SCS ENGINEERS

Transmittal

West Des Moines, IA

PROJECT:	Muscatine Co,FY25 Env Comp,IA 27223255.25	DATE:	2/25/2025
SUBJECT:	Muscatine County Sanitary Landfill - 70-SDP-02-75P - 2024 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report	TRANSMITTAL ID:	00001
PURPOSE:	For your approval	VIA:	Info Exchange

FROM

NAME	COMPANY	EMAIL	PHONE
Nathan Ohrt West Des Moines, IA	SCS Engineers	NOhrt@scsengineers.com	+1-515-415-9220

TO

NAME	COMPANY	EMAIL	PHONE
Mike Smith 502 East 9th Street Des Moines IA 50319-0034 United States	Iowa, State of	mike.smith@dnr.iowa.gov	515-725-8200

REMARKS:

Good morning Mike-

SCS Engineers, on behalf of the Muscatine County Solid Waste Management Agency, is submitting the 2024 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report for the Muscatine County Sanitary Landfill. If you have any questions or comments concerning these reports, please contact me at the number below. Thank you.

Nathan Ohrt
Senior Project Professional
SCS Engineers
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Transmittal

DATE: 2/25/2025
TRANSMITTAL ID: 00001

DESCRIPTION OF CONTENTS

QTY	DATED	TITLE	NOTES
1	2/25/2025	Muscatine County Sanitary Landfill - 70-SDP-02-75P - 2024 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report.pdf	

COPIES:

David Popp	(Muscatine County Solid Waste Mgmt. Agency)
Nathan Ohrt	(SCS Engineers)
Tim Buelow	(SCS Engineers)
Becky Jolly	

February 25, 2025
File No. 27223255.25

Mr. Mike Smith, P.E.
Iowa Department of Natural Resources
Land Quality Bureau
6200 Park Avenue
Des Moines, Iowa 50321

Subject: 2024 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Dear Mike:

SCS Engineers, on behalf of the Muscatine County Solid Waste Management Agency, has completed the water quality monitoring and assessment for the Muscatine County Sanitary Landfill (Landfill) for the year 2024. Services were performed in general accordance with Iowa Administrative Code (IAC) 567-113.10 and the current requirements for implementation of the Hydrologic Monitoring System Plan for the Landfill. Please find enclosed a copy of the 2024 Annual Water Quality Report.

Additionally, an evaluation of the leachate control system and gas monitoring results for the Landfill are included in accordance with IAC 567-113.7(5)"b"(14) and 113.9(2)"d", respectively. The 2024 Leachate Control System Performance Evaluation Report and 2024 Landfill Gas Annual Report for the Landfill are included as appendices to the Annual Water Quality Report.

If you have any questions regarding these reports, please contact Nathan Ohrt at (319) 331-9613.

Sincerely,

Nathan Ohrt
Senior Project Professional
SCS Engineers

Timothy C. Buelow, P.E.
Senior Project Advisor
SCS Engineers

NPO/TCB

Copies: Mr. Dave Popp, Muscatine County Sanitary Landfill

2024 ANNUAL WATER QUALITY REPORT, LEACHATE CONTROL SYSTEM PERFORMANCE EVALUATION REPORT, AND LANDFILL GAS ANNUAL REPORT

FOR

MUSCATINE COUNTY SANITARY LANDFILL

MUSCATINE, IOWA

SOLID WASTE PERMIT NO. 70-SDP-02-75P

SUBMITTAL DATE: FEBRUARY 2025

PREPARED FOR:

MUSCATINE COUNTY SOLID WASTE AGENCY

PREPARