dichloroethene (1,1-dichloroethylene)
1,1-Dichloroethane
1,2-Dichloroethene (1,2-dichloroethylene)
Chloroform
1,2-Dichloroethane
1,1,1-Trichloroethane (methyl chloroform)
Carbon tetrachloride
Bromodichloromethane
1,1,2,2-Tetrachloroethane
1,2-Dichloropropane
1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
2-Chloroethyl vinyl ether
Bromoform
Tetrachloroethene
Toluene
Chlorobenzene
Ethylbenzene

Acid Extractable Compounds

Method of Analysis: EPA Methods 625 or 1625

2-Chlorophenol
2-Nitrophenol
2,4-Dimethylphenol
Benzoic acid
2,4-Dichlorophenol
4-Chloro-3-methylphenol
2,4,6-Trichlorophenol
2,4,5-Trichlorophenol
2,4-Dinitrophenol
4-Nitrophenol
4,6-Dinitro-2-methylphenol
Pentachlorophenol

Chlorinated Hydrocarbon Insecticides

Methods of Analysis: EPA Methods 608 or 625

Beta BHC
Delta BHC
Gamma BHC
Heptachlor
Aldrin
Heptachlor epoxide
Endosulfan
Dieldrin
4,4'-DDE
Endrin
Endosulfan II
4,4'-DDD
Endosulfan sulfate
4,4'-DDT
Endrin aldehyde
Chlordane
Toxaphene

Polychlorinated Biphenyls

Methods of Analysis: EPA Methods 608 or 625

Arochlor-1016
Arochlor-1221
Arochlor-1232
Arochlor-1242
Arochlor-1248
Arochlor-1254
Arochlor-1260

Base/Neutral Compounds

Methods of Analysis: EPA Methods 625 or 1625

bis (2-chloroethyl) ether
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Benzyl alcohol
1,2-Dichlorobenzene
bis (2-chloroisopropyl) ether
N-Nitroso-dipropylamine
Hexachloroethane
Nitrobenzene
Isophorone
bis (2-chloroethoxy) methane
1,2,4-Trichlorobenzene
Naphthalene
Hexachlorobutadiene
Hexachlorocyclopentadiene
2-Chloronaphthalene
Dimethyl phthalate
Acenaphthylene
Acenaphthene
Dibenzofuran
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Diethyl phthalate
4-Chlorophenyl phenyl ether
Fluorene
N-Nitrosodiphenylamine
4-Bromophenyl phenyl ether
Hexachlorobenzene
Phenanthrene
Anthracene
Di-n-butyl phthalate
Fluoranthene
Pyrene
Butyl benzyl phthalate
3,3'-Dichlorobenzidine
Benzo (a) anthracene
bis (2-ethylhexyl) phthalate
Chrysene
Di-n-octyl phthalate
Benzo (b) fluoranthene
Benzo (k) fluoranthene
Benzo (a) pyrene
Indeno (1,2,3-cd) pyrene
Dibenz (a,h) anthracene
Benzo (g,h,i) perylene

Facility Name: OSAGE CITY OF STP
Permit Number: 6663001

Significant Industrial User Discharges:

Significant Industrial User: MITCHELL COUNTY INDUSTRIAL PRETREATMENT FACILITY

Outfall #	Outfall Description
001	EFFLUENT (WASTE) PRIOR TO DISCHARGE TO MUNICIPAL COLLECTION SYSTEM

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

MITCHELL COUNTY INDUSTRIAL PRETREATMENT FACILITY ***Outfall: 001 Effective Dates: 05/01/2019 to 04/30/2024***			
Parameter	**Season**	**Limit Type**	**Limit Values**
FLOW			
	Yearly	30 Day Average	0.250 MGD
	Yearly	DAILY MAXIMUM	0.300 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	625 LBS/DAY
	Yearly	DAILY MAXIMUM	750 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	535 LBS/DAY
	Yearly	DAILY MAXIMUM	640 LBS/DAY
OIL AND GREASE			
	Yearly	30 Day Average	200 MG/L
	Yearly	DAILY MAXIMUM	300 MG/L
PH			
	Yearly	DAILY MINIMUM	6.0 STD UNITS
NITROGEN, TOTAL (AS N)			
	Yearly	30 Day Average	150 LBS/DAY
	Yearly	DAILY MAXIMUM	180 LBS/DAY
Outfall: 001 Effective Dates: 11/01/2020 to 04/30/2024			
PH			
	Yearly	DAILY MAXIMUM	9.5 STD UNITS

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:
(1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
(2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: OSAGE CITY OF STP
Permit Number: 6663001

MITCHELL COUNTY INDUSTRIAL PRETREATMENT FACILITY				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	2 TIMES PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	NITROGEN, TOTAL (AS N)	2 TIMES PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	OIL AND GREASE	1 TIME PER WEEK	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	2 TIMES PER WEEK	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Significant Industrial User Discharges:

Significant Industrial User: VALENT BIOSCIENCES LLC (Utility & Low Load)

Outfall #	Outfall Description
001	Cooling tower blowdown, RO concentrate, boiler blowdown water, low loading water

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

VALENT BIOSCIENCES LLC (Utility & Low Load)
Outfall: 001 Effective Dates: 11/01/2020 to 04/30/2024

Parameter	Season	Limit Type	Limit Values
FLOW			
	Yearly	30 Day Average	0.100 MGD
	Yearly	DAILY MAXIMUM	0.25 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	200 LBS/DAY
	Yearly	DAILY MAXIMUM	250 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	100 LBS/DAY
	Yearly	DAILY MAXIMUM	150 LBS/DAY
AMMONIA NITROGEN (N)			
	Yearly	30 Day Average	45 LBS/DAY
	Yearly	DAILY MAXIMUM	54 LBS/DAY
NITROGEN, TOTAL KJELDAHL (AS N)			
	Yearly	30 Day Average	85 LBS/DAY
	Yearly	DAILY MAXIMUM	105 LBS/DAY
OIL AND GREASE			
	Yearly	30 Day Average	200 MG/L
	Yearly	DAILY MAXIMUM	300 MG/L
PH			
	Yearly	DAILY MAXIMUM	9.5 STD UNITS
	Yearly	DAILY MINIMUM	6.0 STD UNITS

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:
(1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
(2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: OSAGE CITY OF STP
Permit Number: 6663001

VALENT BIOSCIENCES LLC (Utility & Low Load)				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
001	AMMONIA NITROGEN (N)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	NITROGEN, TOTAL KJELDAHL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	OIL AND GREASE	1 EVERY 2 WEEKS	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 TIME PER WEEK	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1 EVERY 2 WEEKS	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Outfall Number: 001

Ceriodaphnia and Pimephales Toxicity Effluent Testing

1. For facilities that have not been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within three (3) months of permit issuance. For facilities that have been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within twelve months (12) of the last toxicity test.

2. The test organisms that are to be used for acute toxicity testing shall be Ceriodaphnia dubia and Pimephales promelas. The acute toxicity testing procedures used to demonstrate compliance with permit limits shall be those listed in 40 CFR Part 136 and adopted by reference in rule 567 IAC 63.1(1). The method for measuring acute toxicity is specified in USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. USEPA, Office of Water, Washington, D.C., EPA 821-R-02-012.

3. The diluted effluent sample must contain a minimum of 99.60 % effluent and no more than 0.40 % of culture water.

4. One valid positive toxicity result will require, at a minimum, quarterly testing for effluent toxicity until three successive tests are determined not to be positive.

5. Two successive valid positive toxicity results or three positive results out of five successive valid effluent toxicity tests will require a toxicity reduction evaluation to be completed to eliminate the toxicity.

6. A non-toxic test result shall be indicated as a "1" on the monthly operation report. A toxic test result shall be indicated as a "2" on the monthly operation report. DNR Form 542-1381 shall also be submitted to the DNR field office along with the monthly operation report.

Ceriodaphnia and Pimephales Toxicity Effluent Limits

The maximum limit of "1" for the parameters Acute Toxicity, Ceriodaphnia and Acute Toxicity, Pimephales means no positive toxicity results.

Definition: "Positive toxicity result" means a statistical difference of mortality rate between the control and the diluted effluent sample. For more information, see USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, USEPA, Office of Water, Washington, D.C., EPA 821-R-02-012.

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Design Capacity

Design: 2

The design capacity for the treatment works is specified in Construction Permit Number 2014-0010-S, issued Wednesday, July 10, 2013. The treatment plant is designed to treat:

* An average dry weather (ADW) flow of 0.9680 Million Gallons Per Day (MGD).
* An average wet weather (AWW) flow of 1.0710 Million Gallons Per Day (MGD).
* A maximum wet weather (MWW) flow of 1.6930 Million Gallons Per Day (MGD).
* A design 5-day biochemical oxygen demand (BOD5) load of 2465 lbs/day.
* A design Total Kjeldahl Nitrogen (TKN) load of 317.00 lbs/day.
* A design Total Suspended Solids (TSS) load of 2830 lbs/day.

Operator Certification Type/Grade: WW/III

Wastes in such volumes or quantities as to exceed the design capacity of the treatment works or reduce the effluent quality below that specified in the operation permit of the treatment works are considered to be a waste which interferes with the operation or performance of the treatment works and are prohibited by subrule IAC 567-62.1(7).

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

SEWAGE SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

"Sewage sludge" is solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge does not include the grit and screenings generated during preliminary treatment.

1. The permittee shall comply with all existing Federal and State laws and regulations that apply to the use and disposal of sewage sludge and with technical standards developed pursuant to Section 405(d) of the Clean Water Act when such standards are promulgated. If an applicable numerical limit or management practice for pollutants in sewage sludge is promulgated after issuance of this permit that is more stringent than a sludge pollutant limit or management practice specified in existing Federal or State laws or regulations, this permit shall be modified, or revoked and reissued, to conform to the regulations promulgated under Section 405(d) of the Clean Water Act. The permittee shall comply with the limitation no later than the compliance deadline specified in the applicable regulations.

2. The permittee shall provide written notice to the Department of Natural Resources prior to any planned changes in sludge disposal practices.

3. Land application of sewage sludge shall be conducted in accordance with criteria established in rule IAC 567 67.1 through 67.11 (455B).

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

MAJOR CONTRIBUTING INDUSTRIES LIMITATIONS, MONITORING AND REPORTING REQUIREMENTS

1. You are required to notify the department, in writing, of any of the following:

(a) 180 days prior to the introduction of pollutants to your facility from a significant industrial user. A significant industrial user means an industrial user of a treatment works that:

(1) Discharges an average of 25,000 gallons per day or more of process wastewater excluding sanitary, noncontact cooling and boiler blowdown wastewater;

(2) Contributes a process waste stream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the publicly-owned treatment works:

(3) Is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or

(4) Is designated by the department as a significant industrial user on the basis that the contributing industry, either singly or in combination with other contributing industries, has a reasonable potential for adversely affecting the operation of or effluent quality from the publicly-owned treatment works or for violating any pretreatment standards or requirements.

(b) 60 days prior to a proposed expansion, production increase or process modification that may result in the discharge of a new pollutant or a discharge in excess of limitations stated in the existing treatment agreement.

(c) 10 days prior to any commitment by you to accept waste from any new significant industrial user. Your written notification must include a new or revised treatment agreement in accordance with rule 64.3(5)(455B).

2. You shall require all users of your facility to comply with Sections 204(b), 307 and 308 of the Clean Water Act.

Section 204(b) requires that all users of the treatment works constructed with funds provided under Sections 201(g) or 601 of the Act to pay their proportionate share of the costs of operation, maintenance and replacement of the treatment works.

Section 307 of the Act requires users to comply with pretreatment standards promulgated by EPA for pollutants that would cause interference with the treatment process or would pass through the treatment works.

Section 308 of the Act requires users to allow access at reasonable times to state and EPA inspectors for the purpose of sampling the discharge and reviewing and copying records.

3. You shall limit and monitor pollutants for each significant industrial user as required elsewhere in this permit, and submit sample results to the department monthly. Your report shall be submitted by the fifteenth day of the following month.

Revised: June 16, 2009 CAC

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Outfall Number: 001

Ceriodaphnia and Pimephales Toxicity Effluent Testing

1. For facilities that have not been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within three (3) months of permit issuance. For facilities that have been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within twelve months (12) of the last toxicity test.

2. The test organisms that are to be used for acute toxicity testing shall be Ceriodaphnia dubia and Pimephales promelas. The acute toxicity testing procedures used to demonstrate compliance with permit limits shall be those listed in 40 CFR Part 136 and adopted by reference in rule 567--63.1(1). The method for measuring acute toxicity is specified in USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., EPA 821-R-02-012.

3. The diluted effluent sample must contain a minimum of 99.60 % effluent and no more than 0.40 % of culture water.

4. One valid positive toxicity result will require, at a minimum, quarterly testing for effluent toxicity until three successive tests are determined not to be positive.

5. Two successive valid positive toxicity results or three positive results out of five successive valid effluent toxicity tests will require a toxicity reduction evaluation to be completed to eliminate the toxicity.

6. A non-toxic test result shall be indicated as a "1" on the monthly operation report. A toxic test result shall be indicated as a "2" on the monthly operation report. DNR Form 542-1381 shall also be submitted to the DNR field office along with the monthly operation report.

Ceriodaphnia and Pimephales Toxicity Effluent Limits

The maximum limit of "1" for the parameters Acute Toxicity, Ceriodaphnia and Acute Toxicity, Pimephales means no positive toxicity results.

Definition: "Positive toxicity result" means a statistical difference of mortality rate between the control and the diluted effluent sample. For more information see USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, U.S. Environmental Protection Agency, Office of Water, Washington, D.C., EPA 821-R-02-012.

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Design Capacity

Design: 2

The design capacity for the treatment works is specified in Construction Permit Number 2014-0010-S, issued Wednesday, July 10, 2013.
The treatment plant is designed to treat:
* An average dry weather (ADW) flow of 0.9680 Million Gallons Per Day (MGD).
* An average wet weather (AWW) flow of 1.0710 Million Gallons Per Day (MGD).
* A maximum wet weather (MWW) flow of 1.6930 Million Gallons Per Day (MGD).
* A design 5-day biochemical oxygen demand (BOD5) load of 2465 lbs/day.
* A design Total Kjeldahl Nitrogen (TKN) load of 317.00 lbs/day.
* A design Total Suspended Solids (TSS) load of 2830 lbs/day.

Operator Certification Type/Grade: WW/III

Wastes in such volumes or quantities as to exceed the design capacity of the treatment works or reduce the effluent quality below that specified in the operation permit of the treatment works are considered to be a waste which interferes with the operation or performance of the treatment works and are prohibited by subrule IAC 567-62.1(7).

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

SEWAGE SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

"Sewage sludge" is solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge does not include the grit and screenings generated during preliminary treatment.

1. The permittee shall comply with all existing Federal and State laws and regulations that apply to the use and disposal of sewage sludge and with technical standards developed pursuant to Section 405(d) of the Clean Water Act when such standards are promulgated. If an applicable numerical limit or management practice for pollutants in sewage sludge is promulgated after issuance of this permit that is more stringent than a sludge pollutant limit or management practice specified in existing Federal or State laws or regulations, this permit shall be modified, or revoked and reissued, to conform to the regulations promulgated under Section 405(d) of the Clean Water Act. The permittee shall comply with the limitation no later than the compliance deadline specified in the applicable regulations.

2. The permittee shall provide written notice to the Department of Natural Resources prior to any planned changes in sludge disposal practices.

3. Land application of sewage sludge shall be conducted in accordance with criteria established in rule IAC 567--67.1 through 67.11 (455B).

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

MAJOR CONTRIBUTING INDUSTRIES LIMITATIONS, MONITORING AND REPORTING REQUIREMENTS

1. You are required to notify the department, in writing, of any of the following:
(a) 180 days prior to the introduction of pollutants to your facility from a significant industrial user. A significant industrial user means an industrial user of a treatment works that:
(1) Discharges an average of 25,000 gallons per day or more of process wastewater excluding sanitary, noncontact cooling and boiler blowdown wastewater;
(2) Contributes a process waste stream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the publicly-owned treatment works:
(3) Is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or
(4) Is designated by the department as a significant industrial user on the basis that the contributing industry, either singly or in combination with other contributing industries, has a reasonable potential for adversely affecting the operation of or effluent quality from the publicly-owned treatment works or for violating any pretreatment standards or requirements.

(b) 60 days prior to a proposed expansion, production increase or process modification that may result in the discharge of a new pollutant or a discharge in excess of limitations stated in the existing treatment agreement.

(c) 10 days prior to any commitment by you to accept waste from any new significant industrial user. Your written notification must include a new or revised treatment agreement in accordance with rule 64.3(5)(455B).

2. You shall require all users of your facility to comply with Sections 204(b), 307 and 308 of the Clean Water Act.

Section 204(b) requires that all users of the treatment works constructed with funds provided under Sections 201(g) or 601 of the Act to pay their proportionate share of the costs of operation, maintenance and replacement of the treatment works.

Section 307 of the Act requires users to comply with pretreatment standards promulgated by EPA for pollutants that would cause interference with the treatment process or would pass through the treatment works.

Section 308 of the Act requires users to allow access at reasonable times to state and EPA inspectors for the purpose of sampling the discharge and reviewing and copying records.

3. You shall limit and monitor pollutants for each significant industrial user as required elsewhere in this permit, and submit sample results to the department monthly. Your report shall be submitted by the fifteenth day of the following month.

Revised: June 16, 2009 CAC

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Ammonia Nitrogen, Total Nitrogen and Dissolved Oxygen Compliance Schedule

1. The facility shall make necessary improvements to meet ammonia nitrogen, total nitrogen and dissolved oxygen limits according to the following schedule:

- Submit a Work Record Request form to DNR's Wastewater Engineering Section at wastewater-engineering@dnr.iowa.gov by 8/1/2019. The forms and instructions are available on the DNR website at http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Wastewater-Construction/Construction-Permits. Questions on the forms should be directed to either Terry Kirschenman at 515/725-8422 or Emy Liu at 515/725-8421.

- Submit progress report by 8/1/2020. Progress report shall include specific information on the status of the project and future expected timelines for completing construction. Include status on an antidegradation analysis and progress, completion and submittal of the facility plan.

- Submit progress report by 8/1/2021. Progress report shall include specific information on the status of the project and future expected timelines for completing construction. Include status on the approval of the facility plan and progress towards completion of final plans and specifications.

- Submit progress report by 8/1/2022. Progress report shall include specific information on the status of the project and future expected timelines for completing construction. Include status on the final plans and specifications, construction permit, and awarding contracts for construction.

- Complete construction of wastewater treatment improvements necessary to comply with the ammonia nitrogen, total nitrogen and dissolved oxygen limits by 8/1/2023.

- Achieve compliance with all final ammonia nitrogen, total nitrogen and dissolved oxygen limits by 9/1/2023.

Within fourteen (14) days following all dates of compliance, the permittee shall provide written notice of compliance with the scheduled event. All written notices and progress reports shall be sent to the following address:

Iowa Department of Natural Resources
Environmental Services Division
Regional Office # 2
2300 15th Street SW
Mason City, IA 50401-5630

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Copper Compliance Schedule

2. The facility shall meet the final copper limits listed on the limits page of this permit according to the following schedule:

- The facility shall submit a compliance strategy, by 11/1/2019. The compliance strategy must describe the steps the facility will take to comply with the copper effluent limits as soon as possible, but no later than 4/1/2024.

- The facility shall submit progress reports every 12 months until compliance with final copper effluent limits is achieved, with the first progress report due 11/1/2020.

- Achieve compliance with final effluent limits by 4/1/2024.

Within fourteen (14) days following all dates of compliance, the permittee shall provide written notice of compliance with the scheduled event. All written notices and progress reports shall be sent to the following address:

Iowa Department of Natural Resources
Environmental Services Division
Regional Office # 2
2300 15th Street SW
Mason City, IA 50401-5630

Facility Name: OSAGE CITY OF STP

Permit Number: 6663001

Nutrient Reduction Requirements

In support of the Iowa Nutrient Reduction Strategy you shall prepare and submit a report that evaluates the feasibility and reasonableness of reducing the amounts of nitrogen and phosphorus discharged into surface water. The report shall be submitted no later than **5/1/2021** and shall address the following:

- A description of the existing treatment facility with particular emphasis on its capabilities for removing nitrogen and phosphorus. The description shall include monitoring data that define the current amounts of total nitrogen (TKN+nitrate+nitrite) and total phosphorus in both the raw wastewater and the final effluent.

- A description and evaluation of operational changes to the existing treatment facility that could be implemented to reduce the amounts of total nitrogen and total phosphorus discharged in the final effluent and the feasibility and reasonableness of each. Your evaluation must discuss the projected degree of total nitrogen and total phosphorus reduction achievable for each operational change. When evaluating feasibility you must consider what, if any, effect operational changes would have on the removal of other pollutants (e.g. $CBOD_5$, TSS). When evaluating reasonableness you shall include estimates of the additional cost, if any, to implement such changes and for a publicly-owned treatment works the impact on user rates.

- A description and evaluation of new or additional treatment technologies that would achieve significant reductions in the amounts of total nitrogen and total phosphorus discharged in the final effluent with a goal of achieving annual average concentrations of 10 mg/L total nitrogen and 1 mg/L total phosphorus for plants treating typical domestic strength sewage. For purposes of this evaluation typical domestic sewage is considered to contain approximately 25 – 35 mg/L total nitrogen and 4 - 8 mg/L total phosphorus. For plants treating wastewater with total nitrogen and/or total phosphorus concentrations greater than typical domestic strength sewage, the evaluation shall include the projected reductions in the total nitrogen and phosphorus effluent concentrations achievable with the application of feasible and reasonable treatment technology with a goal of achieving at least a 66 % reduction in nitrogen and 75% reduction in total phosphorus. For each treatment technology the report shall assess its feasibility, reasonableness, practicability, the availability of equipment, capital costs, annual operating costs, impact on user rates and any non-water quality environmental impacts (e.g. additional air pollution, increased sludge production, etc.).

- Based on the evaluations of operational changes and new or additional treatment technologies the report must select the preferred method(s) for reducing total nitrogen and total phosphorus in the final effluent, the rationale for the selected method(s) and an estimate of the effluent quality achievable.

- The report must include a schedule for making operational changes and/or installing new or additional treatment technologies to achieve the concentration and/or percentage removal goals listed above. Additional financial justification must be included in the report if no operational changes or treatment technologies are feasible or reasonable.

The schedule will be incorporated into the NPDES permit by amendment. Effluent discharge limits will be based on one full year of operating data after implementation of the operational changes or completion of plant modifications and a six month optimization period.

The report shall be sent to the following address:
Ryan Olive
NPDES Section
Iowa Department of Natural Resources
502 East 9th Street
Des Moines, IA 50319

Appendix G.2 - Treatment Agreement with Elma POTW

AMENDMENT TO NPDES PERMIT

Iowa NPDES Permit Number:	4525001	Date of Permit Issuance:	June 1, 2019
EPA Number:	IA0021075	Date of Permit Expiration:	May 31 2024
		Date of this Amendment:	May 1, 2020

Name and Mailing Address of Applicant:
CITY OF ELMA
CITY HALL, P.O. BOX 497
ELMA, IA 50628-0497

Identity and Location of Facility:
ELMA CITY OF STP
0.1 MILES W OF THE 9TH ST AND
MAPLE ST INTERSECTION
ELMA, IA 50628

Section 1, T97N, R14W
Howard County

Pursuant to the authority of Iowa Code Section 455B.174, and of Rule 567-64.3, Iowa Administrative Code, the Director of the Iowa Department of Natural Resources has issued the above referenced permit. Pursuant to the same authority, the Director hereby amends said permit as set forth below:

The permit is being amended to add the Floyd-Mitchell-Chickasaw Solid Waste Management Agency as a Significant Industrial User. Monitoring requirements for the landfill leachate are included. The amendment also adds iron monitoring for the POTW's effluent. Please remove all the pages of your permit (except for the original signed cover page) and replace them with the enclosed pages.

For the Department of Natural Resources:

By Julie M Faas
Julie Faas
NPDES Section
ENVIRONMENTAL SERVICES DIVISION

IOWA DEPARTMENT OF NATURAL RESOURCES

National Pollutant Discharge Elimination System (NPDES) Permit

OWNER NAME & ADDRESS

CITY OF ELMA
CITY HALL, P.O. BOX 497
ELMA, IA 50628-0497

FACILITY NAME & ADDRESS

ELMA CITY OF STP
0.1 MILES W OF THE 9TH ST &
MAPLE ST INTERSECTION
ELMA, IA 50628

Section 1, T97N, R14W
Howard County

IOWA NPDES PERMIT NUMBER: 4525001
DATE OF ISSUANCE: 06/01/2019
DATE OF EXPIRATION: 05/31/2024

YOU ARE REQUIRED TO FILE FOR RENEWAL OF THIS PERMIT BY: 12/03/2023
EPA NUMBER: IA0021075

This permit is issued pursuant to the authority of section 402(b) of the Clean Water Act (33 U.S.C 1342(b)), Iowa Code section 455B.174, and rule 567-64.3, Iowa Administrative Code. You are authorized to operate the disposal system and to discharge the pollutants specified in this permit in accordance with the effluent limitations, monitoring requirements and other terms set forth in this permit.

You may appeal any condition of this permit by filing a written notice of appeal and request for administrative hearing with the director of this department within 30 days of your receipt of this permit.

Any existing unexpired Iowa operation permit or Iowa NPDES permit previously issued by the department for the facility identified above is revoked by the issuance of this permit. This provision does not apply to any authorization to discharge under the terms and conditions of a general permit issued by the department or to any permit issued exclusively for the discharge of stormwater.

FOR THE DEPARTMENT OF NATURAL RESOURCES

By _____

Ann Seda
NPDES Section
ENVIRONMENTAL SERVICES DIVISION

Facility Name: ELMA CITY OF STP

Permit Number: 4525001

Outfall No.: 001 DISCHARGE FROM ACTIVATED SLUDGE WATEWATER TREATMENT PLANT

Receiving Stream: LITTLE WAPSIPINICON RIVER

Route of Flow: LITTLE WAPSIPINICON RIVER

Class A2 waters are secondary contact recreational use waters in which recreational or other uses may result in contact with the water that is either incidental or accidental. During the recreational use, the probability of ingesting appreciable quantities of water is minimal. Class A2 uses include fishing, commercial and recreational boating, any limited contact incidental to shoreline activities and activities in which users do not swim or float in the water body while on a boating activity.

Waters designated Class B(WW2) are those in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.

Bypasses from any portion of a treatment facility or from a sanitary sewer collection system designed to carry only sewage are prohibited.

Facility Name: ELMA CITY OF STP

Permit Number: 4525001

Effluent Limitations:

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

001 DISCHARGE FROM ACTIVATED SLUDGE WATEWATER TREATMENT PLANT

Outfall: 001 Effective Dates: 06/01/2019 to 05/31/2024			
Parameter	**Season**	**Limit Type**	**Limits**
CBOD5			**85% Removal Required**
	Yearly	7 Day Average	40 MG/L 133 LBS/DAY
	Yearly	30 Day Average	25 MG/L 83 LBS/DAY
TOTAL SUSPENDED SOLIDS			**85% Removal Required**
	Yearly	7 Day Average	45 MG/L 150 LBS/DAY
	Yearly	30 Day Average	30 MG/L 100 LBS/DAY
AMMONIA NITROGEN (N)			
	JAN	30 Day Average	15.3 MG/L 26.8 LBS/DAY
	JAN	Daily Maximum	17.4 MG/L 53.6 LBS/DAY
	FEB	30 Day Average	16.6 MG/L 30.8 LBS/DAY
	FEB	Daily Maximum	16.6 MG/L 50.5 LBS/DAY
	MAR	30 Day Average	14.9 MG/L 26.3 LBS/DAY
	MAR	Daily Maximum	16.8 MG/L 51.8 LBS/DAY
	APR	30 Day Average	6.8 MG/L 11.9 LBS/DAY
	APR	Daily Maximum	17.5 MG/L 54.8 LBS/DAY
	MAY	30 Day Average	6.4 MG/L 12.1 LBS/DAY
	MAY	Daily Maximum	17.1 MG/L 53.3 LBS/DAY
	JUN	30 Day Average	4.3 MG/L 8.3 LBS/DAY

Facility Name: ELMA CITY OF STP

Permit Number: 4525001

Outfall: 001 Effective Dates: 06/01/2019 to 05/31/2024			
Parameter	**Season**	**Limit Type**	**Limits**
AMMONIA NITROGEN (N)			
	JUN	Daily Maximum	16.3 MG/L 50.7 LBS/DAY
	JUL	30 Day Average	4.5 MG/L 7.8 LBS/DAY
	JUL	Daily Maximum	19.7 MG/L 61.6 LBS/DAY
	AUG	30 Day Average	4.2 MG/L 7.4 LBS/DAY
	AUG	Daily Maximum	18.2 MG/L 56.7 LBS/DAY
	SEP	30 Day Average	4.7 MG/L 8.2 LBS/DAY
	SEP	Daily Maximum	18.4 MG/L 57.5 LBS/DAY
	OCT	30 Day Average	6.9 MG/L 12.2 LBS/DAY
	OCT	Daily Maximum	17.5 MG/L 54.8 LBS/DAY
	NOV	30 Day Average	10.4 MG/L 18.2 LBS/DAY
	NOV	Daily Maximum	16.4 MG/L 51.3 LBS/DAY
	DEC	30 Day Average	11.0 MG/L 19.4 LBS/DAY
	DEC	Daily Maximum	17.8 MG/L 55.7 LBS/DAY
DISSOLVED OXYGEN			
	Yearly	Daily Minimum	2.7 MG/L
PH			
	Yearly	Daily Maximum	9.0 STD UNITS
	Yearly	Daily Minimum	6.5 STD UNITS
E. COLI			
	MAR	30 Day Average	682 #/100 ML
	APR	30 Day Average	682 #/100 ML
	MAY	30 Day Average	682 #/100 ML
	JUN	30 Day Average	682 #/100 ML
	JUL	30 Day Average	682 #/100 ML
	AUG	30 Day Average	682 #/100 ML
	SEP	30 Day Average	682 #/100 ML
	OCT	30 Day Average	682 #/100 ML
	NOV	30 Day Average	682 #/100 ML

Facility Name: ELMA CITY OF STP
Permit Number: 4525001

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is "sufficiently sensitive" when:
(1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
(2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and submitted to the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the Iowa Administrative Code contains further explanation of these monitoring requirements.

Facility Name: ELMA CITY OF STP
Permit Number: 4525001

Outfall	Wastewater Parameter	Sample Frequency	Sample Type	Monitoring Location
The following monitoring requirements shall be in effect from 06/01/2019 to 05/31/2024				
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	RAW WASTE
001	PH	1 TIME PER WEEK	GRAB	RAW WASTE
001	TEMPERATURE	1 TIME PER WEEK	GRAB	RAW WASTE
001	TOTAL SUSPENDED SOLIDS	1 EVERY 2 WEEKS	24 HOUR COMPOSITE	RAW WASTE
001	CBOD5	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT PRIOR TO DISINFECTION
001	TOTAL SUSPENDED SOLIDS	1 EVERY 2 WEEKS	24 HOUR COMPOSITE	EFFLUENT PRIOR TO DISINFECTION
001	AMMONIA NITROGEN (N)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	COPPER, TOTAL (AS CU)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	DISSOLVED OXYGEN	1 TIME PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	E. COLI	GEO. MEAN 1/3 MONTHS	GRAB	EFFLUENT AFTER DISINFECTION
001	PH	1 TIME PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	TEMPERATURE	1 TIME PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	IRON, TOTAL (AS FE)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION

Facility Name: ELMA CITY OF STP

Permit Number: 4525001

Special Monitoring Requirements

Outfall #	Description
001	E. COLI

The limit for E. coli of 682 org/100 ml specified on page x of this permit for outfall 001 is a geometric mean. The disinfection season is established in the Iowa Administrative Code, Subparagraph 567 IAC 61.3(3)“a”(1), and is in effect from March 15 to November 15. Any disinfection system (chlorine, UV light, etc.) shall be operated to comply with the limit during the entire disinfection season whenever wastewater is being discharged from outfall 001.

The facility must collect and analyze a minimum of five samples in one calendar month during each 3-month period from March 15 to November 15. The 3-month periods are March – May, June – August, and September – November. The collection of five samples in each 3-month period will result in a minimum of 15 samples being collected during a calendar year. For example, for the first 3-month period, the operator may choose April as the calendar month to collect the 5 individual E. coli samples to determine compliance with the limits. The operator may also choose the months of March or May as well, as long as each of the 5 samples is collected during a single calendar month. The same principle applies to the other two 3-month periods during the disinfection season. The following requirements apply to the individual samples collected in one calendar month:
Samples must be spaced over one calendar month.
No more than one sample can be collected on any one day.
There must be a minimum of two days between each sample.
No more than two samples may be collected in a period of seven consecutive days.

If the effluent has been disinfected using chlorine, ultraviolet light (UV), or any other process intended to disrupt the biological integrity of the E. coli, the samples shall be analyzed using the Most Probable Number method found in Standard Method 9223B (Colilert® or Colilert-18® made by IDEXX Laboratories, Inc.). If the effluent has not been disinfected the samples may be analyzed using either the MPN method above or EPA Method 1603: Escherichia coli (E. coli) in water by membrane filtration using modified membrane-thermotolerant E. coli agar (modified mTEC) or mColiBlue-24® made by the Hach Company.

The geometric mean must be calculated using all valid sample results collected during a month. The geometric mean formula is as follows: Geometric Mean = (Sample one * Sample two * Sample three * Sample four *Sample five…Sample N)^(1/N), which is the Nth root of the result of the multiplication of all of the sample results where N = the number of samples. If a sample result is a less than value, the value reported by the lab without the less than sign should be used in the geometric mean calculation.

The geometric mean can be calculated in one of the following ways:
Use a scientific calculator that can calculate the powers of numbers.
Enter the samples in Microsoft Excel and use the function “GEOMEAN” to perform the calculation.
Use the geometric mean calculator on the Iowa DNR webpage at: http://www.iowadnr.gov/Environmental-Protection/Water-Quality/NPDES-Wastewater-Permitting/NPDES-Operator-Information/Bacteria-Sampling

Facility Name: ELMA CITY OF STP
Permit Number: 4525001

Significant Industrial User Discharges:

Significant Industrial User: FLOYD-MITCHELL-CHICKASAW SOLID WASTE MANAGEMENT AG

Outfall #	Outfall Description
001	PRIOR TO DISCHARGE TO CITY SEWER

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

FLOYD-MITCHELL-CHICKASAW SOLID WASTE MANAGEMENT AG
Outfall: 001 Effective Dates: 05/01/2020 to 05/31/2024

Parameter	Season	Limit Type	Limit Values
FLOW			
	Yearly	30 Day Average	0.008 MGD
	Yearly	DAILY MAXIMUM	0.015 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	50 LBS/DAY
	Yearly	DAILY MAXIMUM	75 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	5 LBS/DAY
	Yearly	DAILY MAXIMUM	10 LBS/DAY
AMMONIA NITROGEN (N)			
	Yearly	30 Day Average	20 LBS/DAY
	Yearly	DAILY MAXIMUM	35 LBS/DAY
OIL AND GREASE			
	Yearly	30 Day Average	25 MG/L
	Yearly	DAILY MAXIMUM	100 MG/L

Facility Name: ELMA CITY OF STP

Permit Number: 4525001

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is "sufficiently sensitive" when:
(1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
(2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and submitted to the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the Iowa Administrative Code contains further explanation of these monitoring requirements.

Facility Name: ELMA CITY OF STP
Permit Number: 4525001

FLOYD-MITCHELL-CHICKASAW SOLID WASTE MANAGEMENT AG				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
001	AMMONIA NITROGEN (N)	1/WEEK DURING DRAWDOWN	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1/WEEK DURING DRAWDOWN	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	DAILY DURING DRAWDOWN	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	IRON, TOTAL (AS FE)	1 EVERY MONTH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	OIL AND GREASE	1/WEEK DURING DRAWDOWN	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	SANITARY LANDFILL LEACHATE	1 EVERY 12 MONTHS	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1/WEEK DURING DRAWDOWN	GRAB	PRIOR TO DISCHARGE TO CITY SEWER

FLOYD-MITCHELL-CHICKASAW SOLID WASTE MANAGEMENT AG Special Monitoring Requirements

Outfall #	**Description**
001	SANITARY LANDFILL LEACHATE
	PLEASE REFER TO PAGES 11 AND 12 LISTING ADDITIONAL LEACHATE MONITORING REQUIREMENTS.

Facility Name: ELMA CITY OF STP
Permit Number: 4525001

ADDITIONAL MONITORING REQUIREMENTS

FLOYD-MITCHELL-CHICKASAW SOLID WASTE MANAGEMENT AGENCY

The permittee shall analyze a representative sample of the landfill leachate discharge from Floyd-Mitchell-Chickasaw Solid Waste Management Agency at least annually for each of the pollutants listed below. Also, the permittee shall monitor the volume of waste discharged and BOD5, TSS, Ammonia Nitrogen, Oil and Grease at the frequencies specified on page 10 of this permit.

Conventional Pollutants and Metals

Biochemical Oxygen Demand (BOD5	Arsenic, Total (as As)	Lead, Total (as Pb)
Total Organic Carbon	Barium, Total (as Ba)	Mercury, Total (as Hg)
Total Dissolved Solids	Cadmium, Total (as Cd)	Nickel, Total (as Ni)
Total Suspended Solids	Chromium, Total (as Cr)	Selenium, Total (as Se)
Ammonia Nitrogen	Copper, Total (as Cu)	Silver, Total (as Ag)
pH	Iron, Total (as Fe)	Zinc, Total (as Zn)

Volatile Compounds

Method of Analysis: EPA Methods 624 or 1624

Chloromethane (methyl chloride)	1,2-Dichloroethane	1,1,2-Trichloroethane
Bromomethane (methyl bromide)	1,1,1-Trichloroethane (methyl chloroform)	Benzene
Vinyl Chloride	Carbon tetrachloride	2-Chloroethyl vinyl ether
Chloroethane (ethyl chloride)	Bromodichloromethane	Bromoform
Methylene chloride (dichloromethane)	1,1,2,2-Tetrachloroethane	Tetrachloroethene
1,1-Dichloroethane	1,2-Dichloropropane	Toluene
1,1-Dichloroethene (1,1-dichloroethylene)	1,3-Dichloroopropane	Chlorobenzene
1,2-Dichloroethene (1,2-dichloroethylene)	Trichloroethene	Ethylbenzene
Chloroform	Dibromochloromethane	

Acid Extractable Compounds

Method of Analysis: EPA Methods 625 or 1625

2-Chlorophenol	2,4-Dichlorophenol	2,4-Dinitrophenol
2-Nitrophenol	4-Chloro-3-methylphenol	4-Nitrophenol
2,4-Dimethylphenol	2,4,6-Trichlorophenol	2,6-Dinitro-2-methylphenol
Benzoic Acid	2,4,5-Trichlorophenol	Pentachlorophenol

Facility Name: ELMA CITY OF STP
Permit Number: 4525001

Chlorinated Hydrocarbon Insecticides

Methods of Analysis: EPA Methods 608 or 625

Beta BHC
Delta BHC
Gamma BHC
Heptachlor
Aldrin
Heptachlor epoxide
Endosulfan
Dieldrin
4,4'-DDE
Endrin
Endosulfan II
4,4'-DDD
Endosulfan sulfate
4,4'-DDT
Endrin aldehyde
Chlordane
Toxaphene

Polychlorinated Biphenyls

Methods of Analysis: EPA Methods 608 or 625

Arochlor-1016
Arochlor-1221
Arochlor-1232
Arochlor-1242
Arochlor-1248
Arochlor-1254
Arochlor-1260

Base/Neutral Compounds

Methods of Analysis: EPA Methods 625 or 1625

bis (2-chloroethyl) ether
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Benzyl alcohol
1,2-Dichlorobenzene
bis (2-chloroisopropyl) ether
N-Nitroso-dipropylamine
Hexachloroethane
Nitrobenzene
Isophorone
bis (2-chloroethyoxy) methane
1,2,4-Trichlorobenzene
Naphthalene
Hexachlorobutadiene
Hexachlorocyclopentadiene
2-Chloronaphthalene
Dimethyl phthalate
Acenaphthylene
Acenaphthene
Dibenzofuran
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Diethyl phthalate
4-Chlorophenyl phenyl ether
Fluorene
N-Nitrosodiphenylamine
4-Bromophenyl phenyl ether
Hexachlorobenzene
Phenanthrene
Antracene
Di-n-butyl phthalate
Fluoranthene
Pyrene
Buthyl benzyl phthalate
3,3'-Dichlorobenzidine
Benzo (a) anthracene
bis (2-ethylhexyl) phthalate
Chrysene
Di-n-octyl phthalate
Benzo (b) fluoranthene
Benzo (k) fluoranthene
Benzo (a) pyrene
Indendo (1,2,3-cd) pyrene
Dibenzo (a,h) anthracene
Benzo (g,h,i) perylene

Facility Name: ELMA CITY OF STP

Permit Number: 4525001

Design Capacity

Design: 1

The design capacity for the treatment works is specified in Construction Permit Number 2007-0132-S, issued Tuesday, September 11, 2007. The treatment plant is designed to treat:

* An average dry weather (ADW) flow of 0.0780 Million Gallons Per Day (MGD).
* An average wet weather (AWW) flow of 0.4000 Million Gallons Per Day (MGD).
* A maximum wet weather (MWW) flow of 0.7500 Million Gallons Per Day (MGD).
* A design 5-day biochemical oxygen demand (BOD5) load of 325 lbs/day.
* A design Total Kjeldahl Nitrogen (TKN) load of 23.00 lbs/day.

Operator Certification Type/Grade: WW/II

Wastes in such volumes or quantities as to exceed the design capacity of the treatment works or reduce the effluent quality below that specified in the operation permit of the treatment works are considered to be a waste which interferes with the operation or performance of the treatment works and are prohibited by subrule IAC 567-62.1(7).

Facility Name: ELMA CITY OF STP

Permit Number: 4525001

SEWAGE SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

"Sewage sludge" is solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge does not include the grit and screenings generated during preliminary treatment.

1. The permittee shall comply with all existing Federal and State laws and regulations that apply to the use and disposal of sewage sludge and with technical standards developed pursuant to Section 405(d) of the Clean Water Act when such standards are promulgated. If an applicable numerical limit or management practice for pollutants in sewage sludge is promulgated after issuance of this permit that is more stringent than a sludge pollutant limit or management practice specified in existing Federal or State laws or regulations, this permit shall be modified, or revoked and reissued, to conform to the regulations promulgated under Section 405(d) of the Clean Water Act. The permittee shall comply with the limitation no later than the compliance deadline specified in the applicable regulations.

2. The permittee shall provide written notice to the Department of Natural Resources prior to any planned changes in sludge disposal practices.

3. Land application of sewage sludge shall be conducted in accordance with criteria established in rule IAC 567 67.1 through 67.11 (455B).

Facility Name: ELMA CITY OF STP

Permit Number: 4525001

MAJOR CONTRIBUTING INDUSTRIES LIMITATIONS, MONITORING AND REPORTING REQUIREMENTS

1. You are required to notify the department, in writing, of any of the following:

(a) 180 days prior to the introduction of pollutants to your facility from a significant industrial user. A significant industrial user means an industrial user of a treatment works that:

(1) Discharges an average of 25,000 gallons per day or more of process wastewater excluding sanitary, noncontact cooling and boiler blowdown wastewater;

(2) Contributes a process waste stream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the publicly-owned treatment works:

(3) Is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or

(4) Is designated by the department as a significant industrial user on the basis that the contributing industry, either singly or in combination with other contributing industries, has a reasonable potential for adversely affecting the operation of or effluent quality from the publicly-owned treatment works or for violating any pretreatment standards or requirements.

(b) 60 days prior to a proposed expansion, production increase or process modification that may result in the discharge of a new pollutant or a discharge in excess of limitations stated in the existing treatment agreement.

(c) 10 days prior to any commitment by you to accept waste from any new significant industrial user. Your written notification must include a new or revised treatment agreement in accordance with rule 64.3(5)(455B).

2. You shall require all users of your facility to comply with Sections 204(b), 307 and 308 of the Clean Water Act.

Section 204(b) requires that all users of the treatment works constructed with funds provided under Sections 201(g) or 601 of the Act to pay their proportionate share of the costs of operation, maintenance and replacement of the treatment works.

Section 307 of the Act requires users to comply with pretreatment standards promulgated by EPA for pollutants that would cause interference with the treatment process or would pass through the treatment works.

Section 308 of the Act requires users to allow access at reasonable times to state and EPA inspectors for the purpose of sampling the discharge and reviewing and copying records.

3. You shall limit and monitor pollutants for each significant industrial user as required elsewhere in this permit, and submit sample results to the department monthly. Your report shall be submitted by the fifteenth day of the following month.

Revised: June 16, 2009 CAC

STANDARD CONDITIONS

1. ADMINISTRATIVE RULES

Rules of this Department that govern the operation of your facility in connection with this permit are published in Part 567 of the Iowa Administrative Code (IAC) in Chapters 60-65, 67, and 121. Reference to the term "rule" in this permit means the designated provision of Part 567 of the IAC. Reference to the term "CFR" means the Code of Federal Regulations.

2. DEFINITIONS

(a) 7 day average means the sum of the total daily discharges by mass, volume, or concentration during a 7 consecutive day period, divided by the total number of days during the period that measurements were made. Four 7 consecutive day periods shall be used each month to calculate the 7-day average. The first 7-day period shall begin with the first day of the month.

(b) 30 day average means the sum of the total daily discharges by mass, volume, or concentration during a calendar month, divided by the total number of days during the month that measurements were made.

(c) Daily maximum means the total discharge by mass, volume, or concentration during a twenty-four hour period.

3. DUTY TO PROVIDE INFORMATION

You must furnish to the Director, within a reasonable time, any information the Director may request to determine compliance with this permit or determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, in accordance with 567 IAC 64.3(11)"*c*". You must also furnish to the Director, upon request, copies of any records required to be kept by this permit.

4. MONITORING AND RECORDS OF OPERATION

(a) Maintenance of records. You shall retain for a minimum of three years all paper and electronic records of monitoring activities and results including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records. ***{See 567 IAC 63.2(3)}***

(b) Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years, or both. ***{See 40 CFR 122.41(j)(5)}***

5. SIGNATORY REQUIREMENTS

Applications, reports or other information submitted to the Department in connection with this permit must be signed and certified in accordance with 567 IAC 64.3(8).

6. OTHER INFORMATION

Where you become aware that you failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, you must promptly submit such facts or information. Where you become aware that you failed to submit any relevant facts in the submission of in any report to the director, including records of operation, you shall promptly submit such facts or information. ***{See 567 IAC 60.4(2)"a" and 567 IAC 63.7}***

7. TRANSFER OF TITLE OR OWNER ADDRESS CHANGE

If title to your facility, or any part of it, is transferred the new owner shall be subject to this permit. You are required to notify the new owner of the requirements of this permit in writing prior to any transfer of title. The Director shall be notified in writing within 30 days of the transfer. No transfer of the authorization to discharge from the facility represented by the permit shall take place prior to notifying the department of the transfer of title. Whenever the address of the owner is changed, the department shall be notified in writing within 30 days of the address change. Electronic notification is not sufficient; all title transfers or address changes must be reported to the department by mail. ***{See 567 IAC 64.14}***

8. PROPER OPERATION AND MAINTENANCE

All facilities and control systems shall be operated as efficiently as possible and maintained in good working order. A sufficient number of staff, adequately trained and knowledgeable in the operation of your facility shall be retained at all times and adequate laboratory controls and appropriate quality assurance procedures shall be provided to maintain compliance with the conditions of this permit.
{See 40 CFR 122.41(e) and 567 IAC 64.7(7)"f"}

9. PERMIT MODIFICATION, SUSPENSION OR REVOCATION

(a) This permit may be modified, suspended, or revoked and reissued for cause including but not limited to those specified in 567 IAC 64.3(11).

(b) This permit may be modified due to conditions or information on which this permit is based, including any new standard the department may adopt that would change the required effluent limits. ***{See 567 IAC 64.3(11)}***

(c) If a toxic pollutant is present in your discharge and more stringent standards for toxic pollutants are established under Section 307(a) of the Clean Water Act, this permit will be modified in accordance with the new standards.
{See 40 CFR 122.62(a)(6) and 567 IAC 64.7(7)"g"}

The filing of a request for a permit modification, revocation or suspension, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

10. DUTY TO REAPPLY AND PERMIT CONTINUATION

If you wish to continue to discharge after the expiration date of this permit, you must file a complete application for reissuance at least 180 days prior to the expiration date of this permit. If a timely and sufficient application is submitted, this permit will remain in effect until the Department makes a final determination on the permit application. ***{See 567 IAC 64.8(1) and Iowa Code 17A.18}***

11. DUTY TO COMPLY

You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Issuance of this permit does not relieve you of the responsibility to comply with all local, state and federal laws, ordinances, regulations or other legal requirements applying to the operation of your facility. ***{See 40 CFR 122.41(a) and 567 IAC 64.7(4)"e"}***

STANDARD CONDITIONS

12. DUTY TO MITIGATE

You shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. ***{See 40 CFR 122.41(d) and 567 IAC 64.7(7)"i"}***

13. TWENTY-FOUR HOUR REPORTING

You shall report any noncompliance that may endanger human health or the environment, including, but not limited to, violations of maximum daily limits for any toxic pollutant (listed as toxic under 307(a)(1) of the Clean Water Act) or hazardous substance (as designated in 40 CFR Part 116 pursuant to 311 of the Clean Water Act). Information shall be provided orally within 24 hours from the time you become aware of the circumstances. A written submission that includes a description of noncompliance and its cause; the period of noncompliance including exact dates and times, whether the noncompliance has been corrected or the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent a reoccurrence of the noncompliance must be provided within 5 days of the occurrence. ***{See 567 IAC 63.12}***

14. OTHER NONCOMPLIANCE

You shall report all instances of noncompliance not reported under Condition #13 at the time monitoring reports are submitted. You shall give advance notice to the appropriate regional field office of the department of any planned activity which may result in noncompliance with permit requirements. ***{See 567 IAC 63.14}***

15. INSPECTION OF PREMISES, RECORDS, EQUIPMENT, METHODS AND DISCHARGES

You are required to permit authorized personnel to:

(a) Enter upon the premises where a regulated facility or activity is located or conducted or where records are kept under conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment, practices or operations regulated or required under this permit; and

(d) Sample or monitor, at reasonable times, to assure compliance or as otherwise authorized by the Clean Water Act.

16. FAILURE TO SUBMIT FEES

This permit may be revoked, in whole or in part, if the appropriate permit fees are not submitted within thirty (30) days of the date of notification that such fees are due. ***{See 567 IAC 64.16(1)}***

17. NEED TO HALT OR REDUCE ACTIVITY

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. ***{See 40 CFR 122.41(c) and 567 IAC 64.7(7)"j"}***

18. NOTICE OF CHANGED CONDITIONS

You are required to notify the director of any changes in existing conditions or information on which this permit is based. This includes, but is not limited to, the following:

(a) If your facility is a publicly owned treatment works (POTW) or otherwise may accept waste for treatment from an indirect discharger or industrial contributor (See 567 IAC 64.3(5) for further notice requirements).

(b) If your facility is a POTW and there is any substantial change in the volume or character of pollutants being introduced to the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit. ***{See 40 CFR 122.42(b)}***

(c) As soon as you know or have reason to believe that any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in this permit. ***{See 40 CFR 122.42(a)}***

(d) If you have begun or will begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

19. PLANNED CHANGES

The permittee shall give notice to the appropriate regional field office of the department 30 days prior to any planned physical alterations or additions to the permitted facility. Notice is required only when:

(a) Notice has not been given to any other section of the department. (Note: Facility expansions, production increases, or process modifications which may result in new or increased discharges of pollutants must be reported to the Director in advance. If such discharges will exceed effluent limitations, your report must include an application for a new permit. If any modification of, addition to, or construction of a disposal system is to be made, you must first obtain a written permit from this Department. In addition, no construction activity that will result in disturbance of one acre or more shall be initiated without first obtaining coverage under NPDES General Permit No. 2 for "Storm water discharge associated with construction activity.") ***{See 567 IAC 64.7(7)"a" and 64.2}***

(b) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as defined in 567 IAC 60.2;

(c) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices; or

(d) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the permit. ***{See 567 IAC 63.13 and 63.14}***

20. USE OF CERTIFIED LABORATORIES

Analyses of wastewater, groundwater or sewage sludge that are required to be submitted to the department as a result of this permit must be performed by a laboratory certified by the State of Iowa. Routine, on-site monitoring for pH, temperature, dissolved oxygen, total residual chlorine and other pollutants that must be analyzed immediately upon sample collection, settleable solids, physical measurements, and operational monitoring tests specified in 567 IAC 63.3(4) are excluded from this requirement.

STANDARD CONDITIONS

21. BYPASSES

(a) Definition. "Bypass" means the diversion of waste streams from any portion of a treatment facility or collection system. A bypass does not include internal operational waste stream diversions that are part of the design of the treatment facility, maintenance diversions where redundancy is provided, diversions of wastewater from one point in a collection system to another point in a collection system, or wastewater backups into buildings that are caused in the building lateral or private sewer line.

(b) Prohibitions.

i. Bypasses from any portion of a treatment facility or from a sanitary sewer collection system designed to carry only sewage are prohibited.

ii. Bypass is prohibited and the department may not assess a civil penalty against a permittee for bypass if the permittee has complied with all of the following:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(2) There were no feasible alternatives to the bypass such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required by paragraph (d) of this section.

(c) The Director may approve an anticipated bypass after considering its adverse effects if the Director determines that it will meet the three conditions listed above and a request for bypass has been submitted to the Department in accordance with 567 IAC 63.6(2).

(d) Reporting bypasses. Bypasses shall be reported in accordance with 567 IAC 63.6.

22. UPSET PROVISION

(a) Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an upset. An upset constitutes an affirmative defense in an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph *"c"* of this condition are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions necessary for demonstration of an upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed operating logs or other relevant evidence that;

i. An upset occurred and that the permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being properly operated;

iii. The permittee submitted notice of the upset to the Department in accordance with 567 IAC 63.6(3); and

iv. The permittee complied with any remedial measures required in accordance with 567 IAC 63.6(6)"*b*".

(d) Burden of Proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

23. PROPERTY RIGHTS

This permit does not convey any property rights of any sort or any exclusive privilege. ***{See 567 IAC 64.4(3)"b"}***

24. EFFECT OF A PERMIT

Compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Sections 301, 302, 306, 307, 318, 403 and 405(a)-(b) of the Clean Water Act, and equivalent limitations and standards set out in 567 IAC Chapters 61 and 62. ***{See 567 IAC 64.4(3)"a"}***

25. SEVERABILITY

The provisions of this permit are severable and if any provision or application of any provision to any circumstance is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding.

Appendix G.3 - Treatment Agreement with Mason City POTW

WATER RECLAMATION FACILITY
10 FIRST ST. NW
MASON CITY, IA 50401
PHONE (641)421-3682 / FAX (641)421-3634

Tim Zoll
Chairman
Floyd Mitchell Chickasaw County Solid Waste Management Agency
3354 330th Street
Elma, IA 50628

RE: Issuance of Industrial User Permit to Central Disposal by the City of Mason City. Permit No. **FMC2225**

Dear Mr. Zoll:

The enclosed Industrial User Permit **FMC2225** covers the Floyd Mitchell Chickasaw (FMC) Sanitary Landfill wastewater trucked from the facility located at 3354 330th Street, Elma, IA 50628 into the City of Mason City's Water Reclamation Facility. All discharges from this facility and actions and reports relating thereto shall be in accordance with the terms and conditions of this permit.

If you wish to appeal or challenge any conditions imposed in this permit, a petition shall be filed for modification or reissuance of this permit within 30 days of your receipt of this correspondence, in accordance with the requirements of Section 6-2-24 of the City of Mason City's City Code. Pursuant to 6-2-24, failure to petition for reconsideration of the permit within the allotted time is deemed a waiver by the permittee of his right to challenge the terms of this permit.

Signature _____ **Date** 4/5/2022
Operation and Maintenance Manager

Signature _____ **Date** 4-5-2022
Pretreatment & Operations Coordinator

INDUSTRIAL USER PERMIT

MASON CITY WASTEWATER POLLUTION CONTROL PERMIT AND AUTHORIZATION TO DISCHARGE INDUSTRIAL WASTES TO A PUBICALLY OWNED TREATMENT WORKS (POTW) UNDER THE PROVISION OF THE CLEAN WATER ACT.

CITY OF MASON CITY WRF
10-1ST St. N.W., Mason City, IA 50401
Phone: (641) 421-3682
Fax: (641)-421-3634

Pursuant to the provisions of Iowa Water Quality Standards, Chapter 61, the Federal Water Pollution Control Act as amended (33 U.S.C. 1251), U.S. Environmental Protection Agency Pretreatment Regulations 40 CFR 403 and Iowa Administrative Code 567 IAC Chapter 60-67.

Owner/ Facility Name:	**Floyd Mitchell Chickasaw Sanitary Landfill**
Facility Address:	**3354 330th Street** **Elma, IA 50628**
POTW Receiving Wastes:	**Water Reclamation Facility,** **2950 S. Birch Dr., Mason City, IA**
POTW's Iowa Permit Number:	**1750001**

Floyd Mitchell Chickasaw Sanitary Landfill is hereby authorized to haul industrial waste from the above identified facility into the City of Mason City's Water Reclamation Facility in accordance with the conditions set forth in this permit. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all applicable pretreatment regulations, standards or requirements under local, State, and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

Permit No. **FMC2225**
Reapplication for Permit Due Date**: January 6, 2025**
Permit effective Date: **April 6, 2022**
Permit Expiration Date: **April 6, 2025**
Chairman: **Tim Zoll**
Designated Control Authority and facility Contact: **Christian Fox**

FACILITY DESCRIPTION: Non-Significant Industrial User, Hauled Waste

FMC Sanitary Landfill: FMC Sanitary Landfill is a non-hazardous landfill operation.

Permit No. **FMC2225**

INDUSTRIAL USER PERMIT

In accordance with the provisions of 6-2-17

Floyd Mitchell Chickasaw (FMC) Sanitary Landfill
3354 330th Street
Elma, IA 50628

is hereby authorized to haul landfill leachate from the above identified facility to the City of Mason City's Water Reclamation Facility in accordance with the conditions set forth in this permit. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all applicable pretreatment regulations, standards or requirements under local, State, and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

Noncompliance with any term or condition of this permit shall constitute a violation of the City of Mason City's sewer use ordinance.

This permit shall become effective on April 6, 2022, and shall expire at midnight on April 6, 2025.

If the permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a renewal permit in accordance with the requirements of 6-2-28, a minimum of 90 days prior to the expiration date.

Signature _____ **Date** 4/5/2022
Operation and Maintenance Manager

Signature _____ **Date** 4-5-2022
Pretreatment & Operations Coordinator

PART 1 - EFFLUENT LIMITATIONS

A. The permittee is authorized to discharge hauled landfill leachate into the City of Mason City's POTW from the effective dates listed above.

B. All wastewater hauled to the POTW shall comply with all other applicable laws, regulations, standards, and requirements contained in 6-2-9 and any applicable State and Federal pretreatment laws, regulations, standards, and requirements including any such laws, regulations, standards, or requirements that may become effective during the term of this permit.

C. The following are the effluent limits that will be used as a guide to determine if wastewater will be accepted from your facility. Results over these limits may be accepted at the discretion of the City of Mason City's Water Reclamation Facility on a case by case basis.

Biannual Pollutant	Daily Maximum **(mg/l)**
Arsenic-T	0.04
Cadmium-T	0.26
Chromium-T	1.71
Chromium VI	1.28
Copper-T	2.07
Cyanide-T	0.65
Lead-T	0.43
Mercury-T	0.003
Molybdenum-T	0.025
Nickel-T	2.38
Selenium-T	0.045
Silver-T	0.24
Zinc-T	1.48

* All other pollutants are evaluated on a per sample basis and do not have set effluent limits.

*pH of the discharge shall be between 5.5 - 9.5.

PART 2 - MONITORING REQUIREMENTS

A. The permittee shall monitor leachate for the following parameters, at the indicated frequency:

Sample Parameter (units)	Measurement Location	Frequency	Sample Type
Flow (gpd)	See note A-1, 4	per discharge Wastewater	Hauled WW
Conventional Pollutants And Metals	See note A-2	1/Quarter	Grab
All Pollutants	See note A-3	2x/year	Grab

1. All Samples shall be representative of the leachate delivered to the City of Mason City WRF.

2. The "Conventional Pollutants and Metals" (page 17) shall be performed once each quarter (Jan., Apr., Jul., Oct.) prior to discharge. Permission must be granted prior to dumping at the City of Mason City's Water Reclamation Facility after the Pretreatment & Operations Coordinator has examined the parameters per quarter. The time span to collect a sample shall not exceed three months.

3. All pollutants (pages 17-18) shall be performed two times per year, parallel to quarterly pollutants. Permission must be granted prior to dumping at the City of Mason City's Water Reclamation Facility after the Pretreatment & Operations Coordinator has examined the parameters. The time span to collect a sample shall not exceed six months.

4. Wastewater volume will be limited to **24,000 gallons per day**, hauled to the POTW, unless special permission is given.

B. All handling and preservation of collected samples and laboratory analyses of samples shall be performed in accordance with 40 CFR Part 136 and amendments thereto unless specified otherwise in the monitoring conditions of this permit.

PART 3 - REPORTING REQUIREMENTS

A. Monitoring Reports

Monitoring results obtained shall be reported to the City of Mason City and be approved prior to hauling waste to the POTW. The report shall indicate the nature and concentration of all required pollutants in the waste water.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 or amendments thereto, or otherwise approved by EPA or as specified in this permit, the results of such monitoring shall be included in any calculations of actual daily maximum or monthly average pollutant discharge and results shall be reported in the quarterly report submitted to the City of Mason City.

B. Automatic Re-sampling

If the result of the permittee's wastewater analysis indicates that a violation of this permit has occurred, the permittee must:

1. Inform the City of Mason City of the violation within 24 hours; and

2. Repeat the sampling and pollutant analysis and submit, in writing, the results of this second analysis within 30 days of the first violation.

PART 4 SPECIAL CONDITIONS

Section 1 Additional/Special Monitoring Requirements

A. The City of Mason has the right to refuse any hauled waste load.

B. Discharge of hazardous waste into the Mason City Water Reclamation Facility is prohibited.

Section 2 Reopener Clause

A. This permit may be reopened and modified to incorporate any new or revised requirements resulting from the City of Mason City's reevaluation of its local limit for any metals.

B. This permit may be reopened and modified to incorporate any new or revised requirements developed by the City of Mason City as are necessary to ensure POTW compliance with applicable sludge management requirements promulgated by EPA (40 CFR 503).

PART 5 - STANDARD CONDITIONS

SECTION A. GENERAL CONDITIONS AND DEFINITIONS

1. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

2. Duty to Comply

The permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for administrative action, or enforcement proceedings including civil or criminal penalties, injunctive relief, and summary abatements.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact to the public treatment plant or the environment resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

4. Permit Modification

This permit may be modified for good causes including, but not limited to, the following:

a. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements

b. Material or substantial alterations or additions to the discharger's operation processes, or discharge volume or character which were not considered in drafting the effective permit

c. A change in any condition in either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge

d. Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters

e. Violation of any terms or conditions of the permit

f. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting

g. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR 403.13; or

h. To correct typographical or other errors in the permit

i. To reflect transfer of the facility ownership and/or operation to a new owner/operator

j. Upon request of the permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

5. Permit Termination

This permit may be terminated for the following reasons:

a. Falsifying self-monitoring reports

b. Tampering with monitoring equipment

c. Refusing to allow timely access to the facility premises and records

d. Failure to meet effluent limitations

e. Failure to pay fines

f. Failure to pay sewer charges

g. Failure to meet compliance schedules.

6. Permit Appeals

The permittee may petition to appeal the terms of this permit within thirty (30) days of the notice.

This petition must be in writing; failure to submit a petition for review shall be deemed to be a waiver of the appeal. In its petition, the permittee must indicate the permit provisions objected to, the reasons for this objection, and the alternative condition, if any, it seeks to be placed in the permit.

The effectiveness of this permit shall not be stayed pending a reconsideration by the City Council. If, after considering the petition and any arguments put forth by the Superintendent, the City Council determines that reconsideration is proper, it shall remand the permit back to the Superintendent for reissuance. Those permit provisions being reconsidered by the Superintendent shall be stayed pending reissuance.

The City Councils' decision not to reconsider a final permit shall be considered final administrative action for purposes of judicial review. The permittee seeking judicial review of the City Councils' final action must do so by filing a complaint with the Iowa District Court for Cerro Gordo County within 30 days after final administrative action.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any violation of Federal, State, or local laws or regulations.

8. Limitation on Permit Transfer

Permits may be reassigned or transferred to a new owner and/or operator with prior approval of the Superintendent:

a. The permittee must give at least ninety (90) days advance notice to the Superintendent or designee.

b. The notice must include a written certification by the new owner which:

(i) States that the new owner has no immediate intent to change the facility's operations and processes

(ii) Identifies the specific date on which the transfer is to occur

(iii) Acknowledges full responsibility for complying with the existing permit.

9. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must submit an application for a new permit at least 90 days before the expiration date of this permit.

10. Continuation of Expired Permits

An expired permit will continue to be effective and enforceable until the permit is reissued if:

a. The permittee has submitted a complete permit application at least ninety (90) days prior to the expiration date of the user's existing permit.

b. The failure to reissue the permit, prior to expiration of the previous permit, is not due to any act or failure to act on the part of the permittee.

11. Dilution

The permittee shall not increase the use of potable or process water or, in anyway, attempt to dilute a tank as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.

12. Definitions

a. Daily Maximum - the maximum allowable discharge of pollutant during a calendar day. Where daily maximum limitations are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where daily maximum limitations are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.

b. Composite Sample - A sample that is collected over time, formed either by continuous sampling or by mixing discrete samples. The sample may be composited either as a time composite sample: composed of discrete sample aliquots collected in one container at constant time intervals providing representative samples irrespective of stream flow; or as a flow proportional composite sample: collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increases while maintaining a constant time interval between the aliquots.

c. Grab Sample - an individual sample collected in less than 15 minutes, without regard for flow or time.

d. Instantaneous Maximum Concentration - the maximum concentration allowed in any single grab sample.

e. Cooling Water

(1) Uncontaminated: Water used for cooling purposes only which has no direct contact with any raw material, intermediate, or final product and which does not contain a level of contaminants detectably higher than that of the intake water.

(2) Contaminated: Water used for cooling purposes only which may become contaminated either through the use of water treatment chemicals used for corrosion inhibitors or biocides, or by direct contact with process materials and/or wastewater.

f. Monthly Average - The arithmetic mean of the values for effluent samples collected during a calendar month or specified 30-day period (as opposed to a rolling 30-day window).

g. Weekly Average - The arithmetic mean of the values for effluent samples collected over a period of seven consecutive days.

h. Bi-Weekly - Once every other week.

i. Bi-Monthly - Once every other month.

j. Upset - Means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee, excluding

such factors as operational error, improperly designed or inadequate treatment facilities, or improper operation and maintenance or lack thereof.

k. Bypass - Means the intentional diversion of wastes from any portion of a treatment facility.

12. General Prohibitive Standards

The permittee shall comply with all the general prohibitive discharge standards in 6-2-9. Namely, the industrial user shall not discharge wastewater to the POTW:

a. Having a temperature higher than 150 degrees F (65 degrees C);

b. Containing more than 200 ppm by weight of fats, oils, and grease;

c. Containing any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquids, solids or gases; and in no case pollutants with a closed cup flashpoint of less than one hundred forty (140) degrees Fahrenheit (60° C), or pollutants which cause an exceedance of 10 percent of the Lower Explosive Limit (LEL) at any point within the POTW.

d. Containing any garbage that has not been ground by household type or other suitable garbage grinders;

e. Containing any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch, manure, or any other solids or viscous substances capable of causing obstructions or other interferences with proper operation of the POTW;

f. Having a pH lower than 5.5 or higher than 9.5, or having any other corrosive property capable of causing damage or hazards to structures, equipment or personnel of the POTW;

g. Containing toxic or poisonous substances in sufficient quantity to injure or interfere with any wastewater treatment process, to constitute hazards to humans or animals, or to create any hazard in waters. Toxic wastes shall include, but are not limited to wastes containing cyanide, chromium, cadmium, mercury, copper, and nickel ions;

h. Containing noxious or malodorous gases or substances capable of creating a public nuisance; including pollutants which result in the presence of toxic gases, vapors, or fumes:

i. Containing solids of such character and quantity that special and unusual attention is required for their handling;

j. Containing any substance which may affect the treatment plant's effluent and cause violation of the NPDES permit requirements;

k. Containing any substance which would cause the treatment plant to be in noncompliance with sludge use, recycle or disposal criteria pursuant to guidelines or regulations developed under section 405 of the Federal Act, the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act or other regulations or criteria for sludge management and disposal as required by the State;

l. Containing color which is not removed in the treatment processes;

m. Containing any radioactive wastes or isotopes; or

n. Containing any pollutant, including BOD pollutants, released at a flow rate and/or pollutant concentration, which would cause interference with the treatment plant.

13. Compliance with Applicable Pretreatment Standards and Requirements

Compliance with this permit does not relieve the permittee from its obligations regarding compliance with any and all applicable local, State and Federal pretreatment standards and requirements including any such standards or requirements that may become effective during the term of this permit

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes but is not limited to: effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

Upon reduction of efficiency of operation, or loss or failure of all or part of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control its production or discharges (or both) until operation of the treatment facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a) Bypass is prohibited unless it is unavoidable to prevent loss of life, personal injury, or severe property damage or no feasible alternatives exist

b) The permittee may allow bypass to occur which does not cause effluent limitations to be exceeded, but only if it is also for essential maintenance to assure efficient operation.

c) Notification of bypass:

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, at least ten days before the date of the bypass, to the City of Mason City.

(2) Unanticipated bypass. The permittee shall immediately notify the City of Mason City and submit a written notice to the POTW within 5 days. This report shall specify:

(i) A description of the bypass, and its cause, including its duration:

(ii) Whether the bypass has been corrected; and

(iii) The steps being taken or to be taken to reduce, eliminate and prevent a reoccurrence of the bypass.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in accordance with section 405 of the Clean Water Act and Subtitles C and D of the Resource Conservation and Recovery Act and Section 6-2-9 of the Sewer Use Ordinance.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and. If applicable, all equipment used for sampling and analysis must be routinely calibrated, inspected and maintained to ensure their accuracy. Monitoring points shall not be changed without notification to and the approval of the City of Mason City.

2. Flow Measurements

If flow measurement is required by this permit, the appropriate flow measurement devices and methods consistent with approved scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. If applicable, the devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Analytical Methods to Demonstrate Continued Compliance

All sampling and analysis required by this permit shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto, otherwise approved by EPA, or as specified in this permit.

4. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures identified in Section C.3, the results of this monitoring shall be included in the permittee's self-monitoring reports.

5. Inspection and Entry

The permittee shall allow the City of Mason City, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit;

d) Sample or monitor, for the purposes of assuring permit compliance, any substances or parameters at any location; and

e) Inspect any production, manufacturing, fabricating, or storage area where pollutants, regulated under the permit, could originate, be stored, or be hauled to the POTW.

6. Retention of Records

a) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application.

This period may be extended by request of the City of Mason City at any time.

b) All records that pertain to matters that are the subject of special orders or any other enforcement or litigation activities brought by the City of Mason City shall be retained and preserved by the permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

7. Record Contents

Records of sampling and analyses shall include:

a) The date, exact place, time, and methods of sampling or measurements, and sample preservation techniques or procedures;

b) Who performed the sampling or measurements;

c) The date(s) analyses were performed;

d) Who performed the analyses;

e) The analytical techniques or methods used; and

f) The results of such analyses.

8. Falsifying Information

Knowingly making any false statement on any report or other document required by this permit or knowingly rendering any monitoring device or method inaccurate is a crime and may result in the imposition of criminal sanctions and/or civil penalties.

SECTION D. ADDITIONAL REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give notice to the City of Mason City, 90 days prior to any facility expansion, production increase, or process modifications, which results in new or change in the nature of the wastewater.

2. Anticipated Noncompliance

The permittee shall give advance notice to the City of Mason City of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

3. Automatic Resampling

If the results of the permittees' wastewater analysis indicate a violation has occurred, the permittee must notify the City of Mason City within 24 hours of becoming aware of the violation and will not be allowed to haul to the POTW.

4. Duty to Provide Information

The permittee shall furnish to the City of Mason City, within **10 calendar days** any information which the City of Mason City may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also, upon request, furnish to the City of Mason City within 10 calendar days, copies of any records required to be kept by this point.

5. Signatory Requirements

All applications, reports, or information submitted to the City of Mason City must contain the following certification statement and be signed as required in Sections (a), (b), (c) or (d) below:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. It is non-hazardous wastewater. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

a) By a responsible corporate officer, if the Industrial User submitting the reports is a corporation. For the purpose of this paragraph, a responsible corporate officer means:

   (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or;

   (ii) The manager of one or more manufacturing, production, or operation facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b) By a general partner or proprietor if the Industrial User submitting the reports is a partnership or sole proprietorship respectively.

c) The principal executive officer or director having responsibility for the overall operation of the discharging facility if the Industrial User submitting the reports is a Federal, State, or local governmental entity, or their agents.

d) By a duly authorized representative of the individual designated in paragraph (a), (b), or (c) of this section if:

   i. The authorization is made in writing by the individual described in paragraph (a), (b), or (c);

   ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the Industrial Discharge originates, such as the position of plant manager, operator of a well, or a well field superintendent, or a position of equivalent responsibility, or having overall responsibility for environmental matters for the company; and

   iii. The written authorization is submitted to the City.

e) If an authorization under paragraph (d) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or overall responsibility for the environmental matters for the company, a new authorization satisfying the requirements of paragraph (d) of this section must be submitted to the City prior to or together with any reports to be signed by an authorized representative.

6. Operating Upsets

Any permittee that experiences an upset in operations that places the permittee in a temporary state of noncompliance with the provisions of either this permit or with any section of the City Code shall inform the City of Mason City within 24 hours of becoming aware of the upset at 421-3682. The wastewater may not be dumped at the POTW if it is in non-compliance with the City Code or set limits.

7. Annual Publication

A list of all industries in significant non-compliance, which were subject to enforcement proceedings during the twelve (12) previous months, shall be annually published in the largest daily newspaper within its service area. Accordingly, the permittee is apprised that significant noncompliance with this permit may lead to an enforcement action and may result in publication of its name in an appropriate newspaper in accordance with this section.

8. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil and/or criminal penalties for noncompliance under 6-2-38 to 6-2-42 or State or Federal laws or regulations.

9. Penalties for Violations of Permit Conditions

Continuously violating the permit that causes a Significant Non-Compliance (SNC) violation will cause the industry to be placed on a 90-day compliance schedule that includes mile stone requirements and in many cases, additional testing paid by the industry. The City of Mason City provides that any person who violates a permit condition is subject to a civil penalty up to $1000 per day of such violation. Any person who willfully or negligently violates permit conditions is subject to criminal penalties of a fine of up to $100

per day of violation, or by imprisonment for 30 day(s), or both. The permittee may also be subject to sanctions under State and/or Federal law.

10. Recovery of Costs Incurred

In addition to civil and criminal liability, the permittee violating any of the provisions of this permit or Section 6-2-9 of the Sewer Use Ordinance or causing damage to or otherwise inhibiting the City of Mason City wastewater disposal system shall be liable to the City of Mason City for any expense, loss, or damage caused by such violation or discharge. The City of Mason City shall bill the permittee for the costs incurred by the City of Mason City for any cleaning, repair, or replacement work caused by the violation or discharge. Refusal to pay the assessed costs shall constitute a separate violation of Section 6-2-39 of the Sewer Use Ordinance.

MONITORING REQUIREMENTS – FMC Sanitary Landfill

The permittee shall analyze a representative sample of the leachate hauled from the Central Disposal, per the monitoring requirements listed in Part 2, for each of the pollutants listed below.

Conventional Pollutants and Metals Biochemical Oxygen Demand (BOD_5) Total Suspended Solids Ammonia Nitrogen pH Total Nitrogen Kjeldahl N Total Phosphorous Fats, Oils and Grease Arsenic, Total (as As) Cadmium, Total (as Cd) Chromium, Total (as Cr) Chromium VI (as Cr(VI)) Copper, Total (as Cu) Cyanide, Total (as Cn) Lead, Total (as Pb) Mercury, Total (as Hg) Molybdenum, Total (as Mo) Nickel, Total (as Ni) Selenium, Total (as Se) Silver, Total (as Ag) Zinc, Total (as Zn) **Volatile Compounds** Method of Analysis: EPA Methods 624 or 1624 Chloromethane (methyl chloride) Bromomethane (methyl bromide) Vinyl chloride Chloroethane (ethyl chloride) Methylene chloride (dichloromethane) 1,1-Dichloroethene (1,1-dichloroethylene) 1,1-Dichloroethane 1,2-Dichloroethene (1,2-dichloroethylene) Chloroform 1,2-Dichloroethane	1,1,1-Trichloroethane (methyl chloroform) Carbon tetrachloride Bromodichloromethane 1,1,2,2-Tetrachloroethane 1,2-Dichloropropane 1,3-Dichloropropene Trichloroethene Dibromochloromethane 1,1,2-Trichloroethane Benzene 2-Chloroethyl vinyl ether Bromoform Tetrachloroethene Toluene Chlorobenzene Ethylbenzene **Acid Extractable Compounds** Method of Analysis: EPA Methods 625 or 1625 2-Chlorophenol 2-Nitrophenol 2,4-Dimethylphenol Benzoic acid 2,4-Dichlorophenol 4-Chloro-3-methylphenol 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2,4-Dinitrophenol 4-Nitrophenol 4,6-Dinitro-2-methylphenol Pentachlorophenol

Chlorinated Hydrocarbon Insecticides

Methods of Analysis: EPA Methods 608 or 625

Beta BHC
Delta BHC
Gamma BHC
Heptachlor
Aldrin
Heptachlor epoxide
Endosulfan
Dieldrin
4,4'-DDE
Endrin
Endosulfan II
4,4'-DDD
Endosulfan sulfate
4,4'-DDT
Endrin aldehyde
Chlordane
Toxaphene

Polychlorinated Biphenyls

Methods of Analysis: EPA Methods 608 or 625

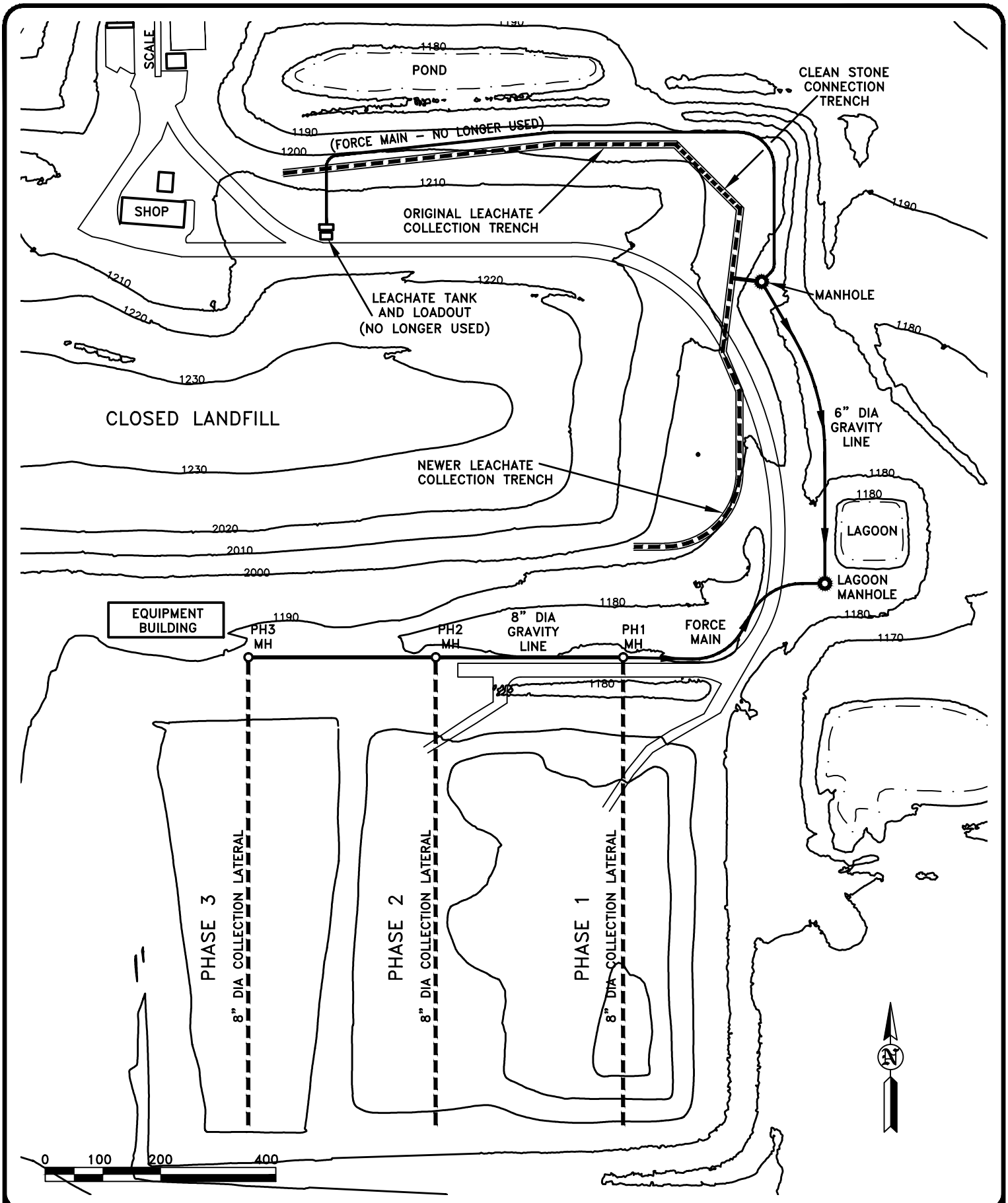
Arochlor-1016
Arochlor-1221
Arochlor-1232
Arochlor-1242
Arochlor-1248
Arochlor-1254
Arochlor-1260

Base/Neutral Compounds

Methods of Analysis: EPA Methods 625 or 1625

bis (2-chloroethyl) ether
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Benzyl alcohol
1,2-Dichlorobenzene
bis (2-chloroisopropyl) ether
N-Nitroso-dipropylamine
Hexachloroethane
Nitrobenzene
Isophorone
bis (2-chloroethoxy) methane
1,2,4-Trichlorobenzene
Naphthalene
Hexachlorobutadiene
Hexachlorocyclopentadiene
2-Chloronaphthalene
Dimethyl phthalate
Acenaphthylene
Acenaphthene
Dibenzofuran
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Diethyl phthalate
4-Chlorophenyl phenyl ether
Fluorene
N-Nitrosodiphenylamine
4-Bromophenyl phenyl ether
Hexachlorobenzene
Phenanthrene
Anthracene
Di-n-butyl phthalate
Fluoranthene
Pyrene
Butyl benzyl phthalate
3,3'-Dichlorobenzidine
Benzo (a) anthracene
bis (2-ethylhexyl) phthalate
Chrysene
Di-n-octyl phthalate
Benzo (b) fluoranthene
Benzo (k) fluoranthene
Benzo (a) pyrene
Indeno (1,2,3-cd) pyrene
Dibenz (a,h) anthracene
Benzo (g,h,i) perylene

Appendix G.4 – Leachate Treatment System Map – Closed Original Landfill



HLW

HLW Engineering Group

LEACHATE COLLECTION SYSTEM

FLOYD–MITCHELL–CHICKASAW SANITARY LANDFILL
ELMA, IOWA

FIGURE: 1

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6028	DATE 12–7–23

Appendix G.5 – Daily Leachate Recirculation Logs

FMC SLF
Recirculation Volumes
2023

Date	Spray	Tank	
5/5/2023	26,980		
5/8/2023	25,182		
5/9/2023	16,077		
5/22/23	17,885		
5/26/23	15,810		
5/30/23	11,367		
6/1/23	7,764		
6/20/23	21,434		
6/21/23	13,448		
6/22/23	13,044		
6/23/23	14,665		
7/24/23	4,866		
7/26/23	3,166		
7/27/23	9,488		
7/28/23	10,175		
8/1/23	13,400		
8/3/23	14,078		
8/21/23	10,080		
8/22/23	10,620		
8/23/23	12,026		
8/24/23	8,656	10,500	
9/1/23	20,675		
TOTAL	**300,886**	**10,500**	***311,386***

Mailo copy

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date		8/21/23	8-22-23	8/23/2023	8/24		
Liquid Levels (not to exceed 12-inches)							
Phase 1		<1	<1	<1	<1		
Phase 2 East		<1	<1	<1	<1		
Phase 2 West		<1	<1	<1	<1		
Spray Irrigation Time		7:30AM	10:00		9		
Start Time				9:30AM	10:30AM		
End Time		2:40PM	2:35pm	3:00pm	3:00		
Spray Irrigation Gallons							
To Phase 1				12026	8856		
To Phase 2		10080	10620				
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank					10500		
To Phase 1							
To Phase 2							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather		88°F sunny	101° sunny	101°F sunny	90°F sunny		
Windspeed/ Cloud Cover		11mph wind	14mph	12mph	12mph		
Rainfall (in.)		—	0"	—	—		

Mailed copy

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date			8-1-23		8-3-23		
Liquid Levels (not to exceed 12-inches)							
Phase 1			<1'		<1'		
Phase 2 East			<1'		<1'		
Phase 2 West			<1'		<		
Spray Irrigation Time							
Start Time			7.45am		8:00am		
End Time			2:30pm		2:30pm		
Spray Irrigation Gallons							
To Phase 1			13400		14078		
To Phase 2							
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank							
To Phase 1							
To Phase 2							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather							
Windspeed/ Cloud Cover			85° Temp Sunny	Temp Sunny	88° Sunny		
Rainfall (in.)			0"		0"		

Make copy

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date		7-24		7-26-23	7-27-23	7-28-23	
Liquid Levels (not to exceed 12-inches)							
Phase 1		<1'		<1'	<1'	<1'	
Phase 2 East		<1'		<1'	<1'	<1'	
Phase 2 West		<1'		<1'	<1'	<1'	
Spray Irrigation Time							
Start Time		11:30am		1:00pm	845am	8:00am	
End Time		2:30pm		2:30pm	1:45pm		
Spray Irrigation Gallons							
To Phase 1		4866		3166	9488	10175	
To Phase 2							
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank							
To Phase 1							
To Phase 2							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather							
Windspeed/ Cloud Cover		84° 5mph Mostly Sunny		92° 4mph Sunny	95° 5mph Sunny	89° 8mph Sunny	
Rainfall (in.)		0"		0"	0"	0"	

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date			6-20-23	6-21-23	6-22-23	6-23-23	
Liquid Levels (not to exceed 12-inches)							
Phase 1			<1'	<1'	<1'	<1'	
Phase 2 East			<1'	<1'	<1'	<1'	
Phase 2 West			<1'	<1'	<1'	<1'	
Phase 3			<1'	<1'	<1'	<1'	
Spray Irrigation Time							
Start Time			8:30am	8:45 a.m.	8:45am	845	
End Time			2:30pm	2:30 pm	2:30pm	2:30pm	
Spray Irrigation Gallons							
To Phase 1							
To Phase 2			21434	13448	13044	14665	
To Phase 3							
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank							
To Phase 1							
To Phase 2							
To Phase 3							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather							
Windspeed/ Cloud Cover			9 mph SE Sunny	9 mph SE Mostly Sunny	6 mph ESE Sunny	SSE 5 mph Sunny	
Rainfall (in.)			0"	0"	0"	0"	

Make copy

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date			5/30		6/1		
Liquid Levels (not to exceed 12-inches)							
Phase 1			<1'		<1'		
Phase 2 East			<1'		<1'		
Phase 2 West			<1'		<1'		
Spray Irrigation Time			8:00				
Start Time			8:00		8:00AM		
End Time			12:30		11:00AM		
Spray Irrigation Gallons			11367		7764		
To Phase 1							
To Phase 2			11367		7764		
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank							
To Phase 1							
To Phase 2							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather			88°F		70°F		
Windspeed/ Cloud Cover			6 mph wind		13 mph wind		
Rainfall (in.)			NR		N/A		

Make copy

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date		5/22				5/26	
Liquid Levels (not to exceed 12-inches)							
Phase 1		<1'				<1'	
Phase 2 East		<1'				<1'	
Phase 2 West		<1'				<1'	
Spray Irrigation Time							
Start Time		8:30AM				8:00	
End Time		2:00PM				1:00	
Spray Irrigation Gallons		17885				15810	
To Phase 1						15810	
To Phase 2		17885					
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank							
To Phase 1							
To Phase 2							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather							
Windspeed/ Cloud Cover		78°F			72°F		
Rainfall (in.)		N/A 4mph wind			N/A 10mph wind		

Mailbo copy

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date		5/8	5/9				
Liquid Levels (not to exceed 12-inches)							
Phase 1	<1' →		<1'				
Phase 2 East	<1' →		<1'				
Phase 2 West	<1' →		<1'				
Spray Irrigation Time							
Start Time	8:30 →		8:30				
End Time	2:30 →		2:00				
Spray Irrigation Gallons	25182 →		16077				
To Phase 1			16077				
To Phase 2	25182 →						
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank							
To Phase 1							
To Phase 2							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather	72°F →		78°F				
Windspeed/ Cloud Cover	Sunny 11mph wind →		Sunny 14mph wind				
Rainfall (in.)	N/A →		N/A				

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date						5/5/2023	
Liquid Levels (not to exceed 12-inches)							
Phase 1						<1'	
Phase 2 East						<1'	
Phase 2 West						<1'	
Spray Irrigation Time							
Start Time						7:30	
End Time						2:30	
Spray Irrigation Gallons						26980	
To Phase 1							
To Phase 2						26980	
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank							
To Phase 1							
To Phase 2							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather						Cloudy	
Windspeed/ Cloud Cover						10mph	
Rainfall (in.)						65°F	

Mailed copy

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date						9-1-23	
Liquid Levels (not to exceed 12-inches)							
Phase 1						<1'	
Phase 2 East						<1'	
Phase 2 West						<1'	
Spray Irrigation Time							
Start Time						7:30am	
End Time						2:45pm	
Spray Irrigation Gallons							
To Phase 1						20675	
To Phase 2							
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank							
To Phase 1							
To Phase 2							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather						99°	
Windspeed/ Cloud Cover						14mph Sunny	
Rainfall (in.)						0"	

Make copy.

Floyd-Mitchell-Chickasaw (FMC) Landfill - Daily Leachate Recirculation Log

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date			10/10/23				
Liquid Levels (not to exceed 12-inches)							
Phase 1		LPZ 11"					
Phase 2 East		LPZ 8" GPZ 3"					
Phase 2 West			5"				
Spray Irrigation Time		phase 3 LPZ >30" GPZ 0"					
Start Time							
End Time							
Spray Irrigation Gallons							
To Phase 1							
To Phase 2							
Trench Gallons							
To Phase 1							
Applied on Surface by Transport Tank							
To Phase 1							
To Phase 2							
Leachate Treatment							
Leachate to POTW – Gal.							
Weather							
Windspeed/ Cloud Cover							
Rainfall (in.)							

Appendix G.6 - Leachate Testing Results

FMC SLF
Hauled to Treatment
2023

Month	Osage	Mason City	Elma	Combined
January	89,862.63			
February	56,229.75			
March	152,002.22			
April	75,648.82			
May	79,011.15			
June	18,213.88			
July	92,124.95			
August	68,900.20			
September	0.00			
October	22,697.52	107529.84		
November	0.00	34823.96		
December	23,179.22	17355.66		
TOTAL	677,870.34	159,709.46	0.00	**837,580**

ANALYTICAL REPORT

January 23, 2023

Work Order: 1GA0295

Report To	Work Order Information
Lori King	Date Received: 1/5/2023 10:25:00AM
Floyd Mitchell SWMA	Collector:
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GA0295-01 Leachate (W)				Matrix: Water		Collected: 01/04/23 10:00	
BOD (5 day)	**364 mg/L**	**4**	1GA0180	SM 5210 B	AJE	01/05/23 15:20	
Nitrogen, Ammonia	**611 mg/L**	**10.0**	1GA0818	TIMBERLINE	TJB	01/17/23 15:02	
Oil and Grease	**5 mg/L**	**4**	1GA0455	EPA 1664A	RMC	01/11/23 14:50	PH-3
pH	**8.1 pH**	**0.5**	1GA0215	EPA 150.1	BSS	01/06/23 14:32	I-03
Nitrogen, Kjeldahl, total	**594 mg/L**	**10.0**	1GA0640	EPA 351.2	AKK	01/13/23 9:43	
Solids, total suspended	**122 mg/L**	**5**	1GA0416	USGS I-3765-85	MEAH	01/11/23 11:20	
1GA0295-02 Leachate (M)				Matrix: Water		Collected: 01/04/23 10:00	
Iron, total	**15.2 mg/L**	**0.100**	1GA0307	200.7	JAR	01/09/23 23:32	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GA0295

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GA0180 - General Prep Micro										
Blank (1GA0180-BLK1)				Prepared & Analyzed: 01/05/23						
BOD (5 day)	ND	4	mg/L							B-06
Duplicate (1GA0180-DUP1)		**Source: 1GA0314-01**		Prepared & Analyzed: 01/05/23						
BOD (5 day)	98.0	4	mg/L		91.0			7.41	29	
Reference (1GA0180-SRM1)				Prepared & Analyzed: 01/05/23						
BOD (5 day)	195	4	mg/L	198.000		98.5	84.6-115.4			
Batch 1GA0215 - Wet Chem Preparation										
Duplicate (1GA0215-DUP1)		**Source: 1GA0299-02**		Prepared & Analyzed: 01/06/23						
pH	7.7	0.5	pH		7.7			0.104	10	
Reference (1GA0215-SRM1)				Prepared & Analyzed: 01/06/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Reference (1GA0215-SRM2)				Prepared & Analyzed: 01/06/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Batch 1GA0416 - Wet Chem Preparation										
Blank (1GA0416-BLK1)				Prepared: 01/10/23 Analyzed: 01/11/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GA0416-BS1)				Prepared: 01/10/23 Analyzed: 01/11/23						
Solids, total suspended	15.2	1	mg/L	15.0000		101	74-114			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GA0295

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GA0416 - Wet Chem Preparation										
Duplicate (1GA0416-DUP1)		**Source: 1GA0288-01**		Prepared: 01/10/23 Analyzed: 01/11/23						
Solids, total suspended	473	10	mg/L		399			17.0	30	
Batch 1GA0455 - Wet Chem Preparation										
Blank (1GA0455-BLK1)				Prepared: 01/10/23 Analyzed: 01/11/23						
Oil and Grease	ND	4	mg/L							
LCS (1GA0455-BS1)				Prepared: 01/10/23 Analyzed: 01/11/23						
Oil and Grease	43.2	4	mg/L	40.0000		108	78-114			
LCS Dup (1GA0455-BSD1)				Prepared: 01/10/23 Analyzed: 01/11/23						
Oil and Grease	28.7	4	mg/L	40.0000		71.8	78-114	40.3	18	QR-04, QS-03
Batch 1GA0640 - Wet Chem Preparation										
Blank (1GA0640-BLK1)				Prepared & Analyzed: 01/13/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GA0640-BS1)				Prepared & Analyzed: 01/13/23						
Nitrogen, Kjeldahl, total	18.0	0.50	mg/L	20.0000		90.1	90-110			
Matrix Spike (1GA0640-MS1)		**Source: 1GA0309-02**		Prepared & Analyzed: 01/13/23						
Nitrogen, Kjeldahl, total	49.1	1.25	mg/L	50.0000	2.65	92.8	90-110			
Matrix Spike Dup (1GA0640-MSD1)		**Source: 1GA0309-02**		Prepared & Analyzed: 01/13/23						
Nitrogen, Kjeldahl, total	51.2	1.25	mg/L	50.0000	2.65	97.1	90-110	4.27	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GA0295

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GA0818 - Wet Chem Preparation										
Blank (1GA0818-BLK1)				Prepared & Analyzed: 01/17/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GA0818-BS1)				Prepared & Analyzed: 01/17/23						
Nitrogen, Ammonia	5.12	0.10	mg/L	5.00000		102	90-114			
Matrix Spike (1GA0818-MS1)		**Source: 1GA0288-02**		Prepared & Analyzed: 01/17/23						
Nitrogen, Ammonia	5.49	0.10	mg/L	5.00000	ND	110	84-115			
Matrix Spike Dup (1GA0818-MSD1)		**Source: 1GA0288-02**		Prepared & Analyzed: 01/17/23						
Nitrogen, Ammonia	5.66	0.10	mg/L	5.00000	ND	113	84-115	3.06	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GA0295

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GA0307 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GA0307-BLK1)				Prepared & Analyzed: 01/09/23						
Iron, total	ND	0.100	mg/L							
Blank (1GA0307-BLK2)				Prepared: 01/09/23 Analyzed: 01/10/23						
Iron, total	ND	0.100	mg/L							
LCS (1GA0307-BS1)				Prepared & Analyzed: 01/09/23						
Iron, total	2.27	0.100	mg/L	2.20000		103	85-115			
Matrix Spike (1GA0307-MS1)		**Source: 1GA0274-01**		Prepared & Analyzed: 01/09/23						
Iron, total	2.05	0.100	mg/L	2.20000	ND	93.0	70-130			
Matrix Spike Dup (1GA0307-MSD1)		**Source: 1GA0274-01**		Prepared & Analyzed: 01/09/23						
Iron, total	2.18	0.100	mg/L	2.20000	ND	99.0	70-130	6.25	20	
Post Spike (1GA0307-PS1)		**Source: 1GA0274-01**		Prepared & Analyzed: 01/09/23						
Iron, total	8.96		mg/L	8.80000	-0.025	102	85-115			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

January 23, 2023

Work Order: 1GA0295

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2023
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources	140	04/30/2023
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

Notes and Definitions

B-06	Unseeded Blank equals .3mg/L
I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 8 pH units.
QR-04	The Duplicate RPD for this analyte exceeded acceptance limits.
QS-03	The blank spike recovery was below established acceptance limits.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

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

1GA0295

Floyd Mitchell SWMA
PM: Sue Thompson

12/22/2022 9:09:08AM

www.keystonelabs.co

SITE INFORMATION

Sampler:

Project: Leachate Sampling

Water Analysis

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GA0295

Temperature 0.0

Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	Leachate (W)	Water	GRAB	1/4/23	10:00	3	bod-5210, dilution, nh3-timberline, og-t-1664, ph-150.1, tkn-351.2, tss-i-3765-85	01
02-001	Leachate (M)	Water	GRAB	1/4/23	10:00	1	fe-t-200.7	02

Tyler Wright 1-4-23 10:00
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Abigail [illegible] 1/5/23 10:25
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

ANALYTICAL REPORT

February 24, 2023

Work Order: 1GB0913

Report To	Work Order Information
Lori King	Date Received: 2/9/2023 11:00:00AM
Floyd Mitchell SWMA	Collector: Unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GB0913-01 3 (W)				Matrix: Water		Collected: 02/08/23 15:00	
BOD (5 day)	**326 mg/L**	**4**	1GB0437	SM 5210 B	MSV	02/09/23 16:00	
Nitrogen, Ammonia	**433 mg/L**	**10.0**	1GB0843	TIMBERLINE	SAT	02/20/23 11:34	
Oil and Grease	**11 mg/L**	**4**	1GB0459	EPA 1664A	RMC	02/10/23 16:44	OG-01, PH-3
pH	**8.1 pH**	**0.5**	1GB0556	EPA 150.1	BSS	02/13/23 10:12	I-03
Nitrogen, Kjeldahl, total	**669 mg/L**	**12.5**	1GB0957	EPA 351.2	AKK	02/21/23 8:38	
Solids, total suspended	**210 mg/L**	**20**	1GB0624	USGS I-3765-85	MEAH	02/15/23 13:15	
1GB0913-02 1 (M)				Matrix: Water		Collected: 02/08/23 15:00	
Iron, total	**13.1 mg/L**	**0.100**	1GB0680	200.7	JAR	02/15/23 22:18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GB0913

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GB0437 - General Prep Micro										
Blank (1GB0437-BLK1)				Prepared & Analyzed: 02/09/23						
BOD (5 day)	ND	4	mg/L							B-06
Duplicate (1GB0437-DUP1)		**Source: 1GB0926-03**		Prepared & Analyzed: 02/09/23						
BOD (5 day)	568	4	mg/L		592			4.14	29	
Reference (1GB0437-SRM1)				Prepared & Analyzed: 02/09/23						
BOD (5 day)	230	4	mg/L	198.000		116	84.6-115.4			QR-06
Batch 1GB0459 - Wet Chem Preparation										
Blank (1GB0459-BLK1)				Prepared: 02/09/23 Analyzed: 02/10/23						
Oil and Grease	ND	4	mg/L							
LCS (1GB0459-BS1)				Prepared: 02/09/23 Analyzed: 02/10/23						
Oil and Grease	39.3	4	mg/L	40.0000		98.2	78-114			
LCS Dup (1GB0459-BSD1)				Prepared: 02/09/23 Analyzed: 02/10/23						
Oil and Grease	37.2	4	mg/L	40.0000		93.0	78-114	5.49	18	
Batch 1GB0556 - Wet Chem Preparation										
Duplicate (1GB0556-DUP1)		**Source: 1GB0909-01**		Prepared & Analyzed: 02/13/23						
pH	7.5	0.5	pH		7.5			0.107	10	
Reference (1GB0556-SRM1)				Prepared & Analyzed: 02/13/23						
pH	7.0	0.5	pH	7.00000		100	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GB0913

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GB0556 - Wet Chem Preparation										
Reference (1GB0556-SRM2)				Prepared & Analyzed: 02/13/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Batch 1GB0624 - Wet Chem Preparation										
Blank (1GB0624-BLK1)				Prepared: 02/14/23 Analyzed: 02/15/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GB0624-BS1)				Prepared: 02/14/23 Analyzed: 02/15/23						
Solids, total suspended	13.7	1	mg/L	15.0000		91.3	74-114			
Duplicate (1GB0624-DUP1)		**Source: 1GB0907-01**		Prepared: 02/14/23 Analyzed: 02/15/23						
Solids, total suspended	137	10	mg/L		141			2.88	30	
Batch 1GB0843 - General Prep HPLC/IC										
Blank (1GB0843-BLK1)				Prepared: 02/17/23 Analyzed: 02/20/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GB0843-BS1)				Prepared & Analyzed: 02/17/23						
Nitrogen, Ammonia	4.38	0.10	mg/L	5.00000		87.7	90-114			QS-01
Matrix Spike (1GB0843-MS1)		**Source: 1GB0930-02**		Prepared: 02/17/23 Analyzed: 02/20/23						
Nitrogen, Ammonia	5.10	0.10	mg/L	5.00000	0.223	97.6	84-115			
Matrix Spike Dup (1GB0843-MSD1)		**Source: 1GB0930-02**		Prepared: 02/17/23 Analyzed: 02/20/23						
Nitrogen, Ammonia	5.24	0.10	mg/L	5.00000	0.223	100	84-115	2.68	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

February 24, 2023

Work Order: 1GB0913

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GB0957 - Wet Chem Preparation										
Blank (1GB0957-BLK1)				Prepared & Analyzed: 02/21/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GB0957-BS1)				Prepared & Analyzed: 02/21/23						
Nitrogen, Kjeldahl, total	20.9	0.50	mg/L	20.0000		105	90-110			
Matrix Spike (1GB0957-MS1)		**Source: 1GB0878-04**		Prepared & Analyzed: 02/21/23						
Nitrogen, Kjeldahl, total	52.7	1.25	mg/L	50.0000	4.11	97.2	90-110			
Matrix Spike Dup (1GB0957-MSD1)		**Source: 1GB0878-04**		Prepared & Analyzed: 02/21/23						
Nitrogen, Kjeldahl, total	51.9	1.25	mg/L	50.0000	4.11	95.5	90-110	1.61	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GB0913

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GB0680 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GB0680-BLK1)				Prepared: 02/14/23 Analyzed: 02/15/23						
Iron, total	ND	0.100	mg/L							
LCS (1GB0680-BS1)				Prepared: 02/14/23 Analyzed: 02/15/23						
Iron, total	2.27	0.100	mg/L	2.20000		103	85-115			
Matrix Spike (1GB0680-MS1)		**Source: 1GB0708-01**		Prepared: 02/14/23 Analyzed: 02/15/23						
Iron, total	3.88	0.100	mg/L	2.20000	1.74	97.1	70-130			
Matrix Spike Dup (1GB0680-MSD1)		**Source: 1GB0708-01**		Prepared: 02/14/23 Analyzed: 02/15/23						
Iron, total	3.97	0.100	mg/L	2.20000	1.74	101	70-130	2.47	20	
Post Spike (1GB0680-PS1)		**Source: 1GB0708-01**		Prepared: 02/14/23 Analyzed: 02/15/23						
Iron, total	11.4		mg/L	8.80000	1.74	110	85-115			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2023
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources	140	04/30/2023
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GB0913

February 24, 2023

Notes and Definitions

B-06	Unseeded Blank equals .5mg/L
I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
OG-01	This analysis was not performed using the entire sample provided by the client as required by the method due to sample matrix interference.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 8 pH units.
QR-06	The reference standard was outside of established control limits.
QS-01	The blank spike recovery and/or blank spike duplicate recovery were outside the established acceptance limits. Batch was accepted based on acceptable MS/MSD/RPD results.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES, INC.

600 E
Newtc
641-7

1GB0913

Floyd Mitchell SWMA
PM: Sue Thompson

Printed: 10/4/2022 6:51:29AM

www.keystonelabs.c

SITE INFORMATION

Sampler:

Project: **Leachate Sampling**
Water Analysis

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GB0913

Temperature 0.0

Turn-Cooler: **Yes**

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	3 (W)	Water	GRAB	2/8/23	1500	3	bod-5210, dilution, nh3-timberline, og-t-1664, ph-150.1, tkn-351.2, tss-i-3765-85	01
02-001	1 (M)	Water	GRAB	2/8/23	1500	1	fe-t-200.7	02

Christian Fox 2-8-23 / 1500
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Echo McMurry 2/9/23 11:00
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

ANALYTICAL REPORT

February 28, 2023

Work Order: 1GB1427

Report To	Work Order Information
Lori King	Date Received: 2/15/2023 10:30:00AM
Floyd Mitchell SWMA	Collector: unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GB1427-01 Leachate (W)				Matrix: Water		Collected: 02/14/23 12:00	
BOD (5 day)	**431 mg/L**	**4**	1GB0738	SM 5210 B	IDD	02/15/23 15:20	
Nitrogen, Ammonia	**736 mg/L**	**10.0**	1GB1130	TIMBERLINE	SAT	02/23/23 15:13	
Oil and Grease	<4 mg/L	4	1GB0853	EPA 1664A	RMC	02/21/23 14:45	PH-3
pH	**8.1 pH**	**0.5**	1GB0748	EPA 150.1	BSS	02/15/23 16:57	I-03
Nitrogen, Kjeldahl, total	**974 mg/L**	**50.0**	1GB1084	EPA 351.2	AKK	02/22/23 16:45	
Solids, total suspended	**152 mg/L**	**5**	1GB0922	USGS I-3765-85	MEAH	02/20/23 16:10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GB1427

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GB0738 - General Prep Micro										
Blank (1GB0738-BLK1)				Prepared & Analyzed: 02/15/23						
BOD (5 day)	ND	4	mg/L							
Duplicate (1GB0738-DUP1)		**Source: 1GB1414-01**		Prepared & Analyzed: 02/15/23						
BOD (5 day)	816	4	mg/L		903			10.1	29	
Reference (1GB0738-SRM1)				Prepared & Analyzed: 02/15/23						
BOD (5 day)	227	4	mg/L	198.000		115	84.6-115.4			
Batch 1GB0748 - Wet Chem Preparation										
Duplicate (1GB0748-DUP1)		**Source: 1GB1379-01**		Prepared & Analyzed: 02/15/23						
pH	7.5	0.5	pH		7.5			0.0931	10	
Reference (1GB0748-SRM1)				Prepared & Analyzed: 02/15/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Reference (1GB0748-SRM2)				Prepared & Analyzed: 02/15/23						
pH	7.1	0.5	pH	7.00000		101	90-110			
Batch 1GB0853 - Wet Chem Preparation										
Blank (1GB0853-BLK1)				Prepared: 02/17/23 Analyzed: 02/21/23						
Oil and Grease	ND	4	mg/L							
LCS (1GB0853-BS1)				Prepared: 02/17/23 Analyzed: 02/21/23						
Oil and Grease	35.7	4	mg/L	40.0000		89.2	78-114			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GB1427

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GB0853 - Wet Chem Preparation										
Matrix Spike (1GB0853-MS1)		**Source: 1GB1553-01**		Prepared: 02/17/23 Analyzed: 02/21/23						
Oil and Grease	31.0	4	mg/L	40.0000	2.6	71.0	78-114			QM-07
Matrix Spike Dup (1GB0853-MSD1)		**Source: 1GB1553-01**		Prepared: 02/17/23 Analyzed: 02/21/23						
Oil and Grease	34.6	4	mg/L	40.0000	2.6	80.0	78-114	11.0	18	
Batch 1GB0922 - Wet Chem Preparation										
Blank (1GB0922-BLK1)				Prepared & Analyzed: 02/20/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GB0922-BS1)				Prepared & Analyzed: 02/20/23						
Solids, total suspended	14.2	1	mg/L	15.0000		94.7	74-114			
Duplicate (1GB0922-DUP1)		**Source: 1GB1392-01**		Prepared & Analyzed: 02/20/23						
Solids, total suspended	530	20	mg/L		542			2.24	30	
Batch 1GB1084 - Wet Chem Preparation										
Blank (1GB1084-BLK1)				Prepared & Analyzed: 02/22/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GB1084-BS1)				Prepared & Analyzed: 02/22/23						
Nitrogen, Kjeldahl, total	20.8	0.50	mg/L	20.0000		104	90-110			
Matrix Spike (1GB1084-MS1)		**Source: 1GB1422-02**		Prepared & Analyzed: 02/22/23						
Nitrogen, Kjeldahl, total	46.5	1.25	mg/L	50.0000	1.23	90.5	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GB1427

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GB1084 - Wet Chem Preparation										
Matrix Spike Dup (1GB1084-MSD1)		**Source: 1GB1422-02**		Prepared & Analyzed: 02/22/23						
Nitrogen, Kjeldahl, total	47.0	1.25	mg/L	50.0000	1.23	91.5	90-110	1.09	10	
Batch 1GB1130 - General Prep HPLC/IC										
Blank (1GB1130-BLK1)				Prepared & Analyzed: 02/23/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GB1130-BS1)				Prepared & Analyzed: 02/23/23						
Nitrogen, Ammonia	5.22	0.10	mg/L	5.00000		104	90-114			
Matrix Spike (1GB1130-MS1)		**Source: 1GB1425-02**		Prepared & Analyzed: 02/23/23						
Nitrogen, Ammonia	5.49	0.10	mg/L	5.00000	0.487	100	84-115			
Matrix Spike Dup (1GB1130-MSD1)		**Source: 1GB1425-02**		Prepared & Analyzed: 02/23/23						
Nitrogen, Ammonia	5.50	0.10	mg/L	5.00000	0.487	100	84-115	0.344	20	

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2023
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources	140	04/30/2023
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

February 28, 2023

Work Order: 1GB1427

Notes and Definitions

I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 8 pH units.
QM-07	The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUSTODY

Keystone LABORATORIES, INC.

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

1GB1427

Floyd Mitchell SWMA
PM: Sue Thompson

3/2023 10:25:36AM
vw.keystonelabs.c

SITE INFORMATION

Sampler:

Project: Leachate Sampling

Water Analysis

SPECIAL INSTRUCTIONS

None

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

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GB1427
Temperature 0.0
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	[illegible] (W)	Water	GRAB	2/14/23	12:00pm	3	bod-5210, nh3-timberline, ph-150.1, tss-i-3765-85, dilution, og-t-1664, tkn-351.2	01
02-001	(M)	Water	GRAB	/ /			fe-t-200.7	

Tyler Wright 2-14-23 12:00pm
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Kylee Lathoon 2/15/23 10:30
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

ANALYTICAL REPORT

June 05, 2023

Work Order: 1GC0227

Report To	Work Order Information
Lori King	Date Received: 3/2/2023 10:30:00AM
Floyd Mitchell SWMA	Collector: Unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Amended Report, May 4, 2023: The Total Kjeldahl Nitrogen result originally reported for sample 1GC0227-01 was not correct due to an analysis error. The sample was re-analyzed outside of the EPA recommended holding time and that result is included in this report under the sample number 1GC0227-01RE1

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GC0227-01 3 (W)				Matrix: Water		Collected: 03/01/23 07:30	
BOD (5 day)	**413 mg/L**	**4**	1GC0112	SM 5210 B	IDD	03/02/23 16:55	
Nitrogen, Ammonia	**584 mg/L**	**10.0**	1GC0619	TIMBERLINE	TJB	03/13/23 13:17	
Oil and Grease	<4 mg/L	4	1GC0400	EPA 1664A	RMC	03/09/23 14:18	PH-3
pH	**8.0 pH**	**0.5**	1GC0284	EPA 150.1	BSS	03/06/23 16:56	I-03
Solids, total suspended	**124 mg/L**	**10**	1GC0360	USGS I-3765-85	MEAH	03/08/23 12:30	
1GC0227-01RE1 3 (W)				Matrix: Water		Collected: 03/01/23 07:30	
Nitrogen, Kjeldahl, total	**604 mg/L**	**50.0**	1GD0124	EPA 351.2	AK	04/04/23 13:30	A-01
1GC0227-02RE1 1 (M)				Matrix: Water		Collected: 03/01/23 07:30	
Iron, total	**15.7 mg/L**	**1.00**	1GC0145	200.7	JAR	03/07/23 10:37	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0227

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC0112 - General Prep Micro										
Blank (1GC0112-BLK1)				Prepared & Analyzed: 03/02/23						
BOD (5 day)	ND	4	mg/L							B-06
Duplicate (1GC0112-DUP1)		**Source: 1GC0232-03**		Prepared & Analyzed: 03/02/23						
BOD (5 day)	185	4	mg/L		176			4.99	29	
Reference (1GC0112-SRM1)				Prepared & Analyzed: 03/02/23						
BOD (5 day)	245	4	mg/L	198.000		124	84.6-115.4			QR-06
Batch 1GC0284 - Wet Chem Preparation										
Duplicate (1GC0284-DUP1)		**Source: 1GC0398-01**		Prepared & Analyzed: 03/06/23						
pH	8.8	0.5	pH		8.7			0.0915	10	
Reference (1GC0284-SRM1)				Prepared & Analyzed: 03/06/23						
pH	7.1	0.5	pH	7.00000		101	90-110			
Reference (1GC0284-SRM2)				Prepared & Analyzed: 03/06/23						
pH	7.1	0.5	pH	7.00000		101	90-110			
Batch 1GC0360 - Wet Chem Preparation										
Blank (1GC0360-BLK1)				Prepared: 03/07/23 Analyzed: 03/08/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GC0360-BS1)				Prepared: 03/07/23 Analyzed: 03/08/23						
Solids, total suspended	14.5	1	mg/L	15.0000		96.7	74-114			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0227

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC0360 - Wet Chem Preparation										
Duplicate (1GC0360-DUP1)		**Source: 1GC0147-01**		Prepared: 03/07/23 Analyzed: 03/08/23						
Solids, total suspended	13.2	2	mg/L		13.4			1.50	30	
Batch 1GC0400 - Wet Chem Preparation										
Blank (1GC0400-BLK1)				Prepared: 03/08/23 Analyzed: 03/09/23						
Oil and Grease	ND	4	mg/L							
LCS (1GC0400-BS1)				Prepared: 03/08/23 Analyzed: 03/09/23						
Oil and Grease	82.9	4	mg/L	80.0000		104	78-114			
Matrix Spike (1GC0400-MS1)		**Source: 1GC0352-01**		Prepared: 03/08/23 Analyzed: 03/09/23						
Oil and Grease	82.8	4	mg/L	80.0000	2.0	101	78-114			
Matrix Spike Dup (1GC0400-MSD1)		**Source: 1GC0352-01**		Prepared: 03/08/23 Analyzed: 03/09/23						
Oil and Grease	88.5	4	mg/L	80.0000	2.0	108	78-114	6.65	18	
Batch 1GC0519 - Wet Chem Preparation										
Blank (1GC0519-BLK1)				Prepared & Analyzed: 03/10/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GC0519-BS1)				Prepared & Analyzed: 03/10/23						
Nitrogen, Kjeldahl, total	21.2	0.50	mg/L	20.0000		106	90-110			
Matrix Spike (1GC0519-MS1)		**Source: 1GC0228-04**		Prepared & Analyzed: 03/10/23						
Nitrogen, Kjeldahl, total	58.7	1.25	mg/L	50.0000	4.61	108	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0227

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC0519 - Wet Chem Preparation										
Matrix Spike Dup (1GC0519-MSD1)		**Source: 1GC0228-04**		Prepared & Analyzed: 03/10/23						
Nitrogen, Kjeldahl, total	57.7	1.25	mg/L	50.0000	4.61	106	90-110	1.75	10	
Batch 1GC0619 - General Prep HPLC/IC										
Blank (1GC0619-BLK1)				Prepared & Analyzed: 03/13/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GC0619-BS1)				Prepared & Analyzed: 03/13/23						
Nitrogen, Ammonia	4.74	0.10	mg/L	5.00000		94.8	90-114			
Matrix Spike (1GC0619-MS1)		**Source: 1GC0221-02**		Prepared & Analyzed: 03/13/23						
Nitrogen, Ammonia	17.5	0.10	mg/L	5.00000	12.2	105	84-115			
Matrix Spike Dup (1GC0619-MSD1)		**Source: 1GC0221-02**		Prepared & Analyzed: 03/13/23						
Nitrogen, Ammonia	16.8	0.10	mg/L	5.00000	12.2	92.0	84-115	3.80	20	
Batch 1GD0124 - Wet Chem Preparation										
Blank (1GD0124-BLK1)				Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GD0124-BS1)				Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	21.0	0.50	mg/L	20.0000		105	90-110			
Matrix Spike (1GD0124-MS1)		**Source: 1GC2665-02**		Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	53.8	1.25	mg/L	50.0000	3.20	101	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

June 05, 2023

Work Order: 1GC0227

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0124 - Wet Chem Preparation										
Matrix Spike Dup (1GD0124-MSD1)		**Source: 1GC2665-02**		Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	52.8	1.25	mg/L	50.0000	3.20	99.3	90-110	1.87	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0227

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC0145 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GC0145-BLK1)				Prepared: 03/02/23 Analyzed: 03/06/23						
Iron, total	ND	0.100	mg/L							
LCS (1GC0145-BS1)				Prepared: 03/02/23 Analyzed: 03/06/23						
Iron, total	2.23	0.100	mg/L	2.20000		101	85-115			
Matrix Spike (1GC0145-MS1)		**Source: 1GC0083-01**		Prepared: 03/02/23 Analyzed: 03/07/23						
Iron, total	15.0	0.200	mg/L	2.20000	13.2	78.8	70-130			
Matrix Spike Dup (1GC0145-MSD1)		**Source: 1GC0083-01**		Prepared: 03/02/23 Analyzed: 03/07/23						
Iron, total	13.9	0.200	mg/L	2.20000	13.2	30.2	70-130	7.41	20	QM-4X
Post Spike (1GC0145-PS1)		**Source: 1GC0083-01**		Prepared: 03/02/23 Analyzed: 03/06/23						
Iron, total	22.1		mg/L	8.80000	13.2	101	85-115			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2024
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2024
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

June 05, 2023

Work Order: 1GC0227

Notes and Definitions

A-01	Sample was originally analyzed within hold time, however results were inconsistent with historical data. The sample was reanalyzed outside of hold time.
B-06	Unseeded Blank equals .3mg/L
I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 8 pH units.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration.
QR-06	The reference standard was outside of established control limits.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUSTODY RECORD

Keystone
LABORATORIES, INC.

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

1GC0227

Floyd Mitchell SWMA
PM: Sue Thompson

Printed: 2/16/2023 3:51:04PM

www.keystonelabs.co

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

SPECIAL INSTRUCTIONS

None

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

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GC0227
Temperature 0.0
Turn-Cooler: Yes

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	3 (W)	Water	GRAB	3/1/23	7:30	3	bod-5210, nh3-timberline, ph-150.1, tss-i-3765-85, dilution, og-t-1664, tkn-351.2	01
02-001	1 (M)	Water	GRAB	3/1/23	7:30	1	fe-t-200.7	02

Relinquished By [signature] Date/Time 3/1/23 7:30

Received By Date/Time

Relinquished By Date/Time

Received for Lab By Linda Mabom Date/Time 3/2/23 10:30

Remarks:

Original - Lab Copy Yellow - Sampler Copy

ANALYTICAL REPORT

June 05, 2023

Work Order: 1GC0620

Report To	Work Order Information
Lori King	Date Received: 3/7/2023 10:30:00AM
Floyd Mitchell SWMA	Collector: Unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Amended Report, May 4, 2023: The Total Kjeldahl Nitrogen result originally reported for sample 1GC0620-01 was not correct due to an analysis error. The sample was re-analyzed outside of the EPA recommended holding time and that result is included in this report under the sample number 1GC0620-01RE3

Analyte		Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GC0620-01	Leachate (W)				Matrix: Water		Collected: 03/06/23 14:30	
BOD (5 day)		**328 mg/L**	**4**	1GC0312	SM 5210 B	IDD	03/08/23 10:55	
Nitrogen, Ammonia		**572 mg/L**	**10.0**	1GC0711	TIMBERLINE	TJB	03/14/23 16:42	
Oil and Grease		**4 mg/L**	**4**	1GC0497	EPA 1664A	RMC	03/10/23 15:12	PH-3a
pH		**8.2 pH**	**0.5**	1GC0350	EPA 150.1	BSS	03/07/23 17:01	I-03
Solids, total suspended		**177 mg/L**	**10**	1GC0543	USGS I-3765-85	MEAH	03/10/23 16:15	
1GC0620-01RE3	Leachate (W)				Matrix: Water		Collected: 03/06/23 14:30	
Nitrogen, Kjeldahl, total		**553 mg/L**	**50.0**	1GD0420	EPA 351.2	AKK	04/11/23 11:16	A-01
1GC0620-02	Leachate (M)				Matrix: Water		Collected: 03/06/23 14:30	
Iron, total		**13.3 mg/L**	**0.100**	1GC0422	200.7	JAR	03/10/23 0:37	PH-3

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0620

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC0312 - General Prep Micro										
Blank (1GC0312-BLK1)				Prepared & Analyzed: 03/08/23						
BOD (5 day)	ND	4	mg/L							B-06
Duplicate (1GC0312-DUP1)		**Source: 1GC0665-01**		Prepared & Analyzed: 03/08/23						
BOD (5 day)	259	4	mg/L		295			13.0	29	
Reference (1GC0312-SRM1)				Prepared & Analyzed: 03/08/23						
BOD (5 day)	236	4	mg/L	198.000		119	84.6-115.4			QR-06
Batch 1GC0350 - Wet Chem Preparation										
Duplicate (1GC0350-DUP1)		**Source: 1GC0534-01**		Prepared & Analyzed: 03/07/23						
pH	6.6	0.5	pH		6.6			0.0454	10	
Reference (1GC0350-SRM1)				Prepared & Analyzed: 03/07/23						
pH	7.0	0.5	pH	7.00000		101	90-110			
Reference (1GC0350-SRM2)				Prepared & Analyzed: 03/07/23						
pH	7.1	0.5	pH	7.00000		101	90-110			
Batch 1GC0497 - Wet Chem Preparation										
Blank (1GC0497-BLK1)				Prepared: 03/09/23 Analyzed: 03/10/23						
Oil and Grease	ND	4	mg/L							
LCS (1GC0497-BS1)				Prepared: 03/09/23 Analyzed: 03/10/23						
Oil and Grease	36.3	4	mg/L	40.0000		90.8	78-114			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0620

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC0497 - Wet Chem Preparation										
Matrix Spike (1GC0497-MS1)		**Source: 1GC1014-01**		Prepared: 03/09/23 Analyzed: 03/10/23						
Oil and Grease	36.0	4	mg/L	40.0000	2.5	83.8	78-114			
Matrix Spike Dup (1GC0497-MSD1)		**Source: 1GC1014-01**		Prepared: 03/09/23 Analyzed: 03/10/23						
Oil and Grease	36.9	4	mg/L	40.0000	2.5	86.0	78-114	2.47	18	
Batch 1GC0543 - Wet Chem Preparation										
Blank (1GC0543-BLK1)				Prepared & Analyzed: 03/10/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GC0543-BS1)				Prepared & Analyzed: 03/10/23						
Solids, total suspended	15.8	1	mg/L	15.0000		105	74-114			
Duplicate (1GC0543-DUP1)		**Source: 1GC0545-01**		Prepared & Analyzed: 03/10/23						
Solids, total suspended	96.0	7	mg/L		90.7			5.71	30	
Batch 1GC0668 - Wet Chem Preparation										
Blank (1GC0668-BLK1)				Prepared & Analyzed: 03/14/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GC0668-BS1)				Prepared & Analyzed: 03/14/23						
Nitrogen, Kjeldahl, total	19.1	0.50	mg/L	20.0000		95.4	90-110			
Matrix Spike (1GC0668-MS1)		**Source: 1GC0656-02**		Prepared & Analyzed: 03/14/23						
Nitrogen, Kjeldahl, total	64.5	1.25	mg/L	50.0000	11.6	106	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0620

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC0668 - Wet Chem Preparation										
Matrix Spike Dup (1GC0668-MSD1)		**Source: 1GC0656-02**		Prepared & Analyzed: 03/14/23						
Nitrogen, Kjeldahl, total	61.6	1.25	mg/L	50.0000	11.6	100	90-110	4.57	10	
Batch 1GC0711 - General Prep HPLC/IC										
Blank (1GC0711-BLK1)				Prepared & Analyzed: 03/14/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GC0711-BS1)				Prepared & Analyzed: 03/14/23						
Nitrogen, Ammonia	4.86	0.10	mg/L	5.00000		97.3	90-114			
Matrix Spike (1GC0711-MS1)		**Source: 1GC0555-02**		Prepared & Analyzed: 03/14/23						
Nitrogen, Ammonia	5.31	0.10	mg/L	5.00000	0.140	103	84-115			
Matrix Spike Dup (1GC0711-MSD1)		**Source: 1GC0555-02**		Prepared & Analyzed: 03/14/23						
Nitrogen, Ammonia	5.36	0.10	mg/L	5.00000	0.140	104	84-115	0.999	20	
Batch 1GC1122 - Wet Chem Preparation										
Blank (1GC1122-BLK1)				Prepared & Analyzed: 03/22/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GC1122-BS1)				Prepared & Analyzed: 03/22/23						
Nitrogen, Kjeldahl, total	21.5	0.50	mg/L	20.0000		107	90-110			
Matrix Spike (1GC1122-MS1)		**Source: 1GC1621-02**		Prepared & Analyzed: 03/22/23						
Nitrogen, Kjeldahl, total	55.4	1.25	mg/L	50.0000	2.62	105	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0620

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC1122 - Wet Chem Preparation										
Matrix Spike Dup (1GC1122-MSD1)		**Source: 1GC1621-02**		Prepared & Analyzed: 03/22/23						
Nitrogen, Kjeldahl, total	54.8	1.25	mg/L	50.0000	2.62	104	90-110	1.02	10	
Batch 1GC1194 - General Prep HPLC/IC										
Blank (1GC1194-BLK1)				Prepared & Analyzed: 03/23/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GC1194-BS1)				Prepared & Analyzed: 03/23/23						
Nitrogen, Ammonia	5.05	0.10	mg/L	5.00000		101	90-114			
Matrix Spike (1GC1194-MS1)		**Source: 1GC1106-02**		Prepared & Analyzed: 03/23/23						
Nitrogen, Ammonia	6.11	0.10	mg/L	5.00000	0.762	107	84-115			
Matrix Spike Dup (1GC1194-MSD1)		**Source: 1GC1106-02**		Prepared & Analyzed: 03/23/23						
Nitrogen, Ammonia	6.00	0.10	mg/L	5.00000	0.762	105	84-115	1.81	20	
Batch 1GD0124 - Wet Chem Preparation										
Blank (1GD0124-BLK1)				Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GD0124-BS1)				Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	21.0	0.50	mg/L	20.0000		105	90-110			
Matrix Spike (1GD0124-MS1)		**Source: 1GC2665-02**		Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	53.8	1.25	mg/L	50.0000	3.20	101	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0620

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0124 - Wet Chem Preparation										
Matrix Spike Dup (1GD0124-MSD1)		**Source: 1GC2665-02**		Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	52.8	1.25	mg/L	50.0000	3.20	99.3	90-110	1.87	10	
Batch 1GD0420 - Wet Chem Preparation										
Blank (1GD0420-BLK1)				Prepared & Analyzed: 04/10/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GD0420-BS1)				Prepared & Analyzed: 04/10/23						
Nitrogen, Kjeldahl, total	21.5	0.50	mg/L	20.0000		108	90-110			
Matrix Spike (1GD0420-MS1)		**Source: 1GC3106-02RE1**		Prepared & Analyzed: 04/10/23						
Nitrogen, Kjeldahl, total	52.8	1.25	mg/L	50.0000	ND	106	90-110			
Matrix Spike Dup (1GD0420-MSD1)		**Source: 1GC3106-02RE1**		Prepared & Analyzed: 04/10/23						
Nitrogen, Kjeldahl, total	53.7	1.25	mg/L	50.0000	ND	107	90-110	1.75	10	
Batch 1GD0650 - General Prep HPLC/IC										
Blank (1GD0650-BLK1)				Prepared & Analyzed: 04/13/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GD0650-BS1)				Prepared & Analyzed: 04/13/23						
Nitrogen, Ammonia	5.00	0.10	mg/L	5.00000		100	90-114			
Matrix Spike (1GD0650-MS1)		**Source: 1GD0552-01**		Prepared & Analyzed: 04/13/23						
Nitrogen, Ammonia	5.21	0.10	mg/L	5.00000	ND	104	84-115			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0620

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0650 - General Prep HPLC/IC										
Matrix Spike Dup (1GD0650-MSD1)		**Source: 1GD0552-01**		Prepared & Analyzed: 04/13/23						
Nitrogen, Ammonia	5.23	0.10	mg/L	5.00000	ND	105	84-115	0.378	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC0620

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC0422 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GC0422-BLK1)				Prepared: 03/08/23 Analyzed: 03/09/23						
Iron, total	ND	0.100	mg/L							
LCS (1GC0422-BS1)				Prepared: 03/08/23 Analyzed: 03/09/23						
Iron, total	2.35	0.100	mg/L	2.20000		107	85-115			
Matrix Spike (1GC0422-MS1)		**Source: 1GC0592-02**		Prepared: 03/08/23 Analyzed: 03/10/23						
Iron, total	3.93	0.100	mg/L	2.20000	1.68	103	70-130			
Matrix Spike Dup (1GC0422-MSD1)		**Source: 1GC0592-02**		Prepared: 03/08/23 Analyzed: 03/10/23						
Iron, total	3.90	0.100	mg/L	2.20000	1.68	101	70-130	0.863	20	
Post Spike (1GC0422-PS1)		**Source: 1GC0592-02**		Prepared: 03/08/23 Analyzed: 03/10/23						
Iron, total	11.1		mg/L	8.80000	1.68	107	85-115			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2024
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2024
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

June 05, 2023

Work Order: 1GC0620

Notes and Definitions

A-01	Sample was re-analyzed outside of EPA hold time to confirm results.
B-06	Unseeded Blank equals .4mg/L
I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 7 pH units.
PH-3a	Insufficient preservative to adjust the sample pH to less than 2, value measured at 9 pH units.
QR-06	The reference standard was outside of established control limits.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

600 East 17th Stre
Newton, IA 50208
641-792-8461

1 G C 0 6 2 0

Floyd Mitchell SWMA
PM: Sue Thompson

Printed: 2/10/2023 10:20:54AM
www.keystonelabs.co

SITE INFORMATION

Sampler:

Project: **Leachate Sampling**
Water Analysis

REPO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

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

LAB USE ONLY

Work Order 1GC0620
Temperature 0 0
Turn-Cooler: **Yes**

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	leachate (W)	Water	GRAB	3/6/23	2:30	3	bod-5210 nh3-timberline ph-150.1 iss-i-3765-85	dilution og-t-1664 tkn-351.2	01
02-001	leachate (M)	Water	GRAB	3/6/23	2:36	1	fe-t-200.7		02

Relinquished By: [signature] Date/Time: 3/6/2023 2:30

Relinquished By: [signature] Date/Time: 3/7/23 10:30

Received By: Date/Time:

Received for Lab By: [signature] Date/Time:

Remarks:

Original - Lab Copy Yellow - Sampler Copy

ANALYTICAL REPORT

April 13, 2023

Work Order: 1GC2952

Report To	Work Order Information
Lori King	Date Received: 3/30/2023 10:10:00AM
Floyd Mitchell SWMA	Collector: Unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Analyte		Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GC2952-01	Leachate (W)				Matrix: Water		Collected: 03/29/23 13:00	
BOD (5 day)		**139 mg/L**	**4**	1GC1584	SM 5210 B	LAE	03/30/23 14:30	
Nitrogen, Ammonia		**303 mg/L**	**10.0**	1GD0337	TIMBERLINE	TJB	04/07/23 12:10	
Oil and Grease		<4 mg/L	4	1GC1625	EPA 1664A	RMC	03/31/23 16:42	
pH		**8.2 pH**	**0.5**	1GD0076	EPA 150.1	BSS	04/03/23 16:03	I-03
Solids, total suspended		**206 mg/L**	**10**	1GD0105	USGS I-3765-85	MEAH	04/05/23 12:07	
1GC2952-01RE1	Leachate (W)				Matrix: Water		Collected: 03/29/23 13:00	
Nitrogen, Kjeldahl, total		**282 mg/L**	**50.0**	1GD0420	EPA 351.2	AKK	04/11/23 11:16	
1GC2952-02	Leachate (M)				Matrix: Water		Collected: 03/29/23 13:00	
Iron, total		**13.8 mg/L**	**0.100**	1GD0080	200.7	JAR	04/05/23 23:12	PH-3

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC2952

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GC1584 - General Prep Micro										
Blank (1GC1584-BLK1)				Prepared & Analyzed: 03/30/23						
BOD (5 day)	ND	4	mg/L							
Duplicate (1GC1584-DUP1)		**Source: 1GC2964-01**		Prepared & Analyzed: 03/30/23						
BOD (5 day)	45.0	4	mg/L		43.0			4.55	29	
Reference (1GC1584-SRM1)				Prepared & Analyzed: 03/30/23						
BOD (5 day)	216	4	mg/L	198.000		109	84.6-115.4			
Batch 1GC1625 - Wet Chem Preparation										
Blank (1GC1625-BLK1)				Prepared: 03/30/23 Analyzed: 03/31/23						
Oil and Grease	ND	4	mg/L							
LCS (1GC1625-BS1)				Prepared: 03/30/23 Analyzed: 03/31/23						
Oil and Grease	33.8	4	mg/L	40.0000		84.5	78-114			
Matrix Spike (1GC1625-MS1)		**Source: 1GC3024-02**		Prepared: 03/30/23 Analyzed: 03/31/23						
Oil and Grease	39.0	4	mg/L	40.0000	4.8	85.5	78-114			
Matrix Spike Dup (1GC1625-MSD1)		**Source: 1GC3024-02**		Prepared: 03/30/23 Analyzed: 03/31/23						
Oil and Grease	41.5	4	mg/L	40.0000	4.8	91.8	78-114	6.21	18	
Batch 1GD0076 - Wet Chem Preparation										
Duplicate (1GD0076-DUP1)		**Source: 1GC2968-03**		Prepared & Analyzed: 04/03/23						
pH	6.9	0.5	pH		6.9			0.0872	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC2952

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0076 - Wet Chem Preparation										
Reference (1GD0076-SRM1)				Prepared & Analyzed: 04/03/23						
pH	7.1	0.5	pH	7.00000		101	90-110			
Reference (1GD0076-SRM2)				Prepared & Analyzed: 04/03/23						
pH	7.1	0.5	pH	7.00000		101	90-110			
Batch 1GD0105 - Wet Chem Preparation										
Blank (1GD0105-BLK1)				Prepared: 04/04/23 Analyzed: 04/05/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GD0105-BS1)				Prepared: 04/04/23 Analyzed: 04/05/23						
Solids, total suspended	12.8	1	mg/L	15.0000		85.3	74-114			
Duplicate (1GD0105-DUP1)		**Source: 1GC2954-01**		Prepared: 04/04/23 Analyzed: 04/05/23						
Solids, total suspended	12.7	7	mg/L		10.0			23.5	30	
Batch 1GD0129 - Wet Chem Preparation										
Blank (1GD0129-BLK1)				Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GD0129-BS1)				Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	20.6	0.50	mg/L	20.0000		103	90-110			
Matrix Spike (1GD0129-MS1)		**Source: 1GC2950-02**		Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	66.9	1.25	mg/L	50.0000	15.2	104	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC2952

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0129 - Wet Chem Preparation										
Matrix Spike Dup (1GD0129-MSD1)		**Source: 1GC2950-02**		Prepared & Analyzed: 04/04/23						
Nitrogen, Kjeldahl, total	69.8	1.25	mg/L	50.0000	15.2	109	90-110	4.25	10	
Batch 1GD0337 - General Prep HPLC/IC										
Blank (1GD0337-BLK1)				Prepared & Analyzed: 04/07/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GD0337-BS1)				Prepared & Analyzed: 04/07/23						
Nitrogen, Ammonia	4.92	0.10	mg/L	5.00000		98.5	90-114			
Matrix Spike (1GD0337-MS1)		**Source: 1GC2851-02**		Prepared & Analyzed: 04/07/23						
Nitrogen, Ammonia	5.66	0.10	mg/L	5.00000	0.678	99.6	84-115			
Matrix Spike Dup (1GD0337-MSD1)		**Source: 1GC2851-02**		Prepared & Analyzed: 04/07/23						
Nitrogen, Ammonia	5.75	0.10	mg/L	5.00000	0.678	101	84-115	1.61	20	
Batch 1GD0420 - Wet Chem Preparation										
Blank (1GD0420-BLK1)				Prepared & Analyzed: 04/10/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GD0420-BS1)				Prepared & Analyzed: 04/10/23						
Nitrogen, Kjeldahl, total	21.5	0.50	mg/L	20.0000		108	90-110			
Matrix Spike (1GD0420-MS1)		**Source: 1GC3106-02RE1**		Prepared & Analyzed: 04/10/23						
Nitrogen, Kjeldahl, total	52.8	1.25	mg/L	50.0000	ND	106	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC2952

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0420 - Wet Chem Preparation										
Matrix Spike Dup (1GD0420-MSD1)		**Source: 1GC3106-02RE1**		Prepared & Analyzed: 04/10/23						
Nitrogen, Kjeldahl, total	53.7	1.25	mg/L	50.0000	ND	107	90-110	1.75	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC2952

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0080 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GD0080-BLK1)				Prepared: 04/03/23 Analyzed: 04/05/23						
Iron, total	ND	0.100	mg/L							
LCS (1GD0080-BS1)				Prepared: 04/03/23 Analyzed: 04/05/23						
Iron, total	2.46	0.100	mg/L	2.20000		112	85-115			
Matrix Spike (1GD0080-MS1)		**Source: 1GC2763-01**		Prepared: 04/03/23 Analyzed: 04/06/23						
Iron, total	5.21	0.200	mg/L	2.20000	2.82	109	70-130			
Matrix Spike Dup (1GD0080-MSD1)		**Source: 1GC2763-01**		Prepared: 04/03/23 Analyzed: 04/06/23						
Iron, total	5.20	0.200	mg/L	2.20000	2.82	108	70-130	0.268	20	
Post Spike (1GD0080-PS1)		**Source: 1GC2763-01**		Prepared: 04/03/23 Analyzed: 04/05/23						
Iron, total	12.0		mg/L	8.80000	2.82	105	85-115			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2023
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources	140	04/30/2023
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GC2952

April 13, 2023

Notes and Definitions

I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 7 pH units.
PH-3a	Insufficient preservative to adjust the sample pH to less than 2, value measured at 8 pH units.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CU

Keystone
LABORATORIES, INC.

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

1 G C 2 9 5 2

Floyd Mitchell SWMA
PM: Sue Thompson

Printed: 3/7/2023 2:46:02PM

www.keystonelabs.cor

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GC2952
Temperature 0.6
Turn-Cooler: Yes

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	Leachate (W)	Water	GRAB	3/29/23	1:00p	3	bod-5210 nh3-timberline ph-150.1 tss-i-3765-85	dilution og-t-1664 tkn-351.2	01
02-001	Leachate (M)	Water	GRAB	3/29/23	1:05p	1	fe-t-200.7		02

Tyler Wright 3-29-23 1:00p
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Jaro McMurry 3/30/23 10:15 10 am
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

ANALYTICAL REPORT

April 28, 2023

Work Order: 1GD0743

Report To	Work Order Information
Todd Whipple	Date Received: 4/7/2023 9:27:00AM
HLW Engineering	Collector: JGH
PO Box 314	Phone: (515) 733-4144
Story City, IA 50248	PO Number:

Project: FMC SLF - Leachate

Project Number: 6028

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0743-01 Leachate Lagoon				Matrix: Water		Collected: 04/06/23 14:43	
Dichlorodifluoromethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Chloromethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Vinyl Chloride	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Bromomethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Chloroethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
1,1-Dichloroethylene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Methylene Chloride	<5.0 ug/L	5.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
trans-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
1,1-Dichloroethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
cis-1,2-Dichloroethylene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Chloroform	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
1,1,1-Trichloroethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Carbon Tetrachloride	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Benzene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
1,2-Dichloroethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Trichloroethylene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
1,2-Dichloropropane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Bromodichloromethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
cis-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Toluene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
trans-1,3-Dichloropropene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
1,1,2-Trichloroethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Tetrachloroethylene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Chlorobenzene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Ethylbenzene	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
Bromoform	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	
1,1,2,2-Tetrachloroethane	<1.0 ug/L	1.0	1GD0911	EPA 624	LNH	04/12/23 15:20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0743

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0743-01 Leachate Lagoon				Matrix: Water		Collected: 04/06/23 14:43	
Surrogate: Dibromofluoromethane	*102 %*			*79-129*	LNH	04/12/23 15:20	
Surrogate: 1,2-Dichloroethane-d4	*92.4 %*			*66-134*	LNH	04/12/23 15:20	
Surrogate: Toluene-d8	*95.5 %*			*91-113*	LNH	04/12/23 15:20	
Surrogate: 4-Bromofluorobenzene	*95.9 %*			*83-112*	LNH	04/12/23 15:20	
Bis(2-Chloroethyl) Ether	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
2-Chlorophenol	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
1,3-Dichlorobenzene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
1,4-Dichlorobenzene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Benzyl Alcohol	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
1,2-Dichlorobenzene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Bis[2-Chloroisopropyl]ether	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
n-Nitroso-di-n-propylamine	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Hexachloroethane	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Nitrobenzene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Isophorone	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
2-Nitrophenol	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
2,4-Dimethylphenol	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Bis (2-Chloroethoxy) Methane	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Benzoic acid	<500 ug/L	500	1GD0537	EPA 625	EPP	04/26/23 18:55	
2,4-Dichlorophenol	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
1,2,4-Trichlorobenzene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Naphthalene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Hexachlorobutadiene	<200 ug/L	200	1GD0537	EPA 625	EPP	04/26/23 18:55	
4-Chloro-3-methylphenol	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Hexachlorocyclopentadiene	<200 ug/L	200	1GD0537	EPA 625	EPP	04/26/23 18:55	
2,4,6-Trichlorophenol	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
2,4,5-Trichlorophenol	<500 ug/L	500	1GD0537	EPA 625	EPP	04/26/23 18:55	
2-Chloronaphthalene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Dimethylphthalate	<150 ug/L	150	1GD0537	EPA 625	EPP	04/26/23 18:55	
Acenaphthylene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
2,6-Dinitrotoluene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Acenaphthene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
2,4-Dinitrophenol	<200 ug/L	200	1GD0537	EPA 625	EPP	04/26/23 18:55	
Dibenzofuran	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
2,4-Dinitrotoluene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
4-Nitrophenol	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Diethyl Phthalate	<300 ug/L	300	1GD0537	EPA 625	EPP	04/26/23 18:55	
Fluorene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0743

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0743-01 Leachate Lagoon				Matrix: Water		Collected: 04/06/23 14:43	
4-Chlorophenyl Phenyl Ether	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
4,6-Dinitro-2-methylphenol	<200 ug/L	200	1GD0537	EPA 625	EPP	04/26/23 18:55	
N-Nitrosodiphenylamine	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
4-Bromophenyl Phenyl Ether	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Hexachlorobenzene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Pentachlorophenol	<200 ug/L	200	1GD0537	EPA 625	EPP	04/26/23 18:55	
Phenanthrene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Anthracene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Di-n-butyl Phthalate	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Fluoranthene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Pyrene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Butyl Benzyl Phthalate	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Benzo(a)anthracene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Chrysene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Bis(2-Ethylhexyl) Phthalate	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Di-n-octyl Phthalate	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Indeno(1,2,3-cd)Pyrene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
3,3´-Dichlorobenzidine	<200 ug/L	200	1GD0537	EPA 625	EPP	04/26/23 18:55	
Benzo(b)Fluoranthene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Benzo(k)Fluoranthene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Benzo(a)Pyrene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Dibenzo(a,h)anthracene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Benzo(g,h,i)perylene	<100 ug/L	100	1GD0537	EPA 625	EPP	04/26/23 18:55	
Surrogate: 2-Fluorophenol	*64.2 %*			*19-139*	EPP	04/26/23 18:55	
Surrogate: Phenol-d6	*31.9 %*			*14-154*	EPP	04/26/23 18:55	
Surrogate: Nitrobenzene-d5	*96.9 %*			*17-146*	EPP	04/26/23 18:55	
Surrogate: 2-Fluorobiphenyl	*75.4 %*			*18-122*	EPP	04/26/23 18:55	
Surrogate: 2,4,6-Tribromophenol	*85.7 %*			*21-151*	EPP	04/26/23 18:55	
Surrogate: Terphenyl-dl4	*75.9 %*			*27-131*	EPP	04/26/23 18:55	
Gamma-BHC [Lindane]	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Beta-BHC	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Heptachlor	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Delta-BHC	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Aldrin	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Heptachlor Epoxide	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Endosulfan I	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
4,4`-DDE	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Dieldrin	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

April 28, 2023

Work Order: 1GD0743

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0743-01 Leachate Lagoon				Matrix: Water		Collected: 04/06/23 14:43	
Endrin	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
4,4`-DDD	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Endosulfan II	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
4,4`-DDT	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Endrin Aldehyde	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Endosulfan Sulfate	<0.50 ug/L	0.50	1GD0501	EPA 608	EPP	04/25/23 17:43	
Chlordane	<1.00 ug/L	1.00	1GD0501	EPA 608	EPP	04/25/23 17:43	
Toxaphene	<2.00 ug/L	2.00	1GD0501	EPA 608	EPP	04/25/23 17:43	
Arochlor 1016	<1.00 ug/L	1.00	1GD0501	EPA 608	EPP	04/25/23 17:43	
Arochlor 1221	<2.00 ug/L	2.00	1GD0501	EPA 608	EPP	04/25/23 17:43	
Arochlor 1232	<2.00 ug/L	2.00	1GD0501	EPA 608	EPP	04/25/23 17:43	
Arochlor 1242	<2.00 ug/L	2.00	1GD0501	EPA 608	EPP	04/25/23 17:43	
Arochlor 1248	<2.00 ug/L	2.00	1GD0501	EPA 608	EPP	04/25/23 17:43	
Arochlor 1254	<1.00 ug/L	1.00	1GD0501	EPA 608	EPP	04/25/23 17:43	
Arochlor 1260	<1.00 ug/L	1.00	1GD0501	EPA 608	EPP	04/25/23 17:43	
Surrogate: Decachlorobiphenyl	*37.1 %*			*19-120*	EPP	04/25/23 17:43	
Surrogate: Tetrachloro-m-xylene	*34.5 %*			*30-119*	EPP	04/25/23 17:43	
BOD (5 day)	**105 mg/L**	**4**	1GD0291	SM 5210 B	IDD	04/07/23 12:50	
Nitrogen, Ammonia	**694 mg/L**	**10.0**	1GD1033	TIMBERLINE	TJB	04/20/23 14:54	
Nitrogen, total	**850 mg/L**	**0.100**	[CALC]	TKN+NOX	SAA	04/20/23 14:22	
Nitrogen, Nitrate+Nitrite	<0.10 mg/L	0.10	1GD0795	EPA 353.2	SAA	04/18/23 15:35	
Oil and Grease	<4 mg/L	4	1GD0371	EPA 1664A	RMC	04/10/23 15:36	
pH	**8.3 pH**	**0.5**	1GD0380	4500H-B	JLW	04/07/23 16:18	I-03
Solids, total dissolved	**5260 mg/L**	**5**	1GD0557	USGS I-1750-85	MEAH	04/12/23 13:40	
Nitrogen, Kjeldahl, total	**850 mg/L**	**25.0**	1GD0721	EPA 351.2	AKK	04/20/23 14:22	
Total Organic Carbon	**534 mg/L**	**500**	1GD0682	5310B	LNH	04/12/23 21:29	PH-3
Solids, total suspended	**89 mg/L**	**10**	1GD0613	USGS I-3765-85	MEAH	04/13/23 13:05	
Silver, total	<0.0020 mg/L	0.0020	1GD0381	EPA 200.8	RVV	04/11/23 21:16	
Arsenic, total	**0.0573 mg/L**	**0.0020**	1GD0381	EPA 200.8	RVV	04/11/23 21:16	
Barium, total	**0.556 mg/L**	**0.0020**	1GD0381	EPA 200.8	RVV	04/11/23 21:16	
Cadmium, total	<0.0002 mg/L	0.0002	1GD0381	EPA 200.8	RVV	04/11/23 21:16	
Chromium, total	**0.137 mg/L**	**0.0020**	1GD0381	EPA 200.8	RVV	04/11/23 21:16	
Copper, total	**0.0023 mg/L**	**0.0020**	1GD0381	EPA 200.8	RVV	04/11/23 21:16	
Iron, total	**15.5 mg/L**	**0.100**	1GD0450	200.7	JAR	04/12/23 1:00	
Mercury, total	<0.00050 mg/L	0.00050	1GD0305	245.1	JAR	04/10/23 15:58	
Nickel, total	**0.179 mg/L**	**0.0040**	1GD0381	EPA 200.8	RVV	04/11/23 21:16	
Lead, total	**0.0013 mg/L**	**0.0008**	1GD0381	EPA 200.8	RVV	04/11/23 21:16	
Selenium, total	<0.0040 mg/L	0.0040	1GD0381	EPA 200.8	RVV	04/11/23 21:16	
Zinc, total	**0.0922 mg/L**	**0.0200**	1GD0381	EPA 200.8	RVV	04/11/23 21:16	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

April 28, 2023

Work Order: 1GD0743

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD0743-01RE1 Leachate Lagoon				Matrix: Water		Collected: 04/06/23 14:43	
2-Chloroethylvinyl ether	<10.0 ug/L	10.0	1GD0727	EPA 624	LNH	04/14/23 11:57	
Surrogate: Dibromofluoromethane	*123 %*			*79-129*	LNH	04/14/23 11:57	
Surrogate: 1,2-Dichloroethane-d4	*102 %*			*66-134*	LNH	04/14/23 11:57	
Surrogate: Toluene-d8	*98.6 %*			*91-113*	LNH	04/14/23 11:57	
Surrogate: 4-Bromofluorobenzene	*97.5 %*			*83-112*	LNH	04/14/23 11:57	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0727 - EPA 5030B										
Blank (1GD0727-BLK1)				Prepared & Analyzed: 04/14/23						
Surrogate: Dibromofluoromethane	*56.3*		*ug/L*	*50.3520*		*112*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*50.3*		*"*	*50.4080*		*99.8*	*66-134*			
Surrogate: Toluene-d8	*49.2*		*"*	*50.2360*		*97.9*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*48.2*		*"*	*50.4200*		*95.6*	*83-112*			
Chloromethane	ND	1.0	"							
Vinyl Chloride	ND	1.0	"							
Bromomethane	ND	1.0	"							
Chloroethane	ND	1.0	"							
1,1-Dichloroethylene	ND	1.0	"							
Methylene Chloride	ND	5.0	"							
trans-1,2-Dichloroethylene	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
cis-1,2-Dichloroethylene	ND	1.0	"							
Chloroform	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
Carbon Tetrachloride	ND	1.0	"							
Benzene	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
Trichloroethylene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
2-Chloroethylvinyl ether	ND	10.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
Toluene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
Tetrachloroethylene	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Bromoform	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0727 - EPA 5030B										
LCS (1GD0727-BS1)				Prepared & Analyzed: 04/14/23						
Surrogate: Dibromofluoromethane	*53.6*		*ug/L*	*50.3520*		*107*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*		*"*	*50.4080*		*99.0*	*66-134*			
Surrogate: Toluene-d8	*49.6*		*"*	*50.2360*		*98.7*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*48.2*		*"*	*50.4200*		*95.6*	*83-112*			
Chloromethane	26.86	1.0	"	30.0000		89.5	63-145			
Vinyl Chloride	28.21	1.0	"	30.0000		94.0	68-145			
Bromomethane	31.76	1.0	"	30.0000		106	69-150			
Chloroethane	31.61	1.0	"	30.0000		105	74-134			
1,1-Dichloroethylene	54.56	1.0	"	50.0000		109	76-139			
Methylene Chloride	48.27	5.0	"	50.0000		96.5	67-141			
trans-1,2-Dichloroethylene	52.03	1.0	"	50.0000		104	71-137			
1,1-Dichloroethane	51.44	1.0	"	50.0000		103	72-130			
cis-1,2-Dichloroethylene	47.96	1.0	"	50.0000		95.9	81-134			
2-Butanone (MEK)	85.69	10.0	"	106.200		80.7	44-158			
Chloroform	49.64	1.0	"	50.0000		99.3	76-132			
1,1,1-Trichloroethane	46.36	1.0	"	49.9750		92.8	65-122			
Carbon Tetrachloride	54.10	1.0	"	50.0000		108	66-132			
Benzene	49.29	1.0	"	50.0000		98.6	77-130			
1,2-Dichloroethane	46.60	1.0	"	50.0000		93.2	75-124			
Trichloroethylene	41.70	1.0	"	50.0000		83.4	79-126			
1,2-Dichloropropane	48.08	1.0	"	50.0000		96.2	79-128			
Dibromomethane	49.82	1.0	"	50.0000		99.6	71-139			
Bromodichloromethane	46.32	1.0	"	50.0000		92.6	76-122			
2-Chloroethylvinyl ether	85.97	10.0	"	103.500		83.1	50-169			
cis-1,3-Dichloropropene	48.42	1.0	"	50.3250		96.2	74-122			
Toluene	48.39	1.0	"	50.0000		96.8	76-128			
trans-1,3-Dichloropropene	46.44	1.0	"	50.4250		92.1	73-125			
1,1,2-Trichloroethane	45.26	1.0	"	50.0000		90.5	74-126			
Tetrachloroethylene	48.44	1.0	"	50.0000		96.9	68-124			
Chlorobenzene	47.61	1.0	"	50.0000		95.2	77-120			
Ethylbenzene	46.20	1.0	"	50.0000		92.4	76-118			
Xylenes, total	136.0	2.0	"	150.000		90.6	74-121			
Bromoform	51.00	1.0	"	50.0000		102	68-128			
1,1,2,2-Tetrachloroethane	46.63	1.0	"	49.8500		93.5	62-128			
1,3-Dichlorobenzene	47.16	1.0	"	50.0000		94.3	72-123			
1,4-Dichlorobenzene	48.75	1.0	"	50.0000		97.5	75-120			
1,2-Dichlorobenzene	47.23	1.0	"	50.0000		94.5	72-121			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0727 - EPA 5030B										
LCS Dup (1GD0727-BSD1)				Prepared & Analyzed: 04/14/23						
Surrogate: Dibromofluoromethane	*54.6*		*ug/L*	*50.3520*		*108*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*50.0*		*"*	*50.4080*		*99.2*	*66-134*			
Surrogate: Toluene-d8	*49.8*		*"*	*50.2360*		*99.1*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*48.4*		*"*	*50.4200*		*95.9*	*83-112*			
Chloromethane	26.19	1.0	"	30.0000		87.3	63-145	2.53	27	
Vinyl Chloride	26.99	1.0	"	30.0000		90.0	68-145	4.42	30	
Bromomethane	32.72	1.0	"	30.0000		109	69-150	2.98	30	
Chloroethane	30.65	1.0	"	30.0000		102	74-134	3.08	29	
1,1-Dichloroethylene	53.65	1.0	"	50.0000		107	76-139	1.68	30	
Methylene Chloride	48.26	5.0	"	50.0000		96.5	67-141	0.0207	25	
trans-1,2-Dichloroethylene	51.74	1.0	"	50.0000		103	71-137	0.559	29	
1,1-Dichloroethane	51.39	1.0	"	50.0000		103	72-130	0.0972	27	
cis-1,2-Dichloroethylene	47.20	1.0	"	50.0000		94.4	81-134	1.60	23	
2-Butanone (MEK)	94.61	10.0	"	106.200		89.1	44-158	9.89	25	
Chloroform	50.17	1.0	"	50.0000		100	76-132	1.06	26	
1,1,1-Trichloroethane	46.12	1.0	"	49.9750		92.3	65-122	0.519	29	
Carbon Tetrachloride	55.25	1.0	"	50.0000		110	66-132	2.10	30	
Benzene	50.25	1.0	"	50.0000		100	77-130	1.93	27	
1,2-Dichloroethane	47.94	1.0	"	50.0000		95.9	75-124	2.83	25	
Trichloroethylene	42.15	1.0	"	50.0000		84.3	79-126	1.07	28	
1,2-Dichloropropane	49.80	1.0	"	50.0000		99.6	79-128	3.51	26	
Dibromomethane	51.66	1.0	"	50.0000		103	71-139	3.63	27	
Bromodichloromethane	48.12	1.0	"	50.0000		96.2	76-122	3.81	24	
2-Chloroethylvinyl ether	89.87	10.0	"	103.500		86.8	50-169	4.44	28	
cis-1,3-Dichloropropene	49.64	1.0	"	50.3250		98.6	74-122	2.49	27	
Toluene	49.22	1.0	"	50.0000		98.4	76-128	1.70	28	
trans-1,3-Dichloropropene	48.18	1.0	"	50.4250		95.5	73-125	3.68	27	
1,1,2-Trichloroethane	47.56	1.0	"	50.0000		95.1	74-126	4.96	26	
Tetrachloroethylene	49.08	1.0	"	50.0000		98.2	68-124	1.31	28	
Chlorobenzene	48.47	1.0	"	50.0000		96.9	77-120	1.79	27	
Ethylbenzene	46.96	1.0	"	50.0000		93.9	76-118	1.63	27	
Xylenes, total	138.2	2.0	"	150.000		92.1	74-121	1.65	27	
Bromoform	53.94	1.0	"	50.0000		108	68-128	5.60	25	
1,1,2,2-Tetrachloroethane	48.07	1.0	"	49.8500		96.4	62-128	3.04	28	
1,3-Dichlorobenzene	48.06	1.0	"	50.0000		96.1	72-123	1.89	29	
1,4-Dichlorobenzene	48.50	1.0	"	50.0000		97.0	75-120	0.514	26	
1,2-Dichlorobenzene	47.73	1.0	"	50.0000		95.5	72-121	1.05	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0727 - EPA 5030B										
Matrix Spike (1GD0727-MS1)		**Source: 1GD1181-08**		Prepared & Analyzed: 04/14/23						
Surrogate: Dibromofluoromethane	*534*		*ug/L*	*503.520*		*106*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*498*		*"*	*504.080*		*98.7*	*66-134*			
Surrogate: Toluene-d8	*498*		*"*	*502.360*		*99.1*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*494*		*"*	*504.200*		*98.0*	*83-112*			
Chloromethane	262.7	10.0	"	300.000	ND	87.6	50-155			
Vinyl Chloride	269.1	10.0	"	300.000	ND	89.7	64-148			
Bromomethane	320.3	10.0	"	300.000	ND	107	50-159			
Chloroethane	320.8	10.0	"	300.000	ND	107	65-144			
1,1-Dichloroethylene	530.6	10.0	"	500.000	ND	106	78-139			
Methylene Chloride	481.3	50.0	"	500.000	ND	96.3	65-144			
trans-1,2-Dichloroethylene	509.0	10.0	"	500.000	ND	102	67-142			
1,1-Dichloroethane	509.1	10.0	"	500.000	ND	102	71-133			
cis-1,2-Dichloroethylene	499.0	10.0	"	500.000	ND	99.8	76-142			
2-Butanone (MEK)	907.5	100	"	1062.00	ND	85.5	48-169			
Chloroform	494.3	10.0	"	500.000	ND	98.9	75-133			
1,1,1-Trichloroethane	452.0	10.0	"	499.750	ND	90.4	66-120			
Carbon Tetrachloride	552.3	10.0	"	500.000	ND	110	67-132			
Benzene	488.9	10.0	"	500.000	ND	97.8	79-128			
1,2-Dichloroethane	498.1	10.0	"	500.000	ND	99.6	74-124			
Trichloroethylene	405.6	10.0	"	500.000	ND	81.1	82-122			QM-05
1,2-Dichloropropane	494.9	10.0	"	500.000	ND	99.0	80-126			
Dibromomethane	524.3	10.0	"	500.000	ND	105	62-141			
Bromodichloromethane	489.1	10.0	"	500.000	ND	97.8	77-119			
2-Chloroethylvinyl ether	950.5	100	"	1035.00	ND	91.8	10-157			
cis-1,3-Dichloropropene	499.4	10.0	"	503.250	ND	99.2	69-120			
Toluene	487.5	10.0	"	500.000	ND	97.5	80-125			
trans-1,3-Dichloropropene	489.6	10.0	"	504.250	ND	97.1	70-122			
1,1,2-Trichloroethane	488.9	10.0	"	500.000	ND	97.8	73-127			
Tetrachloroethylene	474.7	10.0	"	500.000	ND	94.9	70-122			
Chlorobenzene	487.7	10.0	"	500.000	ND	97.5	81-114			
Ethylbenzene	469.6	10.0	"	500.000	ND	93.9	79-113			
Xylenes, total	1396	20.0	"	1500.00	ND	93.0	79-114			
Bromoform	564.3	10.0	"	500.000	ND	113	66-126			
1,1,2,2-Tetrachloroethane	526.9	10.0	"	498.500	ND	106	56-132			
1,3-Dichlorobenzene	480.3	10.0	"	500.000	ND	96.1	69-125			
1,4-Dichlorobenzene	482.2	10.0	"	500.000	ND	96.4	73-119			
1,2-Dichlorobenzene	479.1	10.0	"	500.000	ND	95.8	71-117			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0727 - EPA 5030B										
Matrix Spike Dup (1GD0727-MSD1)		**Source: 1GD1181-08**		Prepared & Analyzed: 04/14/23						
Surrogate: Dibromofluoromethane	*529*		*ug/L*	*503.520*		*105*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*496*		*"*	*504.080*		*98.3*	*66-134*			
Surrogate: Toluene-d8	*500*		*"*	*502.360*		*99.6*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*488*		*"*	*504.200*		*96.8*	*83-112*			
Chloromethane	259.5	10.0	"	300.000	ND	86.5	50-155	1.23	19	
Vinyl Chloride	265.6	10.0	"	300.000	ND	88.5	64-148	1.31	24	
Bromomethane	339.4	10.0	"	300.000	ND	113	50-159	5.79	17	
Chloroethane	316.3	10.0	"	300.000	ND	105	65-144	1.41	28	
1,1-Dichloroethylene	532.8	10.0	"	500.000	ND	107	78-139	0.414	20	
Methylene Chloride	475.8	50.0	"	500.000	ND	95.2	65-144	1.15	16	
trans-1,2-Dichloroethylene	509.8	10.0	"	500.000	ND	102	67-142	0.157	18	
1,1-Dichloroethane	507.1	10.0	"	500.000	ND	101	71-133	0.394	16	
cis-1,2-Dichloroethylene	498.6	10.0	"	500.000	ND	99.7	76-142	0.0802	17	
2-Butanone (MEK)	885.2	100	"	1062.00	ND	83.4	48-169	2.49	17	
Chloroform	490.7	10.0	"	500.000	ND	98.1	75-133	0.731	16	
1,1,1-Trichloroethane	461.4	10.0	"	499.750	ND	92.3	66-120	2.06	15	
Carbon Tetrachloride	576.2	10.0	"	500.000	ND	115	67-132	4.24	15	
Benzene	498.2	10.0	"	500.000	ND	99.6	79-128	1.88	12	
1,2-Dichloroethane	484.4	10.0	"	500.000	ND	96.9	74-124	2.79	12	
Trichloroethylene	412.8	10.0	"	500.000	ND	82.6	82-122	1.76	13	
1,2-Dichloropropane	491.3	10.0	"	500.000	ND	98.3	80-126	0.730	10	
Dibromomethane	520.1	10.0	"	500.000	ND	104	62-141	0.804	11	
Bromodichloromethane	480.8	10.0	"	500.000	ND	96.2	77-119	1.71	10	
2-Chloroethylvinyl ether	943.4	100	"	1035.00	ND	91.1	10-157	0.750	30	
cis-1,3-Dichloropropene	491.8	10.0	"	503.250	ND	97.7	69-120	1.53	10	
Toluene	495.4	10.0	"	500.000	ND	99.1	80-125	1.61	12	
trans-1,3-Dichloropropene	482.9	10.0	"	504.250	ND	95.8	70-122	1.38	10	
1,1,2-Trichloroethane	476.7	10.0	"	500.000	ND	95.3	73-127	2.53	10	
Tetrachloroethylene	489.3	10.0	"	500.000	ND	97.9	70-122	3.03	15	
Chlorobenzene	487.4	10.0	"	500.000	ND	97.5	81-114	0.0615	12	
Ethylbenzene	478.1	10.0	"	500.000	ND	95.6	79-113	1.79	13	
Xylenes, total	1412	20.0	"	1500.00	ND	94.1	79-114	1.18	12	
Bromoform	565.5	10.0	"	500.000	ND	113	66-126	0.212	16	
1,1,2,2-Tetrachloroethane	523.0	10.0	"	498.500	ND	105	56-132	0.743	29	
1,3-Dichlorobenzene	481.9	10.0	"	500.000	ND	96.4	69-125	0.333	18	
1,4-Dichlorobenzene	493.8	10.0	"	500.000	ND	98.8	73-119	2.38	21	
1,2-Dichlorobenzene	488.8	10.0	"	500.000	ND	97.8	71-117	2.00	23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0911 - EPA 5030B										
Blank (1GD0911-BLK1)				Prepared & Analyzed: 04/12/23						
Surrogate: Dibromofluoromethane	*50.9*		*ug/L*	*50.3520*		*101*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*44.5*		*"*	*50.4080*		*88.2*	*66-134*			
Surrogate: Toluene-d8	*53.1*		*"*	*50.2360*		*106*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*53.0*		*"*	*50.4200*		*105*	*83-112*			
Dichlorodifluoromethane	ND	1.0	"							
Chloromethane	ND	1.0	"							
Vinyl Chloride	ND	1.0	"							
Bromomethane	ND	1.0	"							
Chloroethane	ND	1.0	"							
1,1-Dichloroethylene	ND	1.0	"							
Methylene Chloride	ND	5.0	"							
trans-1,2-Dichloroethylene	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
cis-1,2-Dichloroethylene	ND	1.0	"							
Chloroform	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
Carbon Tetrachloride	ND	1.0	"							
Benzene	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
Trichloroethylene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
2-Chloroethylvinyl ether	ND	10.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
Toluene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
Tetrachloroethylene	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Bromoform	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0911 - EPA 5030B										
LCS (1GD0911-BS1)				Prepared & Analyzed: 04/12/23						
Surrogate: Dibromofluoromethane	*51.4*		*ug/L*	*50.3520*		*102*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*44.3*		*"*	*50.4080*		*87.9*	*66-134*			
Surrogate: Toluene-d8	*49.2*		*"*	*50.2360*		*97.9*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*49.9*		*"*	*50.4200*		*99.0*	*83-112*			
Dichlorodifluoromethane	24.14	1.0	"	30.0000		80.5	39-143			
Chloromethane	26.63	1.0	"	30.0000		88.8	63-145			
Vinyl Chloride	24.43	1.0	"	30.0000		81.4	68-145			
Bromomethane	32.75	1.0	"	30.0000		109	69-150			
Chloroethane	23.79	1.0	"	30.0000		79.3	74-134			
1,1-Dichloroethylene	45.99	1.0	"	50.0000		92.0	76-139			
Methylene Chloride	39.65	5.0	"	50.0000		79.3	67-141			
trans-1,2-Dichloroethylene	43.81	1.0	"	50.0000		87.6	71-137			
1,1-Dichloroethane	40.57	1.0	"	50.0000		81.1	72-130			
cis-1,2-Dichloroethylene	46.04	1.0	"	50.0000		92.1	81-134			
2-Butanone (MEK)	76.75	10.0	"	106.200		72.3	44-158			
Chloroform	43.23	1.0	"	50.0000		86.5	76-132			
1,1,1-Trichloroethane	34.73	1.0	"	49.9750		69.5	65-122			
Carbon Tetrachloride	44.47	1.0	"	50.0000		88.9	66-132			
Benzene	52.63	1.0	"	50.0000		105	77-130			
1,2-Dichloroethane	46.42	1.0	"	50.0000		92.8	75-124			
Trichloroethylene	42.99	1.0	"	50.0000		86.0	79-126			
1,2-Dichloropropane	44.90	1.0	"	50.0000		89.8	79-128			
Dibromomethane	44.56	1.0	"	50.0000		89.1	71-139			
Bromodichloromethane	44.30	1.0	"	50.0000		88.6	76-122			
cis-1,3-Dichloropropene	43.64	1.0	"	50.3250		86.7	74-122			
Toluene	47.36	1.0	"	50.0000		94.7	76-128			
trans-1,3-Dichloropropene	41.45	1.0	"	50.4250		82.2	73-125			
1,1,2-Trichloroethane	40.64	1.0	"	50.0000		81.3	74-126			
Tetrachloroethylene	39.55	1.0	"	50.0000		79.1	68-124			
Chlorobenzene	47.77	1.0	"	50.0000		95.5	77-120			
Ethylbenzene	44.94	1.0	"	50.0000		89.9	76-118			
Xylenes, total	136.9	2.0	"	150.000		91.3	74-121			
Bromoform	42.80	1.0	"	50.0000		85.6	68-128			
1,1,2,2-Tetrachloroethane	49.31	1.0	"	49.8500		98.9	62-128			
1,3-Dichlorobenzene	48.82	1.0	"	50.0000		97.6	72-123			
1,4-Dichlorobenzene	47.24	1.0	"	50.0000		94.5	75-120			
1,2-Dichlorobenzene	50.55	1.0	"	50.0000		101	72-121			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0911 - EPA 5030B										
LCS Dup (1GD0911-BSD1)				Prepared & Analyzed: 04/12/23						
Surrogate: Dibromofluoromethane	*50.6*		*ug/L*	*50.3520*		*100*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*43.1*		*"*	*50.4080*		*85.5*	*66-134*			
Surrogate: Toluene-d8	*53.0*		*"*	*50.2360*		*106*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*48.1*		*"*	*50.4200*		*95.3*	*83-112*			
Dichlorodifluoromethane	25.32	1.0	"	30.0000		84.4	39-143	4.77	30	
Chloromethane	25.48	1.0	"	30.0000		84.9	63-145	4.41	27	
Vinyl Chloride	26.76	1.0	"	30.0000		89.2	68-145	9.10	30	
Bromomethane	32.52	1.0	"	30.0000		108	69-150	0.705	30	
Chloroethane	26.77	1.0	"	30.0000		89.2	74-134	11.8	29	
1,1-Dichloroethylene	49.61	1.0	"	50.0000		99.2	76-139	7.57	30	
Methylene Chloride	43.49	5.0	"	50.0000		87.0	67-141	9.24	25	
trans-1,2-Dichloroethylene	45.66	1.0	"	50.0000		91.3	71-137	4.14	29	
1,1-Dichloroethane	46.18	1.0	"	50.0000		92.4	72-130	12.9	27	
cis-1,2-Dichloroethylene	48.48	1.0	"	50.0000		97.0	81-134	5.16	23	
2-Butanone (MEK)	85.23	10.0	"	106.200		80.3	44-158	10.5	25	
Chloroform	50.29	1.0	"	50.0000		101	76-132	15.1	26	
1,1,1-Trichloroethane	38.75	1.0	"	49.9750		77.5	65-122	10.9	29	
Carbon Tetrachloride	47.78	1.0	"	50.0000		95.6	66-132	7.18	30	
Benzene	59.51	1.0	"	50.0000		119	77-130	12.3	27	
1,2-Dichloroethane	51.43	1.0	"	50.0000		103	75-124	10.2	25	
Trichloroethylene	47.66	1.0	"	50.0000		95.3	79-126	10.3	28	
1,2-Dichloropropane	50.06	1.0	"	50.0000		100	79-128	10.9	26	
Dibromomethane	49.89	1.0	"	50.0000		99.8	71-139	11.3	27	
Bromodichloromethane	49.52	1.0	"	50.0000		99.0	76-122	11.1	24	
cis-1,3-Dichloropropene	48.70	1.0	"	50.3250		96.8	74-122	11.0	27	
Toluene	56.88	1.0	"	50.0000		114	76-128	18.3	28	
trans-1,3-Dichloropropene	46.92	1.0	"	50.4250		93.0	73-125	12.4	27	
1,1,2-Trichloroethane	44.62	1.0	"	50.0000		89.2	74-126	9.34	26	
Tetrachloroethylene	39.85	1.0	"	50.0000		79.7	68-124	0.756	28	
Chlorobenzene	47.47	1.0	"	50.0000		94.9	77-120	0.630	27	
Ethylbenzene	48.54	1.0	"	50.0000		97.1	76-118	7.70	27	
Xylenes, total	140.6	2.0	"	150.000		93.8	74-121	2.71	27	
Bromoform	44.67	1.0	"	50.0000		89.3	68-128	4.28	25	
1,1,2,2-Tetrachloroethane	51.39	1.0	"	49.8500		103	62-128	4.13	28	
1,3-Dichlorobenzene	49.41	1.0	"	50.0000		98.8	72-123	1.20	29	
1,4-Dichlorobenzene	47.68	1.0	"	50.0000		95.4	75-120	0.927	26	
1,2-Dichlorobenzene	49.28	1.0	"	50.0000		98.6	72-121	2.54	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0911 - EPA 5030B										
Matrix Spike (1GD0911-MS1)		**Source: 1GD0239-01**		Prepared & Analyzed: 04/12/23						
Surrogate: Dibromofluoromethane	*516*		*ug/L*	*503.520*		*102*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*424*		*"*	*504.080*		*84.2*	*66-134*			
Surrogate: Toluene-d8	*543*		*"*	*502.360*		*108*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*518*		*"*	*504.200*		*103*	*83-112*			
Dichlorodifluoromethane	284.6	10.0	"	300.000	ND	94.9	46-151			
Chloromethane	264.2	10.0	"	300.000	ND	88.1	50-155			
Vinyl Chloride	289.0	10.0	"	300.000	ND	96.3	64-148			
Bromomethane	360.9	10.0	"	300.000	ND	120	50-159			
Chloroethane	277.7	10.0	"	300.000	ND	92.6	65-144			
1,1-Dichloroethylene	531.5	10.0	"	500.000	ND	106	78-139			
Methylene Chloride	451.0	50.0	"	500.000	ND	90.2	65-144			
trans-1,2-Dichloroethylene	473.8	10.0	"	500.000	ND	94.8	67-142			
1,1-Dichloroethane	474.0	10.0	"	500.000	ND	94.8	71-133			
cis-1,2-Dichloroethylene	508.6	10.0	"	500.000	ND	102	76-142			
2-Butanone (MEK)	917.1	100	"	1062.00	ND	86.4	48-169			
Chloroform	553.6	10.0	"	500.000	ND	111	75-133			
1,1,1-Trichloroethane	399.4	10.0	"	499.750	ND	79.9	66-120			
Carbon Tetrachloride	499.3	10.0	"	500.000	ND	99.9	67-132			
Benzene	616.4	10.0	"	500.000	ND	123	79-128			
1,2-Dichloroethane	542.5	10.0	"	500.000	ND	108	74-124			
Trichloroethylene	486.0	10.0	"	500.000	ND	97.2	82-122			
1,2-Dichloropropane	487.9	10.0	"	500.000	ND	97.6	80-126			
Dibromomethane	533.9	10.0	"	500.000	ND	107	62-141			
Bromodichloromethane	526.9	10.0	"	500.000	ND	105	77-119			
cis-1,3-Dichloropropene	484.5	10.0	"	503.250	ND	96.3	69-120			
Toluene	579.3	10.0	"	500.000	ND	116	80-125			
trans-1,3-Dichloropropene	497.0	10.0	"	504.250	ND	98.6	70-122			
1,1,2-Trichloroethane	494.0	10.0	"	500.000	ND	98.8	73-127			
Tetrachloroethylene	435.7	10.0	"	500.000	ND	87.1	70-122			
Chlorobenzene	524.4	10.0	"	500.000	ND	105	81-114			
Ethylbenzene	514.0	10.0	"	500.000	ND	103	79-113			
Xylenes, total	1483	20.0	"	1500.00	ND	98.9	79-114			
Bromoform	499.8	10.0	"	500.000	ND	100	66-126			
1,1,2,2-Tetrachloroethane	500.1	10.0	"	498.500	ND	100	56-132			
1,3-Dichlorobenzene	455.6	10.0	"	500.000	ND	91.1	69-125			
1,4-Dichlorobenzene	472.1	10.0	"	500.000	ND	94.4	73-119			
1,2-Dichlorobenzene	485.6	10.0	"	500.000	ND	97.1	71-117			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Volatile Organic Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0911 - EPA 5030B										
Matrix Spike Dup (1GD0911-MSD1)		**Source: 1GD0239-01**		Prepared & Analyzed: 04/12/23						
Surrogate: Dibromofluoromethane	*498*		*ug/L*	*503.520*		*99.0*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*424*		*"*	*504.080*		*84.0*	*66-134*			
Surrogate: Toluene-d8	*453*		*"*	*502.360*		*90.2*	*91-113*			*S-GC*
Surrogate: 4-Bromofluorobenzene	*530*		*"*	*504.200*		*105*	*83-112*			
Dichlorodifluoromethane	498.3	10.0	"	300.000	ND	166	46-151	54.6	30	QS-02
Chloromethane	264.3	10.0	"	300.000	ND	88.1	50-155	0.0378	19	
Vinyl Chloride	284.6	10.0	"	300.000	ND	94.9	64-148	1.53	24	
Bromomethane	331.1	10.0	"	300.000	ND	110	50-159	8.61	17	
Chloroethane	286.5	10.0	"	300.000	ND	95.5	65-144	3.12	28	
1,1-Dichloroethylene	501.2	10.0	"	500.000	ND	100	78-139	5.87	20	
Methylene Chloride	444.7	50.0	"	500.000	ND	88.9	65-144	1.41	16	
trans-1,2-Dichloroethylene	456.7	10.0	"	500.000	ND	91.3	67-142	3.68	18	
1,1-Dichloroethane	451.8	10.0	"	500.000	ND	90.4	71-133	4.80	16	
cis-1,2-Dichloroethylene	482.2	10.0	"	500.000	ND	96.4	76-142	5.33	17	
2-Butanone (MEK)	885.8	100	"	1062.00	ND	83.4	48-169	3.47	17	
Chloroform	538.7	10.0	"	500.000	ND	108	75-133	2.73	16	
1,1,1-Trichloroethane	388.5	10.0	"	499.750	ND	77.7	66-120	2.77	15	
Carbon Tetrachloride	498.5	10.0	"	500.000	ND	99.7	67-132	0.160	15	
Benzene	546.0	10.0	"	500.000	ND	109	79-128	12.1	12	QR-02
1,2-Dichloroethane	485.4	10.0	"	500.000	ND	97.1	74-124	11.1	12	
Trichloroethylene	446.8	10.0	"	500.000	ND	89.4	82-122	8.40	13	
1,2-Dichloropropane	466.2	10.0	"	500.000	ND	93.2	80-126	4.55	10	
Dibromomethane	486.1	10.0	"	500.000	ND	97.2	62-141	9.37	11	
Bromodichloromethane	486.1	10.0	"	500.000	ND	97.2	77-119	8.06	10	
cis-1,3-Dichloropropene	446.3	10.0	"	503.250	ND	88.7	69-120	8.21	10	
Toluene	503.5	10.0	"	500.000	ND	101	80-125	14.0	12	QR-02
trans-1,3-Dichloropropene	430.6	10.0	"	504.250	ND	85.4	70-122	14.3	10	QR-02
1,1,2-Trichloroethane	445.1	10.0	"	500.000	ND	89.0	73-127	10.4	10	QR-02
Tetrachloroethylene	447.8	10.0	"	500.000	ND	89.6	70-122	2.74	15	
Chlorobenzene	519.7	10.0	"	500.000	ND	104	81-114	0.900	12	
Ethylbenzene	525.6	10.0	"	500.000	ND	105	79-113	2.23	13	
Xylenes, total	1481	20.0	"	1500.00	ND	98.7	79-114	0.162	12	
Bromoform	487.8	10.0	"	500.000	ND	97.6	66-126	2.43	16	
1,1,2,2-Tetrachloroethane	529.6	10.0	"	498.500	ND	106	56-132	5.73	29	
1,3-Dichlorobenzene	521.5	10.0	"	500.000	ND	104	69-125	13.5	18	
1,4-Dichlorobenzene	519.4	10.0	"	500.000	ND	104	73-119	9.54	21	
1,2-Dichlorobenzene	503.7	10.0	"	500.000	ND	101	71-117	3.66	23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0537 - EPA 625 BNA										
Blank (1GD0537-BLK1)				Prepared: 04/11/23 Analyzed: 04/26/23						
Surrogate: 2-Fluorophenol	*59.7*		*ug/L*	*60.6000*		*98.5*	*19-139*			
Surrogate: Phenol-d6	*34.1*		*"*	*61.9000*		*55.1*	*14-154*			
Surrogate: Nitrobenzene-d5	*67.8*		*"*	*62.8500*		*108*	*17-146*			
Surrogate: 2-Fluorobiphenyl	*49.5*		*"*	*61.0000*		*81.2*	*18-122*			
Surrogate: 2,4,6-Tribromophenol	*58.5*		*"*	*62.2500*		*94.0*	*21-151*			
Surrogate: Terphenyl-dl4	*75.6*		*"*	*65.1000*		*116*	*27-131*			
Bis(2-Chloroethyl) Ether	ND	10	"							
2-Chlorophenol	ND	10	"							
1,3-Dichlorobenzene	ND	10	"							
1,4-Dichlorobenzene	ND	10	"							
Benzyl Alcohol	ND	10	"							
1,2-Dichlorobenzene	ND	10	"							
Bis[2-Chloroisopropyl]ether	ND	10	"							
n-Nitroso-di-n-propylamine	ND	10	"							
Hexachloroethane	ND	10	"							
Nitrobenzene	ND	10	"							
Isophorone	ND	10	"							
2-Nitrophenol	ND	10	"							
2,4-Dimethylphenol	ND	10	"							
Bis (2-Chloroethoxy) Methane	ND	10	"							
Benzoic acid	ND	50	"							
2,4-Dichlorophenol	ND	10	"							
1,2,4-Trichlorobenzene	ND	10	"							
Naphthalene	ND	10	"							
Hexachlorobutadiene	ND	20	"							
4-Chloro-3-methylphenol	ND	10	"							
Hexachlorocyclopentadiene	ND	20	"							
2,4,6-Trichlorophenol	ND	10	"							
2,4,5-Trichlorophenol	ND	50	"							
2-Chloronaphthalene	ND	10	"							
Dimethylphthalate	ND	15	"							
Acenaphthylene	ND	10	"							
2,6-Dinitrotoluene	ND	10	"							
Acenaphthene	ND	10	"							
2,4-Dinitrophenol	ND	20	"							
Dibenzofuran	ND	10	"							
2,4-Dinitrotoluene	ND	10	"							
4-Nitrophenol	ND	10	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0537 - EPA 625 BNA										
Blank (1GD0537-BLK1)				Prepared: 04/11/23 Analyzed: 04/26/23						
Diethyl Phthalate	ND	30	ug/L							
Fluorene	ND	10	"							
4-Chlorophenyl Phenyl Ether	ND	10	"							
4,6-Dinitro-2-methylphenol	ND	20	"							
N-Nitrosodiphenylamine	ND	10	"							
4-Bromophenyl Phenyl Ether	ND	10	"							
Hexachlorobenzene	ND	10	"							
Pentachlorophenol	ND	20	"							
Phenanthrene	ND	10	"							
Anthracene	ND	10	"							
Di-n-butyl Phthalate	ND	10	"							
Fluoranthene	ND	10	"							
Pyrene	ND	10	"							
Butyl Benzyl Phthalate	ND	10	"							
Benzo(a)anthracene	ND	10	"							
Chrysene	ND	10	"							
Bis(2-Ethylhexyl) Phthalate	ND	10	"							
Di-n-octyl Phthalate	ND	10	"							
Indeno(1,2,3-cd)Pyrene	ND	10	"							
3,3´-Dichlorobenzidine	ND	20	"							
Benzo(b)Fluoranthene	ND	10	"							
Benzo(k)Fluoranthene	ND	10	"							
Benzo(a)Pyrene	ND	10	"							
Dibenzo(a,h)anthracene	ND	10	"							
Benzo(g,h,i)perylene	ND	10	"							
LCS (1GD0537-BS1)				Prepared: 04/11/23 Analyzed: 04/26/23						
Surrogate: 2-Fluorophenol	*37.6*		*ug/L*	*60.6000*		*62.0*	*19-139*			
Surrogate: Phenol-d6	*26.2*		*"*	*61.9000*		*42.2*	*14-154*			
Surrogate: Nitrobenzene-d5	*54.2*		*"*	*62.8500*		*86.2*	*17-146*			
Surrogate: 2-Fluorobiphenyl	*40.1*		*"*	*61.0000*		*65.8*	*18-122*			
Surrogate: 2,4,6-Tribromophenol	*53.8*		*"*	*62.2500*		*86.4*	*21-151*			
Surrogate: Terphenyl-dl4	*67.3*		*"*	*65.1000*		*103*	*27-131*			
Bis(2-Chloroethyl) Ether	38.1	10	"	41.6667		91.5	35-150			
2-Chlorophenol	36.2	10	"	41.6667		87.0	51-117			
1,3-Dichlorobenzene	30.3	10	"	41.6667		72.7	27-91.3			
1,4-Dichlorobenzene	31.5	10	"	41.6667		75.7	28-92.6			
Benzyl Alcohol	12.0	10	"	41.6667		28.7	22-147			
1,2-Dichlorobenzene	32.3	10	"	41.6667		77.6	32-94.8			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0537 - EPA 625 BNA										
LCS (1GD0537-BS1)				Prepared: 04/11/23 Analyzed: 04/26/23						
Bis[2-Chloroisopropyl]ether	34.5	10	ug/L	41.6667		82.9	40-125			
n-Nitroso-di-n-propylamine	35.9	10	"	41.6667		86.2	47-136			
Hexachloroethane	30.5	10	"	41.6667		73.1	13-110			
Nitrobenzene	39.6	10	"	41.6667		95.0	46-133			
Isophorone	39.5	10	"	41.6667		94.7	48-130			
2-Nitrophenol	36.1	10	"	41.6667		86.6	54-116			
2,4-Dimethylphenol	39.6	10	"	41.6667		94.9	47-121			
Bis (2-Chloroethoxy) Methane	38.4	10	"	41.6667		92.3	25-110			
2,4-Dichlorophenol	38.0	10	"	41.6667		91.2	50-118			
1,2,4-Trichlorobenzene	32.9	10	"	41.6667		78.9	27-95.5			
Naphthalene	32.0	10	"	41.6667		76.9	42-107			
Hexachlorobutadiene	27.2	20	"	41.6667		65.3	10-110			
4-Chloro-3-methylphenol	40.2	10	"	41.6667		96.4	54-138			
Hexachlorocyclopentadiene	26.9	20	"	41.6667		64.6	10-110			
2,4,6-Trichlorophenol	37.4	10	"	41.6667		89.7	46-127			
2,4,5-Trichlorophenol	40.0	50	"	41.6667		96.1	62-119			
2-Chloronaphthalene	31.7	10	"	41.6667		76.0	38-118			
Dimethylphthalate	38.7	15	"	41.6667		92.9	58-125			
Acenaphthylene	33.2	10	"	41.6667		79.6	41-116			
2,6-Dinitrotoluene	40.6	10	"	41.6667		97.3	58-126			
Acenaphthene	33.2	10	"	41.6667		79.7	45-117			
2,4-Dinitrophenol	21.3	20	"	41.6667		51.1	21-138			
Dibenzofuran	35.8	10	"	41.6667		85.8	51-126			
2,4-Dinitrotoluene	36.2	10	"	41.6667		86.9	52-134			
4-Nitrophenol	38.1	10	"	41.6667		91.4	41-149			
Diethyl Phthalate	40.9	30	"	41.6667		98.3	53-132			
Fluorene	35.4	10	"	41.6667		84.9	47-126			
4-Chlorophenyl Phenyl Ether	32.6	10	"	41.6667		78.2	47-124			
4,6-Dinitro-2-methylphenol	26.8	20	"	41.6667		64.2	50-139			
N-Nitrosodiphenylamine	27.4	10	"	41.6667		65.8	29-129			
4-Bromophenyl Phenyl Ether	33.7	10	"	41.6667		80.9	48-125			
Hexachlorobenzene	32.4	10	"	41.6667		77.8	29-137			
Pentachlorophenol	33.0	20	"	41.6667		79.2	15-154			
Phenanthrene	37.9	10	"	41.6667		90.9	45-136			
Anthracene	32.6	10	"	41.6667		78.2	43-135			
Di-n-butyl Phthalate	39.2	10	"	41.6667		94.0	42-153			
Fluoranthene	36.3	10	"	41.6667		87.1	42-143			
Pyrene	41.1	10	"	41.6667		98.6	40-146			
Butyl Benzyl Phthalate	44.5	10	"	41.6667		107	40-151			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0743

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0537 - EPA 625 BNA										
LCS (1GD0537-BS1)				Prepared: 04/11/23 Analyzed: 04/26/23						
Benzo(a)anthracene	37.3	10	ug/L	41.6667		89.6	48-136			
Chrysene	38.8	10	"	41.6667		93.2	50-136			
Bis(2-Ethylhexyl) Phthalate	42.8	10	"	41.6667		103	34-180			
Di-n-octyl Phthalate	43.6	10	"	41.6667		105	40-165			
Indeno(1,2,3-cd)Pyrene	37.3	10	"	41.6667		89.4	39-152			
Benzo(b)Fluoranthene	31.7	10	"	41.6667		76.0	52-140			
Benzo(k)Fluoranthene	38.7	10	"	41.6667		92.9	47-147			
Benzo(a)Pyrene	37.0	10	"	41.6667		88.8	38-142			
Dibenzo(a,h)anthracene	41.9	10	"	41.6667		101	37-153			
Benzo(g,h,i)perylene	39.8	10	"	41.6667		95.6	39-157			
LCS Dup (1GD0537-BSD1)				Prepared: 04/11/23 Analyzed: 04/26/23						
Surrogate: 2-Fluorophenol	*36.8*		*ug/L*	*60.6000*		*60.8*	*19-139*			
Surrogate: Phenol-d6	*24.3*		*"*	*61.9000*		*39.2*	*14-154*			
Surrogate: Nitrobenzene-d5	*47.9*		*"*	*62.8500*		*76.2*	*17-146*			
Surrogate: 2-Fluorobiphenyl	*41.4*		*"*	*61.0000*		*68.0*	*18-122*			
Surrogate: 2,4,6-Tribromophenol	*53.4*		*"*	*62.2500*		*85.8*	*21-151*			
Surrogate: Terphenyl-dl4	*66.2*		*"*	*65.1000*		*102*	*27-131*			
Bis(2-Chloroethyl) Ether	33.9	10	"	41.6667		81.4	35-150	11.6	30	
2-Chlorophenol	31.2	10	"	41.6667		74.8	51-117	15.1	27	
1,3-Dichlorobenzene	29.6	10	"	41.6667		71.2	27-91.3	2.20	30	
1,4-Dichlorobenzene	28.9	10	"	41.6667		69.4	28-92.6	8.70	30	
Benzyl Alcohol	11.2	10	"	41.6667		27.0	22-147	6.03	30	
1,2-Dichlorobenzene	29.4	10	"	41.6667		70.7	32-94.8	9.36	30	
Bis[2-Chloroisopropyl]ether	29.0	10	"	41.6667		69.6	40-125	17.4	26	
n-Nitroso-di-n-propylamine	33.1	10	"	41.6667		79.4	47-136	8.12	29	
Hexachloroethane	30.1	10	"	41.6667		72.3	13-110	1.09	30	
Nitrobenzene	34.3	10	"	41.6667		82.4	46-133	14.2	19	
Isophorone	34.8	10	"	41.6667		83.5	48-130	12.5	23	
2-Nitrophenol	33.9	10	"	41.6667		81.3	54-116	6.35	25	
2,4-Dimethylphenol	34.9	10	"	41.6667		83.7	47-121	12.6	29	
Bis (2-Chloroethoxy) Methane	33.3	10	"	41.6667		79.8	25-110	14.4	30	
2,4-Dichlorophenol	36.3	10	"	41.6667		87.2	50-118	4.47	21	
1,2,4-Trichlorobenzene	32.3	10	"	41.6667		77.5	27-95.5	1.72	30	
Naphthalene	32.1	10	"	41.6667		77.1	42-107	0.187	26	
Hexachlorobutadiene	24.2	20	"	41.6667		58.1	10-110	11.6	30	
4-Chloro-3-methylphenol	37.0	10	"	41.6667		88.7	54-138	8.27	12	
Hexachlorocyclopentadiene	25.7	20	"	41.6667		61.7	10-110	4.60	30	
2,4,6-Trichlorophenol	34.6	10	"	41.6667		82.9	46-127	7.81	21	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0743

Determination of Base/Neutral/Acid Extractable Compounds - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0537 - EPA 625 BNA										
LCS Dup (1GD0537-BSD1)				Prepared: 04/11/23 Analyzed: 04/26/23						
2,4,5-Trichlorophenol	35.4	50	ug/L	41.6667		85.1	62-119	12.2	15	
2-Chloronaphthalene	32.5	10	"	41.6667		78.0	38-118	2.52	24	
Dimethylphthalate	35.4	15	"	41.6667		84.9	58-125	9.02	20	
Acenaphthylene	34.0	10	"	41.6667		81.6	41-116	2.47	30	
2,6-Dinitrotoluene	37.5	10	"	41.6667		90.1	58-126	7.76	20	
Acenaphthene	32.8	10	"	41.6667		78.8	45-117	1.15	27	
2,4-Dinitrophenol	19.1	20	"	41.6667		45.8	21-138	10.9	22	
Dibenzofuran	35.3	10	"	41.6667		84.7	51-126	1.32	15	
2,4-Dinitrotoluene	32.0	10	"	41.6667		76.8	52-134	12.3	22	
4-Nitrophenol	33.0	10	"	41.6667		79.3	41-149	14.2	28	
Diethyl Phthalate	37.9	30	"	41.6667		90.9	53-132	7.79	22	
Fluorene	36.5	10	"	41.6667		87.6	47-126	3.06	27	
4-Chlorophenyl Phenyl Ether	33.5	10	"	41.6667		80.4	47-124	2.72	20	
4,6-Dinitro-2-methylphenol	26.2	20	"	41.6667		62.9	50-139	2.08	25	
N-Nitrosodiphenylamine	32.0	10	"	41.6667		76.8	29-129	15.4	30	
4-Bromophenyl Phenyl Ether	37.4	10	"	41.6667		89.7	48-125	10.3	18	
Hexachlorobenzene	36.3	10	"	41.6667		87.0	29-137	11.2	30	
Pentachlorophenol	34.2	20	"	41.6667		82.0	15-154	3.48	29	
Phenanthrene	38.4	10	"	41.6667		92.2	45-136	1.42	27	
Anthracene	38.8	10	"	41.6667		93.1	43-135	17.4	28	
Di-n-butyl Phthalate	39.5	10	"	41.6667		94.9	42-153	0.991	29	
Fluoranthene	42.9	10	"	41.6667		103	42-143	16.7	30	
Pyrene	42.7	10	"	41.6667		103	40-146	3.92	25	
Butyl Benzyl Phthalate	44.5	10	"	41.6667		107	40-151	0.157	29	
Benzo(a)anthracene	43.0	10	"	41.6667		103	48-136	14.2	30	
Chrysene	40.5	10	"	41.6667		97.2	50-136	4.16	30	
Bis(2-Ethylhexyl) Phthalate	48.6	10	"	41.6667		117	34-180	12.6	30	
Di-n-octyl Phthalate	42.6	10	"	41.6667		102	40-165	2.44	30	
Indeno(1,2,3-cd)Pyrene	44.2	10	"	41.6667		106	39-152	17.0	30	
Benzo(b)Fluoranthene	32.2	10	"	41.6667		77.3	52-140	1.63	30	
Benzo(k)Fluoranthene	43.9	10	"	41.6667		105	47-147	12.7	30	
Benzo(a)Pyrene	37.6	10	"	41.6667		90.1	38-142	1.45	30	
Dibenzo(a,h)anthracene	39.5	10	"	41.6667		94.8	37-153	5.95	30	
Benzo(g,h,i)perylene	39.3	10	"	41.6667		94.3	39-157	1.36	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Organochlorine Insecticides & PCBs - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0501 - EPA 608 OC/PCB										
Blank (1GD0501-BLK1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Decachlorobiphenyl	*ND*		*ug/L*	*0.600000*			*19-120*			*S-GC*
Surrogate: Tetrachloro-m-xylene	*0.362*		*"*	*0.600000*		*60.4*	*30-119*			
Gamma-BHC [Lindane]	ND	0.05	"							
Beta-BHC	ND	0.05	"							
Heptachlor	ND	0.05	"							
Delta-BHC	ND	0.05	"							
Aldrin	ND	0.05	"							
Heptachlor Epoxide	ND	0.05	"							
Endosulfan I	ND	0.05	"							
4,4`-DDE	ND	0.05	"							
Dieldrin	ND	0.05	"							
Endrin	ND	0.05	"							
4,4`-DDD	ND	0.05	"							
Endosulfan II	ND	0.05	"							
4,4`-DDT	ND	0.05	"							
Endrin Aldehyde	ND	0.05	"							
Endosulfan Sulfate	ND	0.05	"							
Chlordane	ND	0.10	"							
Toxaphene	ND	0.20	"							
Arochlor 1016	ND	0.10	"							
Arochlor 1221	ND	0.20	"							
Arochlor 1232	ND	0.20	"							
Arochlor 1242	ND	0.20	"							
Arochlor 1248	ND	0.20	"							
Arochlor 1254	ND	0.10	"							
Arochlor 1260	ND	0.10	"							
LCS (1GD0501-BS1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Tetrachloro-m-xylene	*0.382*		*ug/L*	*0.600000*		*63.6*	*30-119*			
Surrogate: Decachlorobiphenyl	*0.149*		*"*	*0.600000*		*24.9*	*19-120*			
Gamma-BHC [Lindane]	0.222	0.05	"	0.250000		88.7	37-127			
Beta-BHC	0.199	0.05	"	0.250000		79.6	36-131			
Heptachlor	0.235	0.05	"	0.250000		94.0	36-128			
Delta-BHC	0.236	0.05	"	0.250000		94.5	29-147			
Aldrin	0.207	0.05	"	0.250000		82.9	41-120			
Heptachlor Epoxide	0.237	0.05	"	0.250000		94.7	50-132			
Endosulfan I	0.240	0.05	"	0.250000		96.0	50-133			
4,4`-DDE	0.251	0.05	"	0.250000		100	46-140			
Dieldrin	0.236	0.05	"	0.250000		94.6	41-138			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0743

Determination of Organochlorine Insecticides & PCBs - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0501 - EPA 608 OC/PCB										
LCS (1GD0501-BS1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Endrin	0.276	0.05	ug/L	0.250000		111	32-152			
4,4`-DDD	0.249	0.05	"	0.250000		99.5	44-150			
Endosulfan II	0.247	0.05	"	0.250000		98.8	45-141			
4,4`-DDT	0.284	0.05	"	0.250000		114	46-145			
Endrin Aldehyde	0.318	0.05	"	0.250000		127	33-145			
Endosulfan Sulfate	0.251	0.05	"	0.250000		100	52-133			
LCS Dup (1GD0501-BSD1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Decachlorobiphenyl	*0.196*		*ug/L*	*0.600000*		*32.7*	*19-120*			
Surrogate: Tetrachloro-m-xylene	*0.476*		*"*	*0.600000*		*79.3*	*30-119*			
Gamma-BHC [Lindane]	0.269	0.05	"	0.250000		108	37-127	19.4	30	
Beta-BHC	0.240	0.05	"	0.250000		95.9	36-131	18.5	30	
Heptachlor	0.292	0.05	"	0.250000		117	36-128	21.5	30	
Delta-BHC	0.282	0.05	"	0.250000		113	29-147	17.7	30	
Aldrin	0.256	0.05	"	0.250000		102	41-120	21.1	30	
Heptachlor Epoxide	0.294	0.05	"	0.250000		118	50-132	21.6	30	
Endosulfan I	0.303	0.05	"	0.250000		121	50-133	23.2	30	
4,4`-DDE	0.278	0.05	"	0.250000		111	46-140	10.5	30	
Dieldrin	0.297	0.05	"	0.250000		119	41-138	22.8	30	
Endrin	0.352	0.05	"	0.250000		141	32-152	24.1	30	
4,4`-DDD	0.309	0.05	"	0.250000		124	44-150	21.6	30	
Endosulfan II	0.313	0.05	"	0.250000		125	45-141	23.5	30	
4,4`-DDT	0.354	0.05	"	0.250000		142	46-145	21.8	30	
Endrin Aldehyde	0.381	0.05	"	0.250000		152	33-145	17.9	30	QS-02
Endosulfan Sulfate	0.312	0.05	"	0.250000		125	52-133	21.8	30	
Reference (1GD0501-SRM1)				Prepared: 04/10/23 Analyzed: 04/25/23						
Surrogate: Decachlorobiphenyl	*0.572*		*ug/L*	*0.600000*		*95.4*	*19-120*			
Surrogate: Tetrachloro-m-xylene	*0.488*		*"*	*0.600000*		*81.3*	*30-119*			
Gamma-BHC [Lindane]	0.225	0.05	"	0.250000		90.0	80-120			
Beta-BHC	0.208	0.05	"	0.250000		83.1	80-120			
Heptachlor	0.247	0.05	"	0.250000		98.8	80-120			
Delta-BHC	0.229	0.05	"	0.250000		91.6	80-120			
Aldrin	0.225	0.05	"	0.250000		89.9	80-120			
Heptachlor Epoxide	0.244	0.05	"	0.250000		97.5	80-120			
Endosulfan I	0.248	0.05	"	0.250000		99.3	80-120			
4,4`-DDE	0.213	0.05	"	0.250000		85.3	80-120			
Dieldrin	0.246	0.05	"	0.250000		98.4	80-120			
Endrin	0.270	0.05	"	0.250000		108	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Determination of Organochlorine Insecticides & PCBs - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0501 - EPA 608 OC/PCB										
Reference (1GD0501-SRM1)				Prepared: 04/10/23 Analyzed: 04/25/23						
4,4`-DDD	0.247	0.05	ug/L	0.250000		98.7	80-120			
Endosulfan II	0.241	0.05	"	0.250000		96.3	80-120			
4,4`-DDT	0.279	0.05	"	0.250000		112	80-120			
Endrin Aldehyde	0.274	0.05	"	0.250000		110	80-120			
Endosulfan Sulfate	0.245	0.05	"	0.250000		98.1	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0291 - General Prep Micro										
Blank (1GD0291-BLK1)				Prepared & Analyzed: 04/07/23						
BOD (5 day)	ND	4	mg/L							
Duplicate (1GD0291-DUP1)		**Source: 1GD0732-01**		Prepared & Analyzed: 04/07/23						
BOD (5 day)	858	4	mg/L		891			3.77	29	
Reference (1GD0291-SRM1)				Prepared & Analyzed: 04/07/23						
BOD (5 day)	221	4	mg/L	198.000		112	84.6-115.4			
Batch 1GD0371 - Wet Chem Preparation										
Blank (1GD0371-BLK1)				Prepared: 04/07/23 Analyzed: 04/10/23						
Oil and Grease	ND	4	mg/L							
LCS (1GD0371-BS1)				Prepared: 04/07/23 Analyzed: 04/10/23						
Oil and Grease	34.8	4	mg/L	40.0000		87.0	78-114			
Matrix Spike (1GD0371-MS1)		**Source: 1GD0582-02**		Prepared: 04/07/23 Analyzed: 04/10/23						
Oil and Grease	48.2	7	mg/L	74.2115	7.3	55.2	78-114			PH-3, QM-07
Matrix Spike Dup (1GD0371-MSD1)		**Source: 1GD0582-02**		Prepared: 04/07/23 Analyzed: 04/10/23						
Oil and Grease	49.4	7	mg/L	74.0741	7.3	56.9	78-114	2.47	18	PH-3, QM-07
Batch 1GD0380 - Wet Chem Preparation										
Duplicate (1GD0380-DUP1)		**Source: 1GD0789-01**		Prepared & Analyzed: 04/07/23						
pH	8.89	0.5	pH		8.88			0.0900	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0380 - Wet Chem Preparation										
Reference (1GD0380-SRM1)				Prepared & Analyzed: 04/07/23						
pH	7.02	0.5	pH	7.00000		100	90-110			
Reference (1GD0380-SRM2)				Prepared & Analyzed: 04/07/23						
pH	7.02	0.5	pH	7.00000		100	90-110			
Batch 1GD0557 - Wet Chem Preparation										
Blank (1GD0557-BLK1)				Prepared & Analyzed: 04/12/23						
Solids, total dissolved	ND	5	mg/L							
LCS (1GD0557-BS1)				Prepared & Analyzed: 04/12/23						
Solids, total dissolved	92	5	mg/L	100.000		92.5	71-114			
Duplicate (1GD0557-DUP1)		**Source: 1GD0430-01**		Prepared & Analyzed: 04/12/23						
Solids, total dissolved	1730	5	mg/L		1820			5.30	30	
Batch 1GD0613 - Wet Chem Preparation										
Blank (1GD0613-BLK1)				Prepared: 04/12/23 Analyzed: 04/13/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GD0613-BS1)				Prepared: 04/12/23 Analyzed: 04/13/23						
Solids, total suspended	13.4	1	mg/L	15.0000		89.3	74-114			
Duplicate (1GD0613-DUP1)		**Source: 1GD0739-01**		Prepared: 04/12/23 Analyzed: 04/13/23						
Solids, total suspended	323	10	mg/L		325			0.617	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0682 - TOC/DOC										
Blank (1GD0682-BLK1)				Prepared & Analyzed: 04/12/23						
Total Organic Carbon	ND	0.50	mg/L							
LCS (1GD0682-BS1)				Prepared & Analyzed: 04/12/23						
Total Organic Carbon	5.12	0.50	mg/L	5.00000		102	86-120			
LCS Dup (1GD0682-BSD1)				Prepared & Analyzed: 04/12/23						
Total Organic Carbon	5.10	0.50	mg/L	5.00000		102	86-120	0.372	10	
MRL Check (1GD0682-MRL1)				Prepared & Analyzed: 04/12/23						
Total Organic Carbon	0.59	0.50	mg/L	0.500000		118	50-150			
Matrix Spike (1GD0682-MS1)		**Source: 1GD0360-02**		Prepared & Analyzed: 04/12/23						
Total Organic Carbon	20.68	2.00	mg/L	20.0000	ND	103	81-128			
Matrix Spike Dup (1GD0682-MSD1)		**Source: 1GD0360-02**		Prepared & Analyzed: 04/12/23						
Total Organic Carbon	20.31	2.00	mg/L	20.0000	ND	102	81-128	1.83	10	
Batch 1GD0721 - Wet Chem Preparation										
Blank (1GD0721-BLK1)				Prepared: 04/14/23 Analyzed: 04/20/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GD0721-BS1)				Prepared: 04/14/23 Analyzed: 04/20/23						
Nitrogen, Kjeldahl, total	20.2	0.50	mg/L	20.0000		101	90-110			
Matrix Spike (1GD0721-MS1)		**Source: 1GD0736-02**		Prepared: 04/14/23 Analyzed: 04/20/23						
Nitrogen, Kjeldahl, total	53.6	1.25	mg/L	50.0000	1.42	104	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0721 - Wet Chem Preparation										
Matrix Spike Dup (1GD0721-MSD1)		**Source: 1GD0736-02**		Prepared: 04/14/23 Analyzed: 04/20/23						
Nitrogen, Kjeldahl, total	53.5	1.25	mg/L	50.0000	1.42	104	90-110	0.187	10	
Batch 1GD0795 - Wet Chem Preparation										
Blank (1GD0795-BLK1)				Prepared: 04/17/23 Analyzed: 04/18/23						
Nitrogen, Nitrate+Nitrite	ND	0.10	mg/L							
LCS (1GD0795-BS1)				Prepared: 04/17/23 Analyzed: 04/18/23						
Nitrogen, Nitrate+Nitrite	2.49	0.10	mg/L	2.50000		99.6	90-110			
Matrix Spike (1GD0795-MS1)		**Source: 1GD0734-01**		Prepared: 04/17/23 Analyzed: 04/18/23						
Nitrogen, Nitrate+Nitrite	4.32	0.20	mg/L	5.00000	ND	86.5	90-110			QM-07
Matrix Spike Dup (1GD0795-MSD1)		**Source: 1GD0734-01**		Prepared: 04/17/23 Analyzed: 04/18/23						
Nitrogen, Nitrate+Nitrite	5.09	0.20	mg/L	5.00000	ND	102	90-110	16.2	20	
Batch 1GD1033 - General Prep HPLC/IC										
Blank (1GD1033-BLK1)				Prepared & Analyzed: 04/20/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GD1033-BS1)				Prepared & Analyzed: 04/20/23						
Nitrogen, Ammonia	5.01	0.10	mg/L	5.00000		100	90-114			
Matrix Spike (1GD1033-MS1)		**Source: 1GD0733-02**		Prepared & Analyzed: 04/20/23						
Nitrogen, Ammonia	5.90	0.10	mg/L	5.00000	1.07	96.5	84-115			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD1033 - General Prep HPLC/IC										
Matrix Spike Dup (1GD1033-MSD1)		**Source: 1GD0733-02**		Prepared & Analyzed: 04/20/23						
Nitrogen, Ammonia	6.36	0.10	mg/L	5.00000	1.07	106	84-115	7.56	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0305 - EPA 7470A Hg Water										
Blank (1GD0305-BLK1)				Prepared: 04/06/23 Analyzed: 04/10/23						
Mercury, total	ND	0.00050	mg/L							
LCS (1GD0305-BS1)				Prepared: 04/06/23 Analyzed: 04/10/23						
Mercury, total	0.00257	0.00050	mg/L	0.00250000		103	85-115			
Matrix Spike (1GD0305-MS1)		**Source: 1GD0563-03**		Prepared: 04/06/23 Analyzed: 04/10/23						
Mercury, total	0.00278	0.00050	mg/L	0.00250000	ND	111	70-130			
Matrix Spike Dup (1GD0305-MSD1)		**Source: 1GD0563-03**		Prepared: 04/06/23 Analyzed: 04/10/23						
Mercury, total	0.00266	0.00050	mg/L	0.00250000	ND	106	70-130	4.54	10	
Batch 1GD0381 - EPA 200.2 Total ICP-MS										
Blank (1GD0381-BLK1)				Prepared: 04/07/23 Analyzed: 04/11/23						
Arsenic, total	ND	0.0020	mg/L							
Barium, total	ND	0.0020	"							
Cadmium, total	ND	0.0002	"							
Chromium, total	ND	0.0020	"							
Copper, total	ND	0.0020	"							QB-11
Lead, total	ND	0.0008	"							
Nickel, total	ND	0.0040	"							
Selenium, total	ND	0.0040	"							
Silver, total	ND	0.0020	"							
Zinc, total	ND	0.0200	"							
LCS (1GD0381-BS1)				Prepared: 04/07/23 Analyzed: 04/11/23						
Arsenic, total	0.0898	0.0020	mg/L	0.100000		89.8	85-115			
Barium, total	0.0993	0.0020	"	0.100000		99.3	85-115			
Cadmium, total	0.0865	0.0002	"	0.100000		86.5	85-115			
Chromium, total	0.0904	0.0020	"	0.100000		90.4	85-115			
Copper, total	0.0952	0.0020	"	0.100000		95.2	85-115			
Lead, total	0.0959	0.0008	"	0.100000		95.9	85-115			
Nickel, total	0.0948	0.0040	"	0.100000		94.8	85-115			
Selenium, total	0.0864	0.0040	"	0.100000		86.4	85-115			
Silver, total	0.0932	0.0020	"	0.100000		93.2	85-115			
Zinc, total	0.0884	0.0200	"	0.100000		88.4	85-115			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0381 - EPA 200.2 Total ICP-MS										
Matrix Spike (1GD0381-MS1)		**Source: 1GD0524-01**		Prepared: 04/07/23 Analyzed: 04/11/23						
Arsenic, total	0.0989	0.0020	mg/L	0.100000	ND	98.9	70-130			
Barium, total	0.203	0.0020	"	0.100000	0.0917	111	70-130			
Cadmium, total	0.0869	0.0002	"	0.100000	ND	86.9	70-130			
Chromium, total	0.0921	0.0020	"	0.100000	0.0023	89.8	70-130			
Copper, total	0.106	0.0020	"	0.100000	0.0145	91.9	70-130			
Lead, total	0.0900	0.0008	"	0.100000	0.0006	89.4	70-130			
Nickel, total	0.100	0.0040	"	0.100000	0.0032	97.3	70-130			
Selenium, total	0.0923	0.0040	"	0.100000	0.0016	90.7	70-130			
Silver, total	0.0920	0.0020	"	0.100000	0.0016	90.4	70-130			
Zinc, total	0.130	0.0200	"	0.100000	0.0347	94.9	70-130			
Matrix Spike Dup (1GD0381-MSD1)		**Source: 1GD0524-01**		Prepared: 04/07/23 Analyzed: 04/11/23						
Arsenic, total	0.0957	0.0020	mg/L	0.100000	ND	95.7	70-130	3.32	20	
Barium, total	0.201	0.0020	"	0.100000	0.0917	110	70-130	0.949	20	
Cadmium, total	0.0858	0.0002	"	0.100000	ND	85.8	70-130	1.28	20	
Chromium, total	0.0893	0.0020	"	0.100000	0.0023	87.0	70-130	3.04	20	
Copper, total	0.103	0.0020	"	0.100000	0.0145	88.9	70-130	2.81	20	
Lead, total	0.0875	0.0008	"	0.100000	0.0006	86.9	70-130	2.81	20	
Nickel, total	0.0983	0.0040	"	0.100000	0.0032	95.1	70-130	2.17	20	
Selenium, total	0.0889	0.0040	"	0.100000	0.0016	87.3	70-130	3.74	20	
Silver, total	0.0897	0.0020	"	0.100000	0.0016	88.1	70-130	2.47	20	
Zinc, total	0.127	0.0200	"	0.100000	0.0347	92.3	70-130	2.06	20	
Post Spike (1GD0381-PS1)		**Source: 1GD0524-01**		Prepared: 04/07/23 Analyzed: 04/11/23						
Arsenic, total	0.0792		mg/L	0.0800000	0.0005	98.3	70-130			
Barium, total	0.173		"	0.0800000	0.0899	103	70-130			
Cadmium, total	0.0709		"	0.0800000	0.00002	88.6	70-130			
Chromium, total	0.0733		"	0.0800000	0.0023	88.8	70-130			
Copper, total	0.0873		"	0.0800000	0.0142	91.4	70-130			
Lead, total	0.0731		"	0.0800000	0.0005	90.7	70-130			
Nickel, total	0.0830		"	0.0800000	0.0031	99.8	70-130			
Selenium, total	0.0719		"	0.0800000	0.0016	88.0	70-130			
Silver, total	0.0746		"	0.0800000	0.0015	91.4	70-130			
Zinc, total	0.107		"	0.0800000	0.0340	90.8	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0450 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GD0450-BLK1)				Prepared: 04/10/23 Analyzed: 04/12/23						
Iron, total	ND	0.100	mg/L							
LCS (1GD0450-BS1)				Prepared: 04/10/23 Analyzed: 04/12/23						
Iron, total	2.31	0.100	mg/L	2.20000		105	85-115			
Matrix Spike (1GD0450-MS1)		**Source: 1GD0655-01**		Prepared: 04/10/23 Analyzed: 04/12/23						
Iron, total	2.46	0.100	mg/L	2.20000	0.398	93.8	70-130			
Matrix Spike Dup (1GD0450-MSD1)		**Source: 1GD0655-01**		Prepared: 04/10/23 Analyzed: 04/12/23						
Iron, total	2.65	0.100	mg/L	2.20000	0.398	103	70-130	7.54	20	
Post Spike (1GD0450-PS1)		**Source: 1GD0655-01**		Prepared: 04/10/23 Analyzed: 04/12/23						
Iron, total	9.29		mg/L	8.80000	0.398	101	85-115			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0743

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
245.1 in Water		
	Mercury, total	SIA1X,KS-NT
4500H-B in Drink Wtr		
	pH	SIA1X
5310B in Water		
	Total Organic Carbon	KS-NT,SIA1X
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 200.8 in Water		
	Arsenic, total	SIA1X,KS-NT
	Barium, total	SIA1X,KS-NT
	Cadmium, total	SIA1X,KS-NT
	Chromium, total	SIA1X,KS-NT
	Copper, total	SIA1X,KS-NT
	Lead, total	SIA1X,KS-NT
	Nickel, total	SIA1X,KS-NT
	Selenium, total	SIA1X,KS-NT
	Silver, total	SIA1X,KS-NT
	Zinc, total	SIA1X,KS-NT
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
EPA 353.2 in Water		
	Nitrogen, Nitrate+Nitrite	KS-NT,SIA1X
EPA 608 in Water		
	Gamma-BHC [Lindane]	KS-NT,SIA1X
	Beta-BHC	KS-NT,SIA1X
	Heptachlor	KS-NT,SIA1X
	Delta-BHC	KS-NT,SIA1X
	Aldrin	KS-NT,SIA1X
	Heptachlor Epoxide	KS-NT,SIA1X
	Endosulfan I	KS-NT,SIA1X
	4,4`-DDE	KS-NT,SIA1X
	Dieldrin	KS-NT,SIA1X
	Endrin	KS-NT,SIA1X
	4,4`-DDD	KS-NT,SIA1X
	Endosulfan II	KS-NT,SIA1X
	4,4`-DDT	KS-NT,SIA1X
	Endrin Aldehyde	KS-NT,SIA1X
	Endosulfan Sulfate	KS-NT,SIA1X
	Chlordane	KS-NT,SIA1X
	Toxaphene	KS-NT,SIA1X
	Arochlor 1016	KS-NT,SIA1X
	Arochlor 1221	KS-NT,SIA1X
	Arochlor 1232	KS-NT,SIA1X
	Arochlor 1242	KS-NT,SIA1X

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

	Arochlor 1248	KS-NT,SIA1X
	Arochlor 1254	KS-NT,SIA1X
	Arochlor 1260	KS-NT,SIA1X
EPA 624 in Water		
	Chloromethane	KS-NT,SIA1X
	Vinyl Chloride	KS-NT,SIA1X
	Bromomethane	KS-NT,SIA1X
	Chloroethane	KS-NT,SIA1X
	1,1-Dichloroethylene	KS-NT,SIA1X
	Methylene Chloride	KS-NT,SIA1X
	trans-1,2-Dichloroethylene	KS-NT
	1,1-Dichloroethane	KS-NT,SIA1X
	cis-1,2-Dichloroethylene	SIA1X
	2-Butanone (MEK)	SIA1X
	Chloroform	KS-NT,SIA1X
	1,1,1-Trichloroethane	KS-NT,SIA1X
	Carbon Tetrachloride	KS-NT,SIA1X
	Benzene	KS-NT,SIA1X
	1,2-Dichloroethane	KS-NT,SIA1X
	Trichloroethylene	KS-NT
	1,2-Dichloropropane	KS-NT,SIA1X
	Dibromomethane	SIA1X
	Bromodichloromethane	KS-NT,SIA1X
	2-Chloroethylvinyl ether	KS-NT,SIA1X
	cis-1,3-Dichloropropene	KS-NT,SIA1X
	Toluene	KS-NT
	trans-1,3-Dichloropropene	KS-NT
	1,1,2-Trichloroethane	KS-NT,SIA1X
	Tetrachloroethylene	KS-NT,SIA1X
	Chlorobenzene	KS-NT,SIA1X
	Ethylbenzene	KS-NT,SIA1X
	Xylenes, total	SIA1X
	Bromoform	KS-NT,SIA1X
	1,1,2,2-Tetrachloroethane	KS-NT,SIA1X
	1,3-Dichlorobenzene	KS-NT,SIA1X
	1,4-Dichlorobenzene	KS-NT,SIA1X
	1,2-Dichlorobenzene	KS-NT,SIA1X
EPA 625 in Water		
	Bis(2-Chloroethyl) Ether	KS-NT,SIA1X
	2-Chlorophenol	KS-NT,SIA1X
	Bis[2-Chloroisopropyl]ether	SIA1X
	n-Nitroso-di-n-propylamine	KS-NT,SIA1X
	Hexachloroethane	KS-NT,SIA1X
	Nitrobenzene	KS-NT,SIA1X
	Isophorone	KS-NT,SIA1X
	2-Nitrophenol	KS-NT,SIA1X
	2,4-Dimethylphenol	KS-NT,SIA1X
	Bis (2-Chloroethoxy) Methane	KS-NT,SIA1X
	2,4-Dichlorophenol	KS-NT,SIA1X
	1,2,4-Trichlorobenzene	KS-NT,SIA1X
	Naphthalene	KS-NT,SIA1X

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

	Hexachlorobutadiene	KS-NT,SIA1X
	4-Chloro-3-methylphenol	KS-NT,SIA1X
	Hexachlorocyclopentadiene	KS-NT,SIA1X
	2,4,6-Trichlorophenol	KS-NT,SIA1X
	2,4,5-Trichlorophenol	SIA1X
	2-Chloronaphthalene	KS-NT,SIA1X
	Dimethylphthalate	KS-NT,SIA1X
	Acenaphthylene	KS-NT,SIA1X
	2,6-Dinitrotoluene	KS-NT,SIA1X
	Acenaphthene	KS-NT,SIA1X
	2,4-Dinitrophenol	KS-NT,SIA1X
	2,4-Dinitrotoluene	KS-NT,SIA1X
	4-Nitrophenol	KS-NT,SIA1X
	Diethyl Phthalate	KS-NT,SIA1X
	Fluorene	KS-NT,SIA1X
	4-Chlorophenyl Phenyl Ether	KS-NT,SIA1X
	4,6-Dinitro-2-methylphenol	KS-NT,SIA1X
	N-Nitrosodiphenylamine	KS-NT,SIA1X
	4-Bromophenyl Phenyl Ether	KS-NT,SIA1X
	Hexachlorobenzene	KS-NT,SIA1X
	Pentachlorophenol	KS-NT,SIA1X
	Phenanthrene	KS-NT,SIA1X
	Anthracene	KS-NT,SIA1X
	Di-n-butyl Phthalate	KS-NT,SIA1X
	Fluoranthene	KS-NT,SIA1X
	Pyrene	KS-NT,SIA1X
	Butyl Benzyl Phthalate	KS-NT,SIA1X
	Benzo(a)anthracene	KS-NT,SIA1X
	Chrysene	KS-NT,SIA1X
	Bis(2-Ethylhexyl) Phthalate	KS-NT,SIA1X
	Di-n-octyl Phthalate	KS-NT,SIA1X
	Indeno(1,2,3-cd)Pyrene	KS-NT,SIA1X
	3,3´-Dichlorobenzidine	SIA1X
	Benzo(b)Fluoranthene	KS-NT,SIA1X
	Benzo(k)Fluoranthene	KS-NT,SIA1X
	Benzo(a)Pyrene	KS-NT,SIA1X
	Dibenzo(a,h)anthracene	KS-NT,SIA1X
	Benzo(g,h,i)perylene	KS-NT,SIA1X
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-1750-85 in Water		
	Solids, total dissolved	KS-NT,SIA1X
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

HLW Engineering
PO Box 314
Story City, IA 50248

Work Order: 1GD0743

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2023
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2023
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

Notes and Definitions

I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 7 pH units.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 7 pH units.
PH-3a	Insufficient preservative to adjust the sample pH to less than 2, value measured at 9 pH units.
QB-11	The analyte was found in the blank at a concentration greater than 2.2 times the MDL. However, the concentration of the analyte in the blank was less than the reporting limit so the data was accepted.
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-07	The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QS-02	The spike recovery for this QC sample exceeded established acceptance limits. However, all samples were below the reporting and/or regulatory limit so the data is acceptable.
S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

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

1 G D 0 7 4 3

HLW Engineering
PM: Sue Thompson

/2023 12:03:21PM
w.keystonelabs.c

SITE INFORMATION

Sampler: JGH

Project: FMC SLF - Leachate

6028

SPECIAL INSTRUCTIONS

None

Turn Around Time

☒ Standard ☐ RUSH, need by ___/___/___

REPORT TO

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

Christian Fox
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order: 1GD0743
Temperature: 0.1
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
01-001	LEACHATE LAGOON	Water	GRAB	4/6/23	14:43	14	608-107	624@dichlorodifluoromethane	01
							624-105	625-116	
							ag-i-200.8	as-t-200.8	
							ba-i-200.8	bod-5210	
							cd-i-200.8	cr-i-200.8	
							cu-i-200.8	fe-i-200.7	
							hg-i-245.1	nh3-timberline	
							ni-i-200.8	nitrogen-total	
							og-i-1664	pb-i-200.8	
							ph-4500	se-i-200.8	
							tds-i-1750-85	tkn-351.2	
							toc-5310b	tss-i-3765-85	
							zn-i-200.8		

Relinquished By: [signature] Date/Time: 4/6/23

Received By: Date/Time:

Relinquished By: [signature] Date/Time: 4-7-23 9:27

Received for Lab By: Date/Time:

Remarks:

Original - Lab Copy Yellow - Sampler Copy

ANALYTICAL REPORT

April 28, 2023

Work Order: 1GD1255

Report To	Work Order Information
Lori King	Date Received: 4/13/2023 10:15:00AM
Floyd Mitchell SWMA	Collector: Unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GD1255-01 Leachate (W)				Matrix: Water		Collected: 04/12/23 13:10	
BOD (5 day)	**92 mg/L**	**4**	1GD0572	SM 5210 B	IDD	04/13/23 15:00	
Nitrogen, Ammonia	**642 mg/L**	**10.0**	1GD1338	TIMBERLINE	TJB	04/26/23 14:21	
Oil and Grease	<4 mg/L	4	1GD0836	EPA 1664A	RMC	04/18/23 15:50	
pH	**8.3 pH**	**0.5**	1GD0838	EPA 150.1	BSS	04/17/23 16:03	I-03
Nitrogen, Kjeldahl, total	**641 mg/L**	**50.0**	1GD0891	EPA 351.2	AKK	04/21/23 12:21	
Solids, total suspended	**111 mg/L**	**8**	1GD0892	USGS I-3765-85	MEAH	04/19/23 12:40	
1GD1255-02 Leachate (M)				Matrix: Water		Collected: 04/12/23 13:00	
Iron, total	**15.0 mg/L**	**0.100**	1GD0767	200.7	JAR	04/18/23 5:06	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GD1255

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0572 - General Prep Micro										
Blank (1GD0572-BLK1)				Prepared & Analyzed: 04/13/23						
BOD (5 day)	ND	4	mg/L							B-06
Duplicate (1GD0572-DUP1)		**Source: 1GD1265-01**		Prepared & Analyzed: 04/13/23						
BOD (5 day)	95.0	4	mg/L		91.0			4.30	29	
Reference (1GD0572-SRM1)				Prepared & Analyzed: 04/13/23						
BOD (5 day)	231	4	mg/L	198.000		117	84.6-115.4			QR-06
Batch 1GD0836 - Wet Chem Preparation										
Blank (1GD0836-BLK1)				Prepared: 04/17/23 Analyzed: 04/18/23						
Oil and Grease	ND	4	mg/L							
LCS (1GD0836-BS1)				Prepared: 04/17/23 Analyzed: 04/18/23						
Oil and Grease	35.0	4	mg/L	40.0000		87.5	78-114			
Matrix Spike (1GD0836-MS1)		**Source: 1GD1340-02**		Prepared: 04/17/23 Analyzed: 04/18/23						
Oil and Grease	54.2	7	mg/L	74.2115	7.3	63.2	78-114			QM-07
Matrix Spike Dup (1GD0836-MSD1)		**Source: 1GD1340-02**		Prepared: 04/17/23 Analyzed: 04/18/23						
Oil and Grease	55.0	8	mg/L	75.3296	7.3	63.3	78-114	1.50	18	QM-07
Batch 1GD0838 - Wet Chem Preparation										
Duplicate (1GD0838-DUP1)		**Source: 1GD1263-01**		Prepared & Analyzed: 04/17/23						
pH	7.6	0.5	pH		7.6			0.0395	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GD1255

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0838 - Wet Chem Preparation										
Duplicate (1GD0838-DUP2)		**Source: 1GD1381-01**		Prepared & Analyzed: 04/17/23						
pH	9.0	0.5	pH		9.0			0.0555	10	
Reference (1GD0838-SRM1)				Prepared & Analyzed: 04/17/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Reference (1GD0838-SRM2)				Prepared & Analyzed: 04/17/23						
pH	7.1	0.5	pH	7.00000		101	90-110			
Batch 1GD0891 - Wet Chem Preparation										
Blank (1GD0891-BLK1)				Prepared: 04/18/23 Analyzed: 04/21/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GD0891-BS1)				Prepared: 04/18/23 Analyzed: 04/21/23						
Nitrogen, Kjeldahl, total	18.5	0.50	mg/L	20.0000		92.6	90-110			
Matrix Spike (1GD0891-MS1)		**Source: 1GD1139-02**		Prepared: 04/18/23 Analyzed: 04/21/23						
Nitrogen, Kjeldahl, total	38.1	1.25	mg/L	50.0000	ND	76.2	90-110			QM-07
Matrix Spike Dup (1GD0891-MSD1)		**Source: 1GD1139-02**		Prepared: 04/18/23 Analyzed: 04/21/23						
Nitrogen, Kjeldahl, total	41.8	1.25	mg/L	50.0000	ND	83.6	90-110	9.24	10	QM-07
Batch 1GD0892 - Wet Chem Preparation										
Blank (1GD0892-BLK1)				Prepared: 04/18/23 Analyzed: 04/19/23						
Solids, total suspended	ND	1	mg/L							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GD1255

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0892 - Wet Chem Preparation										
LCS (1GD0892-BS1)				Prepared: 04/18/23 Analyzed: 04/19/23						
Solids, total suspended	15.3	1	mg/L	15.0000		102	74-114			
Duplicate (1GD0892-DUP1)		**Source: 1GD1142-01**		Prepared: 04/18/23 Analyzed: 04/19/23						
Solids, total suspended	18.8	4	mg/L		21.2			12.0	30	
Batch 1GD1338 - General Prep HPLC/IC										
Blank (1GD1338-BLK1)				Prepared & Analyzed: 04/26/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GD1338-BS1)				Prepared & Analyzed: 04/26/23						
Nitrogen, Ammonia	5.43	0.10	mg/L	5.00000		109	90-114			
Matrix Spike (1GD1338-MS1)		**Source: 1GD1259-02**		Prepared & Analyzed: 04/26/23						
Nitrogen, Ammonia	5.11	0.10	mg/L	5.00000	ND	102	84-115			
Matrix Spike Dup (1GD1338-MSD1)		**Source: 1GD1259-02**		Prepared & Analyzed: 04/26/23						
Nitrogen, Ammonia	5.23	0.10	mg/L	5.00000	ND	105	84-115	2.36	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GD1255

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GD0767 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GD0767-BLK1)				Prepared: 04/14/23 Analyzed: 04/19/23						
Iron, total	ND	0.100	mg/L							QB-11
LCS (1GD0767-BS1)				Prepared: 04/14/23 Analyzed: 04/18/23						
Iron, total	2.40	0.100	mg/L	2.20000		109	85-115			
Matrix Spike (1GD0767-MS1)		**Source: 1GD1253-01**		Prepared: 04/14/23 Analyzed: 04/18/23						
Iron, total	2.40	0.100	mg/L	2.20000	0.100	105	70-130			
Matrix Spike Dup (1GD0767-MSD1)		**Source: 1GD1253-01**		Prepared: 04/14/23 Analyzed: 04/18/23						
Iron, total	2.53	0.100	mg/L	2.20000	0.100	111	70-130	5.25	20	
Post Spike (1GD0767-PS1)		**Source: 1GD1253-01**		Prepared: 04/14/23 Analyzed: 04/18/23						
Iron, total	9.71		mg/L	8.80000	0.100	109	85-115			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2023
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2023
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GD1255

April 28, 2023

Notes and Definitions

B-06	Unseeded Blank equals .3mg/L
I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 8 pH units.
QB-11	The analyte was found in the blank at a concentration greater than 2.2 times the MDL. However, the concentration of the analyte in the blank was less than the reporting limit so the data was accepted.
QM-07	The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR-06	The reference standard was outside of established control limits.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CU

Keystone
LABORATORIES, INC.

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

1 G D 1 2 5 5

Floyd Mitchell SWMA
PM: Sue Thompson

rinted: 3/30/2023 4:05:09PM

www.keystonelabs.cc

SITE INFORMATION

Sampler:

Project: Leachate Sampling

Water Analysis

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1GD1255

Temperature 4.0

Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	Leachate (W)	Water	GRAB	4/12/23	1310	4	bod-5210, dilution, nh3-timberline, og-t-1664, ph-150.1, tkn-351.2, tss-i-3765-85	01
02-001	(M)	Water	GRAB	/ /			fe-t-200.7	02

Relinquished By 4-12-23 1310 Date/Time

Received By 4/12/2023 Date/Time

Relinquished By Renee Tedrow 4/13/23 1015 Date/Time

Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

ANALYTICAL REPORT

May 30, 2023

Work Order: 1GE0493

Report To	Work Order Information
Lori King	Date Received: 5/4/2023 10:30:00AM
Floyd Mitchell SWMA	Collector: Unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Amended Report, May 24, 2023: The Total Kjeldahl Nitrogen result originally reported for sample 1GE0493-01 was not correct due to a data entry error. The corrected result is included in this report.

James Eggers
Director of Quality Assuance

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GE0493-01 Leachate Lagoon (W)				Matrix: Water		Collected: 05/03/23 14:30	
BOD (5 day)	**64 mg/L**	**4**	1GE0245	SM 5210 B	IDD	05/04/23 13:35	
Nitrogen, Ammonia	**258 mg/L**	**10.0**	1GE0692	TIMBERLINE	TJB	05/11/23 10:04	
Oil and Grease	<4 mg/L	4	1GE0587	EPA 1664A	RMC	05/12/23 15:08	
pH	**8.4 pH**	**0.5**	1GE0445	EPA 150.1	BSS	05/08/23 16:40	I-03
Nitrogen, Kjeldahl, total	**313 mg/L**	**50.0**	1GE0444	EPA 351.2	AKK	05/08/23 10:38	
Solids, total suspended	**306 mg/L**	**10**	1GE0595	USGS I-3765-85	MEAH	05/10/23 14:42	
1GE0493-02 Leachate Lagoon (M)				Matrix: Water		Collected: 05/03/23 14:30	
Iron, total	**13.9 mg/L**	**0.100**	1GE0416	200.7	JAR	05/09/23 21:48	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GE0493

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GE0245 - General Prep Micro										
Blank (1GE0245-BLK1)				Prepared & Analyzed: 05/04/23						
BOD (5 day)	ND	4	mg/L							B-06
Duplicate (1GE0245-DUP1)		**Source: 1GE0487-01**		Prepared & Analyzed: 05/04/23						
BOD (5 day)	508	4	mg/L		593			15.4	29	
Reference (1GE0245-SRM1)				Prepared & Analyzed: 05/04/23						
BOD (5 day)	221	4	mg/L	198.000		112	84.6-115.4			
Reference (1GE0245-SRM2)				Prepared & Analyzed: 05/04/23						
BOD (5 day)	242	4	mg/L	198.000		122	84.6-115.4			QR-06
Batch 1GE0444 - Wet Chem Preparation										
Blank (1GE0444-BLK1)				Prepared & Analyzed: 05/08/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GE0444-BS1)				Prepared & Analyzed: 05/08/23						
Nitrogen, Kjeldahl, total	21.3	0.50	mg/L	20.0000		106	90-110			
Matrix Spike (1GE0444-MS1)		**Source: 1GE0498-02**		Prepared & Analyzed: 05/08/23						
Nitrogen, Kjeldahl, total	65.6	1.25	mg/L	50.0000	12.1	107	90-110			
Matrix Spike Dup (1GE0444-MSD1)		**Source: 1GE0498-02**		Prepared & Analyzed: 05/08/23						
Nitrogen, Kjeldahl, total	67.0	1.25	mg/L	50.0000	12.1	110	90-110	2.01	10	
Batch 1GE0445 - Wet Chem Preparation										
Duplicate (1GE0445-DUP1)		**Source: 1GE0513-01**		Prepared & Analyzed: 05/08/23						
pH	7.8	0.5	pH		7.8			0.0643	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GE0493

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GE0445 - Wet Chem Preparation										
Duplicate (1GE0445-DUP2)		**Source: 1GE0677-01**		Prepared & Analyzed: 05/08/23						
pH	7.1	0.5	pH		7.0			1.22	10	
Reference (1GE0445-SRM1)				Prepared & Analyzed: 05/08/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Reference (1GE0445-SRM2)				Prepared & Analyzed: 05/08/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Batch 1GE0587 - Wet Chem Preparation										
Blank (1GE0587-BLK1)				Prepared: 05/09/23 Analyzed: 05/12/23						
Oil and Grease	ND	4	mg/L							
LCS (1GE0587-BS1)				Prepared: 05/09/23 Analyzed: 05/12/23						
Oil and Grease	41.0	4	mg/L	40.0000		102	78-114			
Matrix Spike (1GE0587-MS1)		**Source: 1GE0543-02**		Prepared: 05/09/23 Analyzed: 05/12/23						
Oil and Grease	80.2	8	mg/L	80.9717	8.3	88.7	78-114			
Matrix Spike Dup (1GE0587-MSD1)		**Source: 1GE0543-02**		Prepared: 05/09/23 Analyzed: 05/12/23						
Oil and Grease	86.9	8	mg/L	83.1601	8.3	94.5	78-114	8.07	18	
Batch 1GE0595 - Wet Chem Preparation										
Blank (1GE0595-BLK1)				Prepared: 05/09/23 Analyzed: 05/10/23						
Solids, total suspended	ND	1	mg/L							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GE0493

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GE0595 - Wet Chem Preparation										
LCS (1GE0595-BS1)				Prepared: 05/09/23 Analyzed: 05/10/23						
Solids, total suspended	15.1	1	mg/L	15.0000		101	74-114			
Duplicate (1GE0595-DUP1)		**Source: 1GE0486-01**		Prepared: 05/09/23 Analyzed: 05/10/23						
Solids, total suspended	91.0	10	mg/L		89.0			2.22	30	
Batch 1GE0692 - General Prep HPLC/IC										
Blank (1GE0692-BLK1)				Prepared & Analyzed: 05/11/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
Blank (1GE0692-BLK2)				Prepared & Analyzed: 05/11/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GE0692-BS1)				Prepared & Analyzed: 05/11/23						
Nitrogen, Ammonia	4.89	0.10	mg/L	5.00000		97.8	90-114			
LCS (1GE0692-BS2)				Prepared & Analyzed: 05/11/23						
Nitrogen, Ammonia	4.85	0.10	mg/L	5.00000		97.1	90-114			
Matrix Spike (1GE0692-MS1)		**Source: 1GE0568-02**		Prepared & Analyzed: 05/11/23						
Nitrogen, Ammonia	5.08	0.10	mg/L	5.00000	ND	102	84-115			
Matrix Spike (1GE0692-MS2)		**Source: 1GE0509-02**		Prepared & Analyzed: 05/11/23						
Nitrogen, Ammonia	5.21	0.10	mg/L	5.00000	0.105	102	84-115			
Matrix Spike Dup (1GE0692-MSD1)		**Source: 1GE0568-02**		Prepared & Analyzed: 05/11/23						
Nitrogen, Ammonia	5.24	0.10	mg/L	5.00000	ND	105	84-115	3.08	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

May 30, 2023

Work Order: 1GE0493

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GE0692 - General Prep HPLC/IC										
Matrix Spike Dup (1GE0692-MSD2)		**Source: 1GE0509-02**		Prepared & Analyzed: 05/11/23						
Nitrogen, Ammonia	5.39	0.10	mg/L	5.00000	0.105	106	84-115	3.46	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GE0493

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GE0416 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GE0416-BLK1)				Prepared: 05/08/23 Analyzed: 05/09/23						
Iron, total	ND	0.100	mg/L							QB-11
LCS (1GE0416-BS1)				Prepared: 05/08/23 Analyzed: 05/09/23						
Iron, total	2.46	0.100	mg/L	2.20000		112	85-115			
Matrix Spike (1GE0416-MS1)		**Source: 1GE0261-02**		Prepared: 05/08/23 Analyzed: 05/09/23						
Iron, total	2.61	0.100	mg/L	2.20000	0.147	112	70-130			
Matrix Spike Dup (1GE0416-MSD1)		**Source: 1GE0261-02**		Prepared: 05/08/23 Analyzed: 05/09/23						
Iron, total	2.59	0.100	mg/L	2.20000	0.147	111	70-130	0.737	20	
Post Spike (1GE0416-PS1)		**Source: 1GE0261-02**		Prepared: 05/08/23 Analyzed: 05/09/23						
Iron, total	10.4		mg/L	8.80000	0.147	116	85-115			PS-04

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2024
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2024
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Notes and Definitions

B-06	Unseeded Blank equals .9mg/L
I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 8 pH units.
PS-04	The post spike recovery exceeded acceptance limits. However, all other QC was acceptable.
QB-11	The analyte was found in the blank at a concentration greater than 2.2 times the MDL. However, the concentration of the analyte in the blank was less than the reporting limit so the data was accepted.
QR-06	The reference standard was outside of established control limits.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUST

Keystone LABORATORIES, INC.

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

1GE0493
Floyd Mitchell SWMA
PM: Sue Thompson

ted: 3/6/2023 2:01:48PM
www.keystonelabs.co

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

SPECIAL INSTRUCTIONS

None

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

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GE0493
Temperature 1.4
Turn-Cooler: Yes

EE
KLL

☐ 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
01-001	Leachate Lagoon (W)	Water	GRAB	5/3/23	1430	3	bod-5210, nh3-timberline, ph-150.1, tss-i-3765-85, dilution, og-t-1664, tkn-351.2	01
02-001	Leachate Lagoon (M)	Water	GRAB	5/3/23	1430	1	fe-t-200.7	02

Lori King 5-3-23
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time
Kyle Larson 5/4/23 10:30
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

ANALYTICAL REPORT

June 16, 2023

Work Order: 1GE1237

Report To	Work Order Information
Lori King	Date Received: 5/11/2023 10:40:00AM
Floyd Mitchell SWMA	Collector: Unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Amended Report, June 14, 2023: The Ammonia Nitrogen and Total Kjeldahl Nitrogen results originally reported for sample 1GE1237-01 were not correct due to a data entry error. The corrected results are included in this report.

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GE1237-01 Leachate Lagoon (W)				Matrix: Water		Collected: 05/10/23 14:50	
BOD (5 day)	**36 mg/L**	**4**	1GE0738	SM 5210 B	IDD	05/11/23 15:30	
Nitrogen, Ammonia	**250 mg/L**	**20.0**	1GE1023	TIMBERLINE	JAH	05/17/23 13:24	
Oil and Grease	<4 mg/L	4	1GE1259	EPA 1664A	RMC	05/24/23 12:06	
pH	**8.4 pH**	**0.5**	1GE0767	EPA 150.1	BSS	05/11/23 15:50	I-03
Nitrogen, Kjeldahl, total	**240 mg/L**	**20.0**	1GE0849	EPA 351.2	AKK	05/15/23 9:39	
Solids, total suspended	**96 mg/L**	**10**	1GE0976	USGS I-3765-85	MEAH	05/17/23 11:45	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GE1237

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GE0738 - General Prep Micro										
Blank (1GE0738-BLK1)				Prepared & Analyzed: 05/11/23						
BOD (5 day)	ND	4	mg/L							B-06
Duplicate (1GE0738-DUP1)		**Source: 1GE1241-07**		Prepared & Analyzed: 05/11/23						
BOD (5 day)	157	4	mg/L		157			0.00	29	
Reference (1GE0738-SRM1)				Prepared & Analyzed: 05/11/23						
BOD (5 day)	220	4	mg/L	198.000		111	84.6-115.4			
Reference (1GE0738-SRM2)				Prepared & Analyzed: 05/11/23						
BOD (5 day)	227	4	mg/L	198.000		115	84.6-115.4			
Batch 1GE0767 - Wet Chem Preparation										
Duplicate (1GE0767-DUP1)		**Source: 1GE1140-01**		Prepared & Analyzed: 05/11/23						
pH	7.3	0.5	pH		7.3			0.0824	10	
Duplicate (1GE0767-DUP2)		**Source: 1GE1255-01**		Prepared & Analyzed: 05/11/23						
pH	8.8	0.5	pH		8.8			0.0566	10	
Reference (1GE0767-SRM1)				Prepared & Analyzed: 05/11/23						
pH	7.0	0.5	pH	7.00000		99.9	90-110			
Reference (1GE0767-SRM2)				Prepared & Analyzed: 05/11/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Reference (1GE0767-SRM3)				Prepared & Analyzed: 05/11/23						
pH	7.0	0.5	pH	7.00000		99.6	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GE1237

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GE0849 - Wet Chem Preparation										
Blank (1GE0849-BLK1)				Prepared & Analyzed: 05/15/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GE0849-BS1)				Prepared & Analyzed: 05/15/23						
Nitrogen, Kjeldahl, total	21.0	0.50	mg/L	20.0000		105	90-110			
Matrix Spike (1GE0849-MS1)		**Source: 1GE1092-02**		Prepared & Analyzed: 05/15/23						
Nitrogen, Kjeldahl, total	56.2	1.25	mg/L	50.0000	2.92	107	90-110			
Matrix Spike Dup (1GE0849-MSD1)		**Source: 1GE1092-02**		Prepared & Analyzed: 05/15/23						
Nitrogen, Kjeldahl, total	56.4	1.25	mg/L	50.0000	2.92	107	90-110	0.426	10	
Batch 1GE0976 - Wet Chem Preparation										
Blank (1GE0976-BLK1)				Prepared: 05/16/23 Analyzed: 05/17/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GE0976-BS1)				Prepared: 05/16/23 Analyzed: 05/17/23						
Solids, total suspended	14.0	1	mg/L	15.0000		93.3	74-114			
Duplicate (1GE0976-DUP1)		**Source: 1GE1225-01**		Prepared: 05/16/23 Analyzed: 05/17/23						
Solids, total suspended	14.7	7	mg/L		18.0			20.4	30	
Batch 1GE1023 - General Prep HPLC/IC										
Blank (1GE1023-BLK1)				Prepared & Analyzed: 05/17/23						
Nitrogen, Ammonia	ND	0.10	mg/L							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GE1237

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GE1023 - General Prep HPLC/IC										
Blank (1GE1023-BLK2)				Prepared & Analyzed: 05/17/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GE1023-BS1)				Prepared & Analyzed: 05/17/23						
Nitrogen, Ammonia	5.29	0.10	mg/L	5.00000		106	90-114			
LCS (1GE1023-BS2)				Prepared & Analyzed: 05/17/23						
Nitrogen, Ammonia	5.29	0.10	mg/L	5.00000		106	90-114			
Matrix Spike (1GE1023-MS1)		**Source: 1GE1142-01**		Prepared & Analyzed: 05/17/23						
Nitrogen, Ammonia	5.03	0.10	mg/L	5.00000	ND	101	84-115			
Matrix Spike (1GE1023-MS2)		**Source: 1GE1145-02**		Prepared & Analyzed: 05/17/23						
Nitrogen, Ammonia	9.18	0.10	mg/L	5.00000	4.26	98.4	84-115			
Matrix Spike Dup (1GE1023-MSD1)		**Source: 1GE1142-01**		Prepared & Analyzed: 05/17/23						
Nitrogen, Ammonia	5.13	0.10	mg/L	5.00000	ND	103	84-115	1.98	20	
Matrix Spike Dup (1GE1023-MSD2)		**Source: 1GE1145-02**		Prepared & Analyzed: 05/17/23						
Nitrogen, Ammonia	9.23	0.10	mg/L	5.00000	4.26	99.4	84-115	0.563	20	
Batch 1GE1259 - Wet Chem Preparation										
Blank (1GE1259-BLK1)				Prepared: 05/22/23 Analyzed: 05/24/23						
Oil and Grease	ND	4	mg/L							
LCS (1GE1259-BS1)				Prepared: 05/22/23 Analyzed: 05/24/23						
Oil and Grease	37.5	4	mg/L	40.0000		93.8	78-114			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GE1237

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GE1259 - Wet Chem Preparation										
Matrix Spike (1GE1259-MS1)		**Source: 1GE1304-02**		Prepared: 05/22/23 Analyzed: 05/24/23						
Oil and Grease	59.5	9	mg/L	86.5801	10.8	56.3	78-114			QM-07
Matrix Spike Dup (1GE1259-MSD1)		**Source: 1GE1304-02**		Prepared: 05/22/23 Analyzed: 05/24/23						
Oil and Grease	60.1	9	mg/L	93.8967	10.8	52.5	78-114	0.953	18	QM-07

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2024
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2024
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

Notes and Definitions

B-06	Unseeded Blank equals 0.7mg/L
I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 8 pH units.
QM-07	The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

End of Report

Keystone Laboratories

Sue Thompson
Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CU[illegible]

Keystone
LABORATORIES, INC.

600 East 17th Street Sou[illegible]
Newton, IA 50208
641-792-6451

1 G E 1 2 3 7
Floyd Mitchell SWMA
PM: Sue Thompson

Printed: 5/8/2023 10:05:49AM

www.keystonelabs.co

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GE1237
Temperature 9.9
Turn-Cooler: Yes

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	Leachate Lagoon (W)	Water	GRAB	5/10/23	14:50	3	bod-5210 nh3-timberline ph-150.1 tss-i-3765-85	dilution og-i-1664 tkn-351.2	01
02-001	_____ (M)	Water	GRAB	/ /			fe-t-200.7		—

Relinquished By: [illegible] Date/Time: 5-10-23

Received By: Date/Time:

Relinquished By: Date/Time:

Received for Lab By: [illegible] Date/Time: 5/11/23 1040

Remarks:

Original - Lab Copy Yellow - Sampler Copy

ANALYTICAL REPORT

June 26, 2023

Work Order: 1GF0849

Report To	Work Order Information
Lori King	Date Received: 6/8/2023 11:15:00AM
Floyd Mitchell SWMA	Collector: unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Analyte		Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GF0849-01	Leachate (W)				Matrix: Water		Collected: 06/07/23 14:00	
BOD (5 day)		**65 mg/L**	**4**	1GF0439	SM 5210 B	LAE	06/08/23 16:35	
Nitrogen, Ammonia		**575 mg/L**	**10.0**	1GF1166	TIMBERLINE	JAH	06/22/23 11:22	
Oil and Grease		<4 mg/L	4	1GF0805	EPA 1664A	RMC	06/16/23 13:12	
pH		**8.4 pH**	**0.5**	1GF0541	EPA 150.1	BSS	06/12/23 16:39	I-03
Nitrogen, Kjeldahl, total		**594 mg/L**	**50.0**	1GF0983	EPA 351.2	AKK	06/23/23 19:45	
Solids, total suspended		**42 mg/L**	**5**	1GF0527	USGS I-3765-85	MEAH	06/13/23 10:40	
1GF0849-02	Leachate (M)				Matrix: Water		Collected: 06/07/23 14:00	
Iron, total		**8.74 mg/L**	**0.100**	1GF0602	200.7	JAR	06/14/23 22:01	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GF0849

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GF0439 - General Prep Micro										
Blank (1GF0439-BLK1)				Prepared & Analyzed: 06/08/23						
BOD (5 day)	ND	4	mg/L							
Duplicate (1GF0439-DUP1)		**Source: 1GF0877-01**		Prepared & Analyzed: 06/08/23						
BOD (5 day)	80.0	4	mg/L		74.0			7.79	29	
Reference (1GF0439-SRM1)				Prepared & Analyzed: 06/08/23						
BOD (5 day)	217	4	mg/L	198.000		110	84.6-115.4			
Reference (1GF0439-SRM2)				Prepared & Analyzed: 06/08/23						
BOD (5 day)	213	4	mg/L	198.000		108	84.6-115.4			
Batch 1GF0527 - Wet Chem Preparation										
Blank (1GF0527-BLK1)				Prepared: 06/12/23 Analyzed: 06/13/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GF0527-BS1)				Prepared: 06/12/23 Analyzed: 06/13/23						
Solids, total suspended	14.1	1	mg/L	15.0000		94.0	74-114			
Duplicate (1GF0527-DUP1)		**Source: 1GF0840-01**		Prepared: 06/12/23 Analyzed: 06/13/23						
Solids, total suspended	160	20	mg/L		146			9.15	30	
Batch 1GF0541 - Wet Chem Preparation										
Duplicate (1GF0541-DUP1)		**Source: 1GF0915-01**		Prepared & Analyzed: 06/12/23						
pH	10.3	0.5	pH		10.3			0.0389	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GF0849

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GF0541 - Wet Chem Preparation										
Reference (1GF0541-SRM1)				Prepared & Analyzed: 06/12/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Reference (1GF0541-SRM2)				Prepared & Analyzed: 06/12/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Reference (1GF0541-SRM3)				Prepared & Analyzed: 06/12/23						
pH	12.5	0.5	pH	12.4500		101	90-110			
Batch 1GF0805 - Wet Chem Preparation										
Blank (1GF0805-BLK1)				Prepared: 06/15/23 Analyzed: 06/16/23						
Oil and Grease	ND	4	mg/L							
LCS (1GF0805-BS1)				Prepared: 06/15/23 Analyzed: 06/16/23						
Oil and Grease	40.5	4	mg/L	40.0000		101	78-114			
Matrix Spike (1GF0805-MS1)		**Source: 1GF0862-02**		Prepared: 06/15/23 Analyzed: 06/16/23						
Oil and Grease	66.6	4	mg/L	40.0000	4.3	156	78-114			PH-3a, QM-07
Matrix Spike Dup (1GF0805-MSD1)		**Source: 1GF0862-02**		Prepared: 06/15/23 Analyzed: 06/16/23						
Oil and Grease	75.2	4	mg/L	40.0000	4.3	177	78-114	12.1	18	PH-3a, QM-07
Batch 1GF0983 - Wet Chem Preparation										
Blank (1GF0983-BLK1)				Prepared: 06/19/23 Analyzed: 06/23/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GF0849

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GF0983 - Wet Chem Preparation										
LCS (1GF0983-BS1)				Prepared: 06/19/23 Analyzed: 06/23/23						
Nitrogen, Kjeldahl, total	20.9	0.50	mg/L	20.0000		105	90-110			
Matrix Spike (1GF0983-MS1)		**Source: 1GF0880-02**		Prepared: 06/19/23 Analyzed: 06/23/23						
Nitrogen, Kjeldahl, total	54.0	1.25	mg/L	50.0000	1.53	105	90-110			
Matrix Spike Dup (1GF0983-MSD1)		**Source: 1GF0880-02**		Prepared: 06/19/23 Analyzed: 06/23/23						
Nitrogen, Kjeldahl, total	54.3	1.25	mg/L	50.0000	1.53	106	90-110	0.554	10	
Batch 1GF1166 - General Prep HPLC/IC										
Blank (1GF1166-BLK1)				Prepared & Analyzed: 06/22/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
Blank (1GF1166-BLK2)				Prepared & Analyzed: 06/22/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GF1166-BS1)				Prepared & Analyzed: 06/22/23						
Nitrogen, Ammonia	5.12	0.10	mg/L	5.00000		102	90-114			
LCS (1GF1166-BS2)				Prepared & Analyzed: 06/22/23						
Nitrogen, Ammonia	5.19	0.10	mg/L	5.00000		104	90-114			
Matrix Spike (1GF1166-MS1)		**Source: 1GF0988-02**		Prepared & Analyzed: 06/22/23						
Nitrogen, Ammonia	5.23	0.10	mg/L	5.00000	ND	105	84-115			
Matrix Spike (1GF1166-MS2)		**Source: 1GF0988-04**		Prepared & Analyzed: 06/22/23						
Nitrogen, Ammonia	5.37	0.10	mg/L	5.00000	ND	107	84-115			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

June 26, 2023

Work Order: 1GF0849

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GF1166 - General Prep HPLC/IC										
Matrix Spike Dup (1GF1166-MSD1)		**Source: 1GF0988-02**		Prepared & Analyzed: 06/22/23						
Nitrogen, Ammonia	5.25	0.10	mg/L	5.00000	ND	105	84-115	0.528	20	
Matrix Spike Dup (1GF1166-MSD2)		**Source: 1GF0988-04**		Prepared & Analyzed: 06/22/23						
Nitrogen, Ammonia	5.43	0.10	mg/L	5.00000	ND	109	84-115	1.19	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GF0849

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GF0602 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GF0602-BLK1)				Prepared: 06/13/23 Analyzed: 06/14/23						
Iron, total	ND	0.100	mg/L							
LCS (1GF0602-BS1)				Prepared: 06/13/23 Analyzed: 06/14/23						
Iron, total	2.31	0.100	mg/L	2.20000		105	85-115			
Matrix Spike (1GF0602-MS1)		**Source: 1GF0627-04**		Prepared: 06/13/23 Analyzed: 06/14/23						
Iron, total	2.42	0.100	mg/L	2.20000	0.089	106	70-130			
Matrix Spike Dup (1GF0602-MSD1)		**Source: 1GF0627-04**		Prepared: 06/13/23 Analyzed: 06/14/23						
Iron, total	2.38	0.100	mg/L	2.20000	0.089	104	70-130	1.68	20	
Post Spike (1GF0602-PS1)		**Source: 1GF0627-04**		Prepared: 06/13/23 Analyzed: 06/14/23						
Iron, total	8.92		mg/L	8.80000	0.089	100	85-115			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2024
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2024
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

June 26, 2023

Work Order: 1GF0849

Notes and Definitions

I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 5 pH units.
PH-3a	Insufficient preservative to adjust the sample pH to less than 2, value measured at 7 pH units.
PH-3b	Insufficient preservative to adjust the sample pH to less than 2, value measured at 8 pH units.
QM-07	The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

End of Report

Sue Thompson

Keystone Laboratories

Sue Thompson

Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUS

Keystone LABORATORIES, INC.

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

1GF0849

Floyd Mitchell SWMA
PM: Sue Thompson

nted: 8/6/2023 9:43:00AM

www.keystonelabs.c

SITE INFORMATION

Sampler:

Project: Leachate Sampling

Water Analysis

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1GF 0849

Temperature 5.8

Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	Leachate (W)	Water	GRAB	6/7/23		3	bod-5210 nh3-rimberline ph-150.1 tss-i-3765-85	dilution og-i-1664 tkn-351.2	01
02-001	Leachate (M)	Water	GRAB	6/7/23	2:00pm	1	fe-t-200.7		02

Tyler Wright 6-7-23 2:00pm
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Echo McMurry 6/8/23 1115
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

ANALYTICAL REPORT

July 06, 2023

Work Order: 1GF2076

Report To	Work Order Information
Lori King	Date Received: 6/22/2023 10:20:00AM
Floyd Mitchell SWMA	Collector: Unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

CASE NARRATIVE

SAMPLE RECEIPT

The sample(s) received at Keystone Laboratories, Newton, IA on 06/22/23 10:20 for Work Order 1GF2076 were at a temperature of

Cooler	Temp C°
Default Cooler	8.9

The cooler contained ice packs and/or ice that indicated an attempt to cool the samples below the recommended 6°C.

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GF2076-01 Leachate (W)				Matrix: Water		Collected: 06/21/23 14:20	
BOD (5 day)	**72 mg/L**	**4**	1GF1188	SM 5210 B	IDD	06/22/23 14:05	
Nitrogen, Ammonia	**619 mg/L**	**10.0**	1GF1656	TIMBERLINE	JAH	07/03/23 10:19	
Oil and Grease	**20 mg/L**	**4**	1GF1316	EPA 1664A	RMC	06/27/23 11:57	
pH	**8.4 pH**	**0.5**	1GF1221	EPA 150.1	BSS	06/23/23 9:59	I-03
Nitrogen, Kjeldahl, total	**772 mg/L**	**50.0**	1GF1590	EPA 351.2	AKK	07/06/23 8:28	
Solids, total suspended	**31 mg/L**	**3**	1GF1217	USGS I-3765-85	MEAH	06/23/23 16:10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GF2076

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GF1188 - General Prep Micro										
Blank (1GF1188-BLK1)				Prepared & Analyzed: 06/22/23						
BOD (5 day)	ND	4	mg/L							B-06
Duplicate (1GF1188-DUP1)		**Source: 1GF2080-01**		Prepared & Analyzed: 06/22/23						
BOD (5 day)	472	4	mg/L		465			1.49	29	
Reference (1GF1188-SRM1)				Prepared & Analyzed: 06/22/23						
BOD (5 day)	218	4	mg/L	198.000		110	84.6-115.4			
Reference (1GF1188-SRM2)				Prepared & Analyzed: 06/22/23						
BOD (5 day)	221	4	mg/L	198.000		112	84.6-115.4			
Batch 1GF1217 - Wet Chem Preparation										
Blank (1GF1217-BLK1)				Prepared & Analyzed: 06/23/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GF1217-BS1)				Prepared & Analyzed: 06/23/23						
Solids, total suspended	14.6	1	mg/L	15.0000		97.3	74-114			
Duplicate (1GF1217-DUP1)		**Source: 1GF2070-01**		Prepared & Analyzed: 06/23/23						
Solids, total suspended	94.7	7	mg/L		97.3			2.78	30	
Batch 1GF1221 - Wet Chem Preparation										
Duplicate (1GF1221-DUP1)		**Source: 1GF1885-01**		Prepared & Analyzed: 06/23/23						
pH	5.7	0.5	pH		5.7			0.0348	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GF2076

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GF1221 - Wet Chem Preparation										
Duplicate (1GF1221-DUP2)		**Source: 1GF2146-01**		Prepared & Analyzed: 06/23/23						
pH	6.9	0.5	pH		6.9			0.0729	10	
Reference (1GF1221-SRM1)				Prepared & Analyzed: 06/23/23						
pH	6.9	0.5	pH	7.00000		99.2	90-110			
Reference (1GF1221-SRM2)				Prepared & Analyzed: 06/23/23						
pH	7.0	0.5	pH	7.00000		99.7	90-110			
Reference (1GF1221-SRM3)				Prepared & Analyzed: 06/23/23						
pH	7.0	0.5	pH	7.00000		99.7	90-110			
Reference (1GF1221-SRM4)				Prepared & Analyzed: 06/23/23						
pH	12.6	0.5	pH	12.4500		101	90-110			
Batch 1GF1316 - Wet Chem Preparation										
Blank (1GF1316-BLK1)				Prepared: 06/26/23 Analyzed: 06/27/23						
Oil and Grease	ND	4	mg/L							
LCS (1GF1316-BS1)				Prepared: 06/26/23 Analyzed: 06/27/23						
Oil and Grease	35.4	4	mg/L	40.0000		88.5	78-114			
Matrix Spike (1GF1316-MS1)		**Source: 1GF2155-02**		Prepared: 06/26/23 Analyzed: 06/27/23						
Oil and Grease	96.4	8	mg/L	80.9717	4.6	113	78-114			
Matrix Spike Dup (1GF1316-MSD1)		**Source: 1GF2155-02**		Prepared: 06/26/23 Analyzed: 06/27/23						
Oil and Grease	70.7	8	mg/L	80.1603	4.6	82.5	78-114	30.7	18	QR-02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GF2076

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GF1590 - Wet Chem Preparation										
Blank (1GF1590-BLK1)				Prepared: 06/29/23 Analyzed: 07/06/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GF1590-BS1)				Prepared: 06/29/23 Analyzed: 07/06/23						
Nitrogen, Kjeldahl, total	21.5	0.50	mg/L	20.0000		107	90-110			
Matrix Spike (1GF1590-MS1)		**Source: 1GF2080-02**		Prepared: 06/29/23 Analyzed: 07/06/23						
Nitrogen, Kjeldahl, total	77.3	1.25	mg/L	50.0000	20.1	114	90-110			QM-07
Matrix Spike Dup (1GF1590-MSD1)		**Source: 1GF2080-02**		Prepared: 06/29/23 Analyzed: 07/06/23						
Nitrogen, Kjeldahl, total	76.0	1.25	mg/L	50.0000	20.1	112	90-110	1.72	10	QM-07
Batch 1GF1656 - General Prep HPLC/IC										
Blank (1GF1656-BLK1)				Prepared: 06/30/23 Analyzed: 07/03/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
LCS (1GF1656-BS1)				Prepared: 06/30/23 Analyzed: 07/03/23						
Nitrogen, Ammonia	5.24	0.10	mg/L	5.00000		105	90-114			
Matrix Spike (1GF1656-MS1)		**Source: 1GF1995-01**		Prepared: 06/30/23 Analyzed: 07/03/23						
Nitrogen, Ammonia	5.51	0.10	mg/L	5.00000	0.139	107	84-115			
Matrix Spike Dup (1GF1656-MSD1)		**Source: 1GF1995-01**		Prepared: 06/30/23 Analyzed: 07/03/23						
Nitrogen, Ammonia	5.56	0.10	mg/L	5.00000	0.139	108	84-115	0.896	20	

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

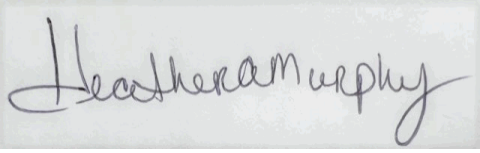
Work Order: 1GF2076

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2024
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2024
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

Notes and Definitions

B-06	Unseeded Blank equals .6mg/L
I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 10 pH units.
QM-07	The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

End of Report



Keystone Laboratories

Heather Murphy
Customer Relationship Specialist

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

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

1GF2076

Floyd Mitchell SWMA
PM: Heather Murphy

Printed: 6/9/2023 8:58:09AM
www.keystonelabs.co

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

REPORT

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

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

LAB USE ONLY

Work Order 1GF2076
Temperature 8.9
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	Leachate (W)	Water	GRAB	6/21/23	2:20p	3	hcd-8210, dilution, nh3-timberline, og-i-1664, ph-150.1, tkn-351.2, tss-i-3765-85, fe-i-200.7	01
02-001	(M)	Water	GRAB	/ /				—

Tyler Wright 6-21-23 2:20p
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

John McMurry 6/22/23 1020
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

ANALYTICAL REPORT

July 27, 2023

Work Order: 1GG1057

Report To	Work Order Information
Lori King	Date Received: 7/13/2023 10:30:00AM
Floyd Mitchell SWMA	Collector: Unknown
3354 330th St	Phone: (641) 982-4288
Elma, IA 50628	PO Number:

Project: Leachate Sampling

Project Number: Water Analysis

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1GG1057-01 Leachate (W)				Matrix: Water		Collected: 07/12/23 12:00	
BOD (5 day)	**35 mg/L**	**4**	1GG0523	SM 5210 B	LAE	07/13/23 13:20	
Nitrogen, Ammonia	**491 mg/L**	**20.0**	1GG1371	TIMBERLINE	jah	07/26/23 15:26	
Oil and Grease	<4 mg/L	4	1GG1124	EPA 1664A	TDC	07/25/23 8:11	PH-3
pH	**8.5 pH**	**0.5**	1GG0742	EPA 150.1	BSS	07/17/23 10:00	I-03
Nitrogen, Kjeldahl, total	**518 mg/L**	**50.0**	1GG0774	EPA 351.2	AKK	07/17/23 13:16	
Solids, total suspended	**117 mg/L**	**10**	1GG0732	USGS I-3765-85	MEAH	07/17/23 11:50	
1GG1057-02 Leachate (M)				Matrix: Water		Collected: 07/12/23 12:00	
Iron, total	**11.8 mg/L**	**1.00**	1GG0650	200.7	JAR	07/18/23 3:49	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GG1057

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GG0523 - General Prep Micro										
Blank (1GG0523-BLK1)				Prepared & Analyzed: 07/13/23						
BOD (5 day)	ND	4	mg/L							B-06
Duplicate (1GG0523-DUP1)		**Source: 1GG1056-01**		Prepared & Analyzed: 07/13/23						
BOD (5 day)	21.0	4	mg/L		22.0			4.65	29	
Reference (1GG0523-SRM1)				Prepared & Analyzed: 07/13/23						
BOD (5 day)	210	4	mg/L	198.000		106	84.6-115.4			
Reference (1GG0523-SRM2)				Prepared & Analyzed: 07/13/23						
BOD (5 day)	209	4	mg/L	198.000		106	84.6-115.4			
Batch 1GG0732 - Wet Chem Preparation										
Blank (1GG0732-BLK1)				Prepared & Analyzed: 07/17/23						
Solids, total suspended	ND	1	mg/L							
LCS (1GG0732-BS1)				Prepared & Analyzed: 07/17/23						
Solids, total suspended	14.1	1	mg/L	15.0000		94.0	74-114			
Duplicate (1GG0732-DUP1)		**Source: 1GG1054-01**		Prepared & Analyzed: 07/17/23						
Solids, total suspended	535	13	mg/L		515			3.81	30	
Batch 1GG0742 - Wet Chem Preparation										
Duplicate (1GG0742-DUP1)		**Source: 1GG1079-01**		Prepared & Analyzed: 07/17/23						
pH	7.3	0.5	pH		7.3			0.109	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GG1057

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GG0742 - Wet Chem Preparation										
Duplicate (1GG0742-DUP2)		**Source: 1GG0883-01**		Prepared & Analyzed: 07/17/23						
pH	6.4	0.5	pH		6.4			0.0466	10	
Duplicate (1GG0742-DUP3)		**Source: 1GG1184-01**		Prepared & Analyzed: 07/17/23						
pH	8.8	0.5	pH		8.8			0.216	10	
Reference (1GG0742-SRM1)				Prepared & Analyzed: 07/17/23						
pH	7.0	0.5	pH	7.00000		99.6	90-110			
Reference (1GG0742-SRM2)				Prepared & Analyzed: 07/17/23						
pH	7.0	0.5	pH	7.00000		99.4	90-110			
Reference (1GG0742-SRM3)				Prepared & Analyzed: 07/17/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Reference (1GG0742-SRM4)				Prepared & Analyzed: 07/17/23						
pH	7.0	0.5	pH	7.00000		100	90-110			
Reference (1GG0742-SRM5)				Prepared & Analyzed: 07/17/23						
pH	12.6	0.5	pH	12.4500		101	90-110			
Batch 1GG0774 - Wet Chem Preparation										
Blank (1GG0774-BLK1)				Prepared & Analyzed: 07/17/23						
Nitrogen, Kjeldahl, total	ND	0.50	mg/L							
LCS (1GG0774-BS1)				Prepared & Analyzed: 07/17/23						
Nitrogen, Kjeldahl, total	22.0	0.50	mg/L	20.0000		110	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GG1057

July 27, 2023

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GG0774 - Wet Chem Preparation										
Matrix Spike (1GG0774-MS1)		**Source: 1GG0968-01**		Prepared & Analyzed: 07/17/23						
Nitrogen, Kjeldahl, total	59.3	1.25	mg/L	50.0000	2.83	113	90-110			QM-07
Matrix Spike Dup (1GG0774-MSD1)		**Source: 1GG0968-01**		Prepared & Analyzed: 07/17/23						
Nitrogen, Kjeldahl, total	65.6	1.25	mg/L	50.0000	2.83	126	90-110	10.1	10	QM-07
Batch 1GG1124 - Wet Chem Preparation										
Blank (1GG1124-BLK1)				Prepared: 07/22/23 Analyzed: 07/25/23						
Oil and Grease	ND	4	mg/L							
LCS (1GG1124-BS1)				Prepared: 07/22/23 Analyzed: 07/25/23						
Oil and Grease	33.7	4	mg/L	40.0000		84.2	78-114			
Matrix Spike (1GG1124-MS1)		**Source: 1GG1111-02**		Prepared: 07/22/23 Analyzed: 07/25/23						
Oil and Grease	39.1	8	mg/L	77.3694	ND	50.5	78-114			QM-07
Matrix Spike Dup (1GG1124-MSD1)		**Source: 1GG1111-02**		Prepared: 07/22/23 Analyzed: 07/25/23						
Oil and Grease	13.2	8	mg/L	76.6284	ND	17.2	78-114	98.9	18	QM-07
Batch 1GG1371 - General Prep HPLC/IC										
Blank (1GG1371-BLK1)				Prepared & Analyzed: 07/26/23						
Nitrogen, Ammonia	ND	0.10	mg/L							
Blank (1GG1371-BLK2)				Prepared & Analyzed: 07/26/23						
Nitrogen, Ammonia	ND	0.10	mg/L							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GG1057

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GG1371 - General Prep HPLC/IC										
LCS (1GG1371-BS1)				Prepared & Analyzed: 07/26/23						
Nitrogen, Ammonia	5.38	0.10	mg/L	5.00000		108	90-114			
LCS (1GG1371-BS2)				Prepared & Analyzed: 07/26/23						
Nitrogen, Ammonia	5.32	0.10	mg/L	5.00000		106	90-114			
Matrix Spike (1GG1371-MS1)		**Source: 1GG1061-02**		Prepared & Analyzed: 07/26/23						
Nitrogen, Ammonia	5.89	0.10	mg/L	5.00000	ND	118	84-115			QM-14
Matrix Spike (1GG1371-MS2)		**Source: 1GG1061-04**		Prepared & Analyzed: 07/26/23						
Nitrogen, Ammonia	5.62	0.10	mg/L	5.00000	0.110	110	84-115			
Matrix Spike Dup (1GG1371-MSD1)		**Source: 1GG1061-02**		Prepared & Analyzed: 07/26/23						
Nitrogen, Ammonia	5.68	0.10	mg/L	5.00000	ND	114	84-115	3.70	20	
Matrix Spike Dup (1GG1371-MSD2)		**Source: 1GG1061-04**		Prepared & Analyzed: 07/26/23						
Nitrogen, Ammonia	5.79	0.10	mg/L	5.00000	0.110	114	84-115	3.03	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Work Order: 1GG1057

Determination of Total Metals - Quality Control

Keystone Laboratories - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1GG0650 - EPA 200.2 Total ICP-OES (200.7)										
Blank (1GG0650-BLK1)				Prepared: 07/13/23 Analyzed: 07/18/23						
Iron, total	ND	0.100	mg/L							
LCS (1GG0650-BS1)				Prepared: 07/13/23 Analyzed: 07/18/23						
Iron, total	2.27	0.100	mg/L	2.20000		103	85-115			
Matrix Spike (1GG0650-MS1)		**Source: 1GG0953-02**		Prepared: 07/13/23 Analyzed: 07/18/23						
Iron, total	2.35	0.100	mg/L	2.20000	0.262	95.0	70-130			
Matrix Spike Dup (1GG0650-MSD1)		**Source: 1GG0953-02**		Prepared: 07/13/23 Analyzed: 07/18/23						
Iron, total	2.35	0.100	mg/L	2.20000	0.262	95.0	70-130	0.0321	20	
Post Spike (1GG0650-PS1)		**Source: 1GG0953-02**		Prepared: 07/13/23 Analyzed: 07/18/23						
Iron, total	9.00		mg/L	8.80000	0.262	99.3	85-115			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Certified Analyses Included In This Report

Method/Matrix	Analyte	Certifications
200.7 in Water		
	Iron, total	SIA1X,KS-NT
EPA 1664A in Water		
	Oil and Grease	KS-NT,SIA1X
EPA 351.2 in Water		
	Nitrogen, Kjeldahl, total	SIA1X,KS-NT
SM 5210 B in Water		
	BOD (5 day)	SIA1X,KS-NT
TIMBERLINE in Water		
	Nitrogen, Ammonia	SIA1X,KS-NT
USGS I-3765-85 in Water		
	Solids, total suspended	SIA1X,KS-NT

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2024
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2023
MO-KC	Missouri Department of Natural Resources (KC)	140	04/30/2024
MO-NT	Missouri Department of Natural Resources (Newton)	10170	04/30/2026
SIA1X	Iowa Dept. of Natural Resources	95	02/01/2024

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES
A Microbac Company

Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

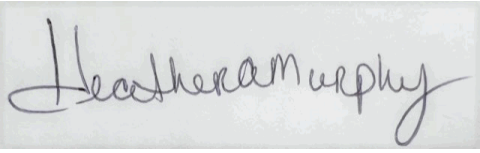
Work Order: 1GG1057

July 27, 2023

Notes and Definitions

B-06	Unseeded Blank equals .3mg/L
I-03	Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3	Insufficient preservative to adjust the sample pH to less than 2, value measured at 6 pH units.
QM-07	The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-14	The spike recovery was outside acceptance limits for the MS and/or MSD. However, all other QC was acceptable.

End of Report



Keystone Laboratories

Heather Murphy

Customer Relationship Specialist

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF

Keystone LABORATORIES, INC.

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

1GG1057
Floyd Mitchell SWMA
PM: Heather Murphy

Printed: 6/23/2023 7:27:41AM

www.keystonelabs.c

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

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

LAB USE ONLY

Work Order 1GG1057
Temperature 5.6
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	Leachate (W)	Water	GRAB	7/12/23	12:00 pm	3	bod-5210 nh3-timberline ph-150.1 tss-i-3765-85	dilution og-t-1664 tkn-351.2	01
02-001	Leachate (M)	Water	GRAB	7/12/23	12:00 pm	1	fe-t-200.7		02

Tyler Wright 7-12-23 12:00pm
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time
John McMurray 7/13/23 1030
Received for Lab By Date/Time

Remarks:

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GG2527

Floyd Mitchell SWMA

Lori King
3354 330th St
Elma, IA 50628

Project Name: Leachate Sampling

Project / PO Number: / Water Analysis
Received: 07/27/2023
Reported: 08/14/2023

Case Narrative

CASE NARRATIVE

SAMPLE RECEIPT

The sample(s) received at Keystone Laboratories, Newton, IA on 07/27/23 10:50 for Work Order 1GG2527 were at a temperature of

Cooler	Temp C°
Default Cooler	19.2

The cooler contained ice packs and/or ice that indicated an attempt to cool the samples below the recommended 6°C.

Analytical Testing Parameters

Client Sample ID: Leachate (W)
Sample Matrix: Water
Lab Sample ID: 1GG2527-01
Collected By: unknown
Collection Date: 07/26/2023 14:30

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 150.1								
pH	**8.6**	0.5	pH	1	**I-03**		07/28/23 1649	BSS
EPA 1664A								
Oil and Grease	**4**	4	mg/L	1		08/10/23 0815	08/10/23 1650	TDC
EPA 351.2								
Nitrogen, Kjeldahl, total	**365**	50.0	mg/L	1		08/08/23 0826	08/11/23 1624	AKK
SM 5210 B								
BOD (5 day)	**12**	4	mg/L	1	**B-19**	07/27/23 1344	07/27/23 1540	RMC
TIMBERLINE								
Nitrogen, Ammonia	**516**	10.0	mg/L	100		08/09/23 1036	08/09/23 1218	ZZZ
USGS I-3765-85								
Solids, total suspended	**76**	10	mg/L	10		07/28/23 0735	07/28/23 1215	MEA

Definitions

B-19: The net oxygen depletion was less than the required 2mg/L this result should be considered an estimated value.
I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
RL: Reporting Limit

Keystone Laboratories - Newton

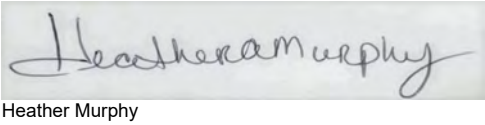
CERTIFICATE OF ANALYSIS

1GG2527

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
08/14/23 08:07

CHAIN OF CU

Keystone LABORATORIES, INC.

600 East 17th Street Soutl
Newton, IA 50208
641-792-6451

1GG2527

Floyd Mitchell SWMA
PM: Heather Murphy

nted: 4/14/2023 11:19:18AM

www.keystonelabs.cc

SITE INFORMATION

Sampler:

Project: Leachate Sampling

Water Analysis

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GG2527

Temperature 19.2

Turn-Cooler: Yes

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☒ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	Leachate (W)	Water	GRAB	7/26/23	2:30	3	bod-5210, dilution, nh3-timberline, og-t-1664, ph-150.1, tkn-351.2, iss-i-3765-85, fe-t-200.7	01
02-001	(M)	Water	GRAB	/ /				

Tyler Wright 7-26-23 2:30p
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Received for Lab By 7-27-23 10:50
Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GH2293

Floyd Mitchell SWMA

Lori King
3354 330th St
Elma, IA 50628

Project Name: Leachate Sampling

Project / PO Number: / Water Analysis
Received: 08/24/2023
Reported: 09/08/2023

Case Narrative

CASE NARRATIVE

SAMPLE RECEIPT

The sample(s) received at Keystone Laboratories on 08/24/23 10:10 for Work Order 1GH2293 were at a temperature of

Cooler	Temp C°
Default Cooler	20.7

. The cooler contained ice packs and/or ice that indicated an attempt to cool the samples below the recommended 6°C.

Analytical Testing Parameters

Client Sample ID: Leachate (W)
Sample Matrix: Water
Lab Sample ID: 1GH2293-01
Collected By: Unknown
Collection Date: 08/23/2023 9:10

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 150.1								
pH	**8.5**	0.5	pH	1	**I-03**		08/24/23 1606	BSS
EPA 1664A								
Oil and Grease	<4	4	mg/L	1		09/05/23 1451	09/06/23 1316	SAA
EPA 351.2								
Nitrogen, Kjeldahl, total	**390**	50.0	mg/L	1			09/05/23 0829	AKK
SM 5210 B								
BOD (5 day)	**9**	4	mg/L	1			08/24/23 1230	LAE
TIMBERLINE								
Nitrogen, Ammonia	**421**	10.0	mg/L	100		08/29/23 0942	08/29/23 1301	LJS
USGS I-3765-85								
Solids, total suspended	**27**	1	mg/L	1		08/24/23 1218	08/25/23 1155	MEA

Client Sample ID: Leachate (M)
Sample Matrix: Water
Lab Sample ID: 1GH2293-02
Collection Date: 08/23/2023 9:10

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
200.7								
Iron, total	**5.17**	0.100	mg/L	1		08/24/23 1558	08/26/23 0033	JAR

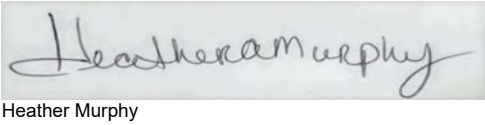
Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
09/08/23 08:08

CHAIN OF CUSTODY RECORD

Keystone
LABORATORIES
A Microbac Company

600 East 17th Street Sout
Newton, IA 50208
641-792-6451

1GH2293

Floyd Mitchell SWMA
PM: Heather Murphy

nted: 7/28/2023 8:04:17AM
www.keystonelabs.cor

SITE INFORMATION
Sampler:
Project: Leachate Sampling
Water Analysis

REPORT TO
Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO
Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS
None

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

LAB USE ONLY
Work Order 1GH2293
Temperature 20.7
Turn-Cooler: Yes

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☐ Preservation Confirmed
- ☑ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	Leachate (W)	Water	GRAB	8/23/23	9:10 am	3	bod-5210 nh3-timberline ph-150.1 tss-i-3765-85	dilution og-t-1664 tkn-351.2	01
02-001	Leachate (M)	Water	GRAB	8/23/23	9:10am	1	fe-t-200.7		02

Tyler Wright 8-23-23 9:10am
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

[illegible] 8/24/23 11:10
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GH2874

Floyd Mitchell SWMA

Lori King
3354 330th St
Elma, IA 50628

Project Name: Leachate Sampling

Project / PO Number: / Water Analysis
Received: 08/31/2023
Reported: 09/08/2023

Analytical Testing Parameters

Client Sample ID: Leachate(W)
Sample Matrix: Water
Lab Sample ID: 1GH2874-01
Collected By: unknown
Collection Date: 08/30/2023 14:00

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 150.1								
pH	**8.5**	0.5	pH	1	**I-03**	08/31/23 1626	08/31/23 1708	BSS
EPA 1664A								
Oil and Grease	<4	4	mg/L	1	**PH-3**	09/07/23 1211	09/08/23 1144	TDC
EPA 351.2								
Nitrogen, Kjeldahl, total	**375**	50.0	mg/L	1			09/01/23 1428	AKK
SM 5210 B								
BOD (5 day)	**11**	4	mg/L	1			08/31/23 1310	RMC
TIMBERLINE								
Nitrogen, Ammonia	**412**	10.0	mg/L	100		08/31/23 1327	08/31/23 1526	JAH
USGS I-3765-85								
Solids, total suspended	**28**	3	mg/L	3		09/01/23 0819	09/05/23 0920	MEA

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3: Insufficient preservative to adjust the sample pH to less than 2, value measured at 7 pH units.
RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
09/08/23 14:44

CHAIN OF CUS

Keystone LABORATORIES
A Microbac Company

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

1 G H 2 8 7 4
Floyd Mitchell SWMA
PM: Heather Murphy

ed: 8/25/2023 9:43:58AM
www.keystonelabs.co

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1GH 2874
Temperature 5.6
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	Leachate (W)	Water	GRAB	8/30/23	2:00pm	3	bod-5210, dilution, nh3-timberline, og-t-1664, ph-150.1, tkn-351.2, tss-i-3765-85	01
02-001	(M)	Water	GRAB	/ /			fe-t-200.7	

Tyler Wright 8-30-23 2:00pm
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Amelia Pohl 8/31/23 10:40
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF CUS

Keystone
LABORATORIES
A Microbac Company

600 East 17th Street South
Newton, IA 50208
641-792-8461

1 G H 2 8 7 4

Floyd Mitchell SWMA
PM: Heather Murphy

ed: 8/25/2023 9:43:58AM

www.keystonelabs.co

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GH 2874
Temperature 5.6
Turn-Cooler: Yes

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	Leachate (W)	Water	GRAB	8/30/23	2:00p	3	bod-5210 nh3-timberline ph-150.1 tss-i-3765-85	dilution og-t-1664 tkn-351.2	01
02-001	(W)	Water	GRAB	/ /			fe-t-200.7		

Tyler Wright 8-30-23 2:00p
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Paulas Patel 8/31/23 10:40
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GI0396

Floyd Mitchell SWMA

Lori King
3354 330th St
Elma, IA 50628

Project Name: Osage

Project / PO Number: / [none]
Received: 09/07/2023
Reported: 09/22/2023

Analytical Testing Parameters

Client Sample ID: Leachate
Sample Matrix: Water
Lab Sample ID: 1GI0396-01
Collected By: Unknown
Collection Date: 09/06/2023 14:00

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 624								
Chloromethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Vinyl Chloride	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Bromomethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Chloroethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
1,1-Dichloroethylene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Methylene Chloride	<25.0	25.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
trans-1,2-Dichloroethylene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
1,1-Dichloroethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
cis-1,2-Dichloroethylene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Chloroform	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
1,1,1-Trichloroethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Carbon Tetrachloride	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Benzene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
1,2-Dichloroethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Trichloroethylene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
1,2-Dichloropropane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Bromodichloromethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
2-Chloroethylvinyl ether	<50.0	50.0	ug/L	5		09/19/23 0000	09/19/23 1432	LNH
cis-1,3-Dichloropropene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Toluene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
trans-1,3-Dichloropropene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
1,1,2-Trichloroethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Tetrachloroethylene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Dibromochloromethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Chlorobenzene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Ethylbenzene	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Bromoform	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/L	5		09/18/23 0000	09/18/23 1733	LJS
Surrogate: Dibromofluoromethane	101	Limit: 79-129	% Rec	5		09/18/23 0000	09/18/23 1733	LJS
Surrogate: Dibromofluoromethane	103	Limit: 79-129	% Rec	5		09/19/23 0000	09/19/23 1432	LNH
Surrogate: 1,2-Dichloroethane-d4	104	Limit: 66-134	% Rec	5		09/18/23 0000	09/18/23 1733	LJS
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 66-134	% Rec	5		09/19/23 0000	09/19/23 1432	LNH
Surrogate: Toluene-d8	104	Limit: 91-113	% Rec	5		09/18/23 0000	09/18/23 1733	LJS
Surrogate: Toluene-d8	99.7	Limit: 91-113	% Rec	5		09/19/23 0000	09/19/23 1432	LNH
Surrogate: 4-Bromofluorobenzene	103	Limit: 83-112	% Rec	5		09/18/23 0000	09/18/23 1733	LJS
Surrogate: 4-Bromofluorobenzene	101	Limit: 83-112	% Rec	5		09/19/23 0000	09/19/23 1432	LNH

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GI0396

Client Sample ID:	Leachate		
Sample Matrix:	Water	**Collected By:**	Unknown
Lab Sample ID:	1GI0396-01	**Collection Date:**	09/06/2023 14:00

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 625								
Bis(2-Chloroethyl) Ether	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2-Chlorophenol	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
1,3-Dichlorobenzene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
1,4-Dichlorobenzene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Benzyl Alcohol	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
1,2-Dichlorobenzene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Bis[2-Chloroisopropyl]ether	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
n-Nitroso-di-n-propylamine	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Hexachloroethane	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Nitrobenzene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Isophorone	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2-Nitrophenol	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2,4-Dimethylphenol	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Bis (2-Chloroethoxy) Methane	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Benzoic acid	<50	50	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2,4-Dichlorophenol	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
1,2,4-Trichlorobenzene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Naphthalene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Hexachlorobutadiene	<20	20	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
4-Chloro-3-methylphenol	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Hexachlorocyclopentadiene	<20	20	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2,4,6-Trichlorophenol	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2,4,5-Trichlorophenol	<50	50	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2-Chloronaphthalene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Dimethylphthalate	<15	15	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Acenaphthylene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2,6-Dinitrotoluene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Acenaphthene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2,4-Dinitrophenol	<20	20	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Dibenzofuran	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
2,4-Dinitrotoluene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
4-Nitrophenol	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Diethyl Phthalate	<30	30	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Fluorene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
4-Chlorophenyl Phenyl Ether	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
4,6-Dinitro-2-methylphenol	<20	20	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
N-Nitrosodiphenylamine	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
4-Bromophenyl Phenyl Ether	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Hexachlorobenzene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Pentachlorophenol	<20	20	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Phenanthrene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Anthracene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP

Keystone LABORATORIES
A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GI0396

Client Sample ID:	Leachate		
Sample Matrix:	Water	**Collected By:**	Unknown
Lab Sample ID:	1GI0396-01	**Collection Date:**	09/06/2023 14:00

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Di-n-butyl Phthalate	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Fluoranthene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Pyrene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Butyl Benzyl Phthalate	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Benzo(a)anthracene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Chrysene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Bis(2-Ethylhexyl) Phthalate	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Di-n-octyl Phthalate	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Indeno(1,2,3-cd)Pyrene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
3,3´-Dichlorobenzidine	<20	20	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Benzo(b)Fluoranthene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Benzo(k)Fluoranthene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Benzo(a)Pyrene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Dibenzo(a,h)anthracene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Benzo(g,h,i)perylene	<10	10	ug/L	1		09/11/23 1159	09/14/23 1337	EPP
Surrogate: 2-Fluorophenol	79.1	Limit: 19-139	% Rec	1		09/11/23 1159	09/14/23 1337	EPP
Surrogate: Phenol-d6	88.6	Limit: 14-154	% Rec	1		09/11/23 1159	09/14/23 1337	EPP
Surrogate: Nitrobenzene-d5	79.2	Limit: 17-146	% Rec	1		09/11/23 1159	09/14/23 1337	EPP
Surrogate: 2-Fluorobiphenyl	67.2	Limit: 18-122	% Rec	1		09/11/23 1159	09/14/23 1337	EPP
Surrogate: 2,4,6-Tribromophenol	96.2	Limit: 21-151	% Rec	1		09/11/23 1159	09/14/23 1337	EPP
Surrogate: Terphenyl-dl4	79.4	Limit: 27-131	% Rec	1		09/11/23 1159	09/14/23 1337	EPP

Determination of Organochlorine Insecticides & PCBs	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 608								
Gamma-BHC [Lindane]	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Beta-BHC	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Heptachlor	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Delta-BHC	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Aldrin	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Heptachlor Epoxide	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Endosulfan I	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
4,4`-DDE	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Dieldrin	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Endrin	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
4,4`-DDD	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Endosulfan II	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
4,4`-DDT	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Endrin Aldehyde	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Endosulfan Sulfate	<0.25	0.25	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Chlordane	<0.50	0.50	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Toxaphene	<1.00	1.00	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Arochlor 1016	<1.00	1.00	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Arochlor 1221	<1.00	1.00	ug/L	1		09/11/23 1150	09/19/23 1013	EPP

Keystone LABORATORIES A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GI0396

Client Sample ID:	Leachate		
Sample Matrix:	Water	**Collected By:**	Unknown
Lab Sample ID:	1GI0396-01	**Collection Date:**	09/06/2023 14:00

Determination of Organochlorine Insecticides & PCBs	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Arochlor 1232	<1.00	1.00	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Arochlor 1242	<1.00	1.00	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Arochlor 1248	<1.00	1.00	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Arochlor 1254	<1.00	1.00	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Arochlor 1260	<1.00	1.00	ug/L	1		09/11/23 1150	09/19/23 1013	EPP
Surrogate: Decachlorobiphenyl	55.2	Limit: 19-120	% Rec	1		09/11/23 1150	09/19/23 1013	EPP
Surrogate: Tetrachloro-m-xylene	28.0	Limit: 30-119	% Rec	1	**S-GC**	09/11/23 1150	09/19/23 1013	EPP

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
4500CN-E								
Cyanide, total	<0.005	0.005	mg/L	1		09/13/23 0805	09/14/23 1517	JLW
5310B								
Total Organic Carbon	**344**	50.0	mg/L	100		09/12/23 0000	09/13/23 1149	LNH
EPA 1664A								
Oil and Grease	<4	4	mg/L	1		09/14/23 1431	09/15/23 1428	TDC
EPA 351.2								
Nitrogen, Kjeldahl, total	**409**	50.0	mg/L	1			09/11/23 1132	AKK
EPA 353.2								
Nitrogen, Nitrate+Nitrite	<0.10	0.10	mg/L	1		09/15/23 0901	09/19/23 1434	AKK
SM 4500 H+ B								
pH	**8.5**	0.5	pH	1	**I-03**	09/08/23 1044	09/08/23 1554	BSS
SM 5210 B								
BOD (5 day)	**17**	4	mg/L	1	**B-19**	09/07/23 1120	09/07/23 1425	IDD
TIMBERLINE								
Nitrogen, Ammonia	**417**	10.0	mg/L	100		09/15/23 0943	09/15/23 1344	JAH
TKN+NOX								
Nitrogen, total	**409**	0.100	mg/L	1		09/15/23 0901	09/19/23 1434	AKK
USGS I-1750-85								
Solids, total dissolved	**5790**	5	mg/L	1		09/07/23 1448	09/08/23 0830	MEA
USGS I-3765-85								
Solids, total suspended	**77**	1	mg/L	1		09/11/23 0813	09/11/23 1505	MEA

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
200.7								
Iron, total	**29.1**	0.100	mg/L	1		09/07/23 1533	09/08/23 2311	JAR
EPA 200.8								
Arsenic, total	**0.0765**	0.0020	mg/L	4		09/08/23 1611	09/12/23 0030	RVV
Barium, total	**0.248**	0.0020	mg/L	4		09/08/23 1611	09/12/23 0030	RVV
Cadmium, total	<0.0002	0.0002	mg/L	4		09/08/23 1611	09/12/23 0030	RVV
Chromium, total	**0.0876**	0.0020	mg/L	4		09/08/23 1611	09/12/23 0030	RVV
Copper, total	**0.0029**	0.0020	mg/L	4		09/08/23 1611	09/12/23 0030	RVV

Keystone LABORATORIES
A Microbac Company

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GI0396

Client Sample ID:	Leachate		
Sample Matrix:	Water	**Collected By:**	Unknown
Lab Sample ID:	1GI0396-01	**Collection Date:**	09/06/2023 14:00

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Lead, total	**0.0009**	0.0008	mg/L	4		09/08/23 1611	09/12/23 0030	RVV
Nickel, total	**0.199**	0.0040	mg/L	4		09/08/23 1611	09/12/23 0030	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/08/23 1611	09/12/23 0030	RVV
Silver, total	<0.0020	0.0020	mg/L	4		09/08/23 1611	09/12/23 0030	RVV
Zinc, total	**0.0544**	0.0200	mg/L	4		09/08/23 1611	09/12/23 0030	RVV
EPA 7470A								
Mercury, total	<0.00050	0.00050	mg/L	1		09/12/23 1400	09/13/23 1506	JAR

Definitions

B-19: The net oxygen depletion was less than the required 2mg/L this result should be considered an estimated value.

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.

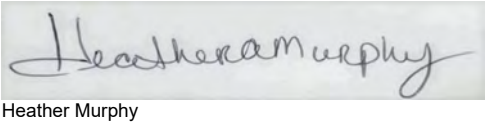
RL: Reporting Limit

S-GC: Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
09/22/23 13:08

CHAIN OF C

Keystone
LABORATORIES
A Microbac Company

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

1 G I 0 3 9 6

Floyd Mitchell SWMA
PM: Heather Murphy

Printed: 8/29/2023 2:08:40PM
www.keystonelabs.cor

SITE INFORMATION
Sampler:
Project: Osage

REPORT TO
Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO
Accounts Payable
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS
None

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

LAB USE ONLY
Work Order 1GI0396
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
01-001	Leachate	Water	GRAB	9/6/23	2:00pm		608-107 625-116 as-t-200.8 bod-5210 cn-t-4500c cu-t-200.8 hg-t-7470 ni-t-200.8 og-t-1664 ph-4500 tds-i-1750-85 toc-5310b zn-t-200.8	624-125 ag-t-200.8 ba-t-200.8 cd-t-200.8 cr-t-200.8 fe-t-200.7 nh3-timberline nitrogen-total pb-t-200.8 se-t-200.8 tkn-351.2 tss-i-3765-85	01	15

Tyler Wright 9-6-23 2:00pm
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Kylee Lapoon 9-7-23 10:30
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1232

Floyd Mitchell SWMA

Lori King
3354 330th St
Elma, IA 50628

Project Name: Leachate Sampling

Project / PO Number: / Water Analysis
Received: 10/13/2023
Reported: 10/30/2023

Analytical Testing Parameters

Client Sample ID: Leachate (W)
Sample Matrix: Water
Lab Sample ID: 1GJ1232-01
Collected By: Unknown
Collection Date: 10/12/2023 14:25

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 150.1								
pH	**8.6**	0.5	pH	1	**I-03**	10/16/23 1521	10/17/23 1653	BSS
EPA 1664A								
Oil and Grease	<4	4	mg/L	1	**PH-3**	10/25/23 1450	10/26/23 1626	TDC
EPA 351.2								
Nitrogen, Kjeldahl, total	**378**	50.0	mg/L	1			10/24/23 1226	SAA
SM 5210 B								
BOD (5 day)	**22**	5	mg/L	1		10/13/23 1544	10/13/23 1615	RMC
TIMBERLINE								
Nitrogen, Ammonia	**370**	10.0	mg/L	100		10/19/23 0818	10/19/23 1055	LJS
USGS I-3765-85								
Solids, total suspended	**38**	1	mg/L	1		10/16/23 1143	10/16/23 1555	MEA

Client Sample ID: Leachate (M)
Sample Matrix: Water
Lab Sample ID: 1GJ1232-02
Collected By: Unknown
Collection Date: 10/12/2023 14:25

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
200.7								
Iron, total	**5.70**	0.100	mg/L	1		10/16/23 1448	10/18/23 0030	JAR

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3: Insufficient preservative to adjust the sample pH to less than 2, value measured at 7 pH units.
RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
10/30/23 17:01

CHAIN O

Keystone LABORATORIES
A Microbac Company

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

1 G J 1 2 3 2
Floyd Mitchell SWMA
PM: Heather Murphy

Printed: 9/1/2023 3:53:39PM
www.keystonelabs.com

SITE INFORMATION
Sampler:
Project: Leachate Sampling
Water Analysis

SPECIAL INSTRUCTIONS
None

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

REPORT TO
Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

INVOICE TO
Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY
Work Order 1GJ1232
Temperature 3.9
Turn-Cooler: Yes

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	leachate (W)	Water	GRAB	10/12/23	1425	3	bod-5210 nh3-timberline ph-150.1 tss-i-3765-85	dilution og-t-1664 tkn-351.2	01
02-001	leachate (M)	Water	GRAB	10/12/23	1425	1	fe-t-200.7		02

Christian Fox 10-12-23 1425
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time
John McMurry 10/13/23 1030
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ1740

Floyd Mitchell SWMA

Lori King
3354 330th St
Elma, IA 50628

Project Name: Leachate Sampling

Project / PO Number: / Water Analysis
Received: 10/20/2023
Reported: 11/06/2023

Analytical Testing Parameters

Client Sample ID: __Leachate_____(W)
Sample Matrix: Water
Lab Sample ID: 1GJ1740-01
Collection Date: 10/19/2023 4:30

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 150.1								
pH	**8.5**	0.5	pH	1	**I-03**		10/30/23 1354	BSS
EPA 1664A								
Oil and Grease	<4	4	mg/L	1	**PH-3a**	11/01/23 1517	11/03/23 1554	TDC
EPA 351.2								
Nitrogen, Kjeldahl, total	**382**	50.0	mg/L	1			10/31/23 1647	AKK
SM 5210 B								
BOD (5 day)	**19**	5	mg/L	3		10/20/23 1135	10/20/23 1500	JLW
TIMBERLINE								
Nitrogen, Ammonia	**431**	10.0	mg/L	100		10/30/23 0935	10/30/23 1206	LJS
USGS I-3765-85								
Solids, total suspended	**30**	1	mg/L	1		10/24/23 0829	10/25/23 0940	MEA

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3a: Insufficient preservative to adjust the sample pH to less than 2, value measured at 6 pH units.
RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
11/06/23 14:16

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

600 East 17th Street Sou
Newton, IA 50208
641-792-6451

1 G J 1 7 4 0

Floyd Mitchell SWMA
PM: Heather Murphy

nted: 10/16/2023 2:49:23P

www.keystonelabs.com

SITE INFORMATION

Sampler:

Project: Leachate Sampling

Water Analysis

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

Turn Around Time

☒ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1GJ1740

Temperature 4.6

Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	leachate (W)	Water	GRAB	10/19/23	2:30	3	bod-5210, dilution, nh3-timberline, og-e-1664, ph-150.1, tkn-351.2, tss-i-3765-85	OL
-001	(M)	Water	GRAB	/ /			fe-r-200.7	

Relinquished By: [signature] Date/Time: 10/19/23 2:30PM

Relinquished By: Echo McMurry Date/Time: 10/20/23 940

Received By: Date/Time:

Received for Lab By: Date/Time:

Original - Lab Copy Yellow - Sampler Copy

Remarks:

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GJ2303

Floyd Mitchell SWMA

Lori King
3354 330th St
Elma, IA 50628

Project Name: Leachate Sampling

Project / PO Number: / Water Analysis
Received: 10/27/2023
Reported: 11/10/2023

Analytical Testing Parameters

Client Sample ID:	Leachate (W)		
Sample Matrix:	Water	**Collected By:**	Unknown
Lab Sample ID:	1GJ2303-01	**Collection Date:**	10/26/2023 13:00

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 150.1								
pH	**8.4**	0.5	pH	1	**I-03**		10/30/23 1354	BSS
EPA 1664A								
Oil and Grease	<4	4	mg/L	1		11/06/23 1254	11/07/23 1616	TDC
EPA 351.2								
Nitrogen, Kjeldahl, total	**311**	50.0	mg/L	1			11/04/23 0703	AKK
SM 5210 B								
BOD (5 day)	**17**	4	mg/L	1		10/27/23 1055	10/27/23 1400	CAS
TIMBERLINE								
Nitrogen, Ammonia	**374**	20.0	mg/L	200		11/01/23 1023	11/02/23 1206	LJS
USGS I-3765-85								
Total Suspended Solids (TSS)	**40**	1	mg/L	1		11/01/23 0756	11/01/23 1245	MEA

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.

RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
11/10/23 11:17

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

600 East 17th Street South
Newton, IA 50208
641-792-6451

1 G J 2 3 0 3

Floyd Mitchell SWMA
PM: Heather Murphy

7/15/2023 7:43:44AM
www.keystonelabs.com

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GJ2303
Temperature 6.3
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	Leachate (W)	Water	GRAB	10/26/23	1:00p	3	bod-5210 nh3-timberline ph-150.1 tss-i-3765-85	dilution og-t-1664 tkn-351.2	01
02-001	(M)	Water	GRAB	/ /			fe-t-200.7		

Tyler Wright 10-26-23 1:00p
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Echo McMurry 10/27/23 1000
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GL0167

Floyd Mitchell SWMA

Lori King
3354 330th St
Elma, IA 50628

Project Name: Leachate Sampling

Project / PO Number: / Water Analysis
Received: 12/05/2023
Reported: 12/26/2023

Case Narrative

Amended Report December 26,2023: The TKN result originally reported for sample 1GL0167-01 was not correct due to analyst error. The correct result is included in this report.

Tammy McDermott
Quality Assurance Specialist

Analytical Testing Parameters

Client Sample ID: Leachate (W)
Sample Matrix: Water
Lab Sample ID: 1GL0167-01
Collected By: Unknown
Collection Date: 12/04/2023 13:30

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 150.1								
pH	**8.3**	0.5	pH	1	**I-03**	12/05/23 1429	12/06/23 1704	CHP
EPA 1664A								
Oil and Grease	<4	4	mg/L	1		12/18/23 1026	12/19/23 1300	SAA
EPA 351.2								
Nitrogen, Kjeldahl, total	**628**	50.0	mg/L	1			12/13/23 1056	AKK
SM 5210 B								
BOD (5 day)	**48**	5	mg/L	3		12/05/23 1659	12/06/23 0642	BDF
TIMBERLINE								
Nitrogen, Ammonia	**552**	20.0	mg/L	200		12/08/23 1105	12/08/23 1551	LJS
USGS I-3765-85								
Total Suspended Solids (TSS)	**86**	1	mg/L	1		12/05/23 1242	12/06/23 1245	RDH

Client Sample ID: Leachate (M)
Sample Matrix: Water
Lab Sample ID: 1GL0167-02
Collected By: Unknown
Collection Date: 12/04/2023 13:30

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
200.7								
Iron, total	**10.1**	0.100	mg/L	1		12/06/23 1354	12/07/23 2030	JAR

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
RL: Reporting Limit

Keystone Laboratories - Newton

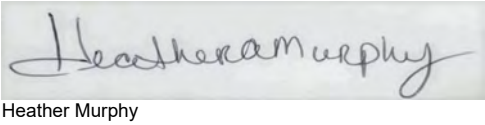
CERTIFICATE OF ANALYSIS

1GL0167

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
12/26/23 11:22

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

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

1GL0167

Floyd Mitchell SWMA
PM: Heather Murphy

: 10/30/2023 4:35:08P
www.keystonelabs.con

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

SPECIAL INSTRUCTIONS

None

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

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

LAB USE ONLY

Work Order 1GL0167
Temperature 2.8
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate (W)	Water	GRAB	12/4/23	1:30pm	3	bod-5210, nh3-timberline, ph-150.1, tss-i-3765-85, dilution, og-i-1664, fku-351.2	01
-001	Leachate (M)	Water	GRAB	12/4/23	1:30pm	1	fe-t-200.7	02

Relinquished By: [signature] Date/Time: 12-4-23 1:30pm

Received By: Date/Time:

Relinquished By: Date/Time:

Received for Lab By: [signature] Date/Time: 12-5-23 10:55

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1GL0990

Floyd Mitchell SWMA

Lori King
3354 330th St
Elma, IA 50628

Project Name: Leachate Sampling

Project / PO Number: / Water Analysis
Received: 12/14/2023
Reported: 12/28/2023

Analytical Testing Parameters

Client Sample ID:	Leachate_(W)		
Sample Matrix:	Water	**Collected By:**	Unknown
Lab Sample ID:	1GL0990-01	**Collection Date:**	12/13/2023 14:00

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 150.1								
pH	**8.4**	0.5	pH	1	**I-03**	12/19/23 1007	12/19/23 1329	AKK
EPA 1664A								
Oil and Grease	<4	4	mg/L	1		12/23/23 1140	12/27/23 1659	BMS
EPA 351.2								
Nitrogen, Kjeldahl, total	**561**	50.0	mg/L	1		12/21/23 0959	12/26/23 1425	AKK
SM 5210 B								
BOD (5 day)	**48**	17	mg/L	10		12/14/23 1632	12/15/23 1032	BDF
TIMBERLINE			**Method Notes:** PH-3					
Nitrogen, Ammonia	**589**	20.0	mg/L	200		12/20/23 1018	12/21/23 0957	LJS
USGS I-3765-85								
Total Suspended Solids (TSS)	**29**	1	mg/L	1		12/18/23 0859	12/19/23 1100	RDH

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
PH-3: Insufficient preservative to adjust the sample pH to less than 2, value measured at 14 pH units.
RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Tisdale
Customer Relationship Specialist
12/28/23 15:38

CHAIN OF CUSTODY F

Keystone LABORATORIES
A Microbac Company

600 East 17th Street South
Newton, IA 50208
641-792-5451

1GL0990
Floyd Mitchell SWMA
PM: Heather Murphy

3/2023 8:21:34A
v.keystonelabs.co

SITE INFORMATION

Sampler:

Project: Leachate Sampling
Water Analysis

REPORT TO

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

Lori King
Floyd Mitchell SWMA
3354 330th St
Elma, IA 50628

SPECIAL INSTRUCTIONS

None

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

LAB USE ONLY

Work Order 1GL0990
Temperature 2.4
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate (W)	Water	GRAB	12/13/23	2:[illegible] pm	3	bod-5210, nh3-timberline, ph-150.1, tss-i-3765-85, dilution, og-i-1664, tkn-351.2	01
-001	_____ (M)	Water	GRAB	/ /			fe-i-200.7	

Tyler Wright 12/13/23 - 1400
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

John McMurry 12/14/23 1045
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy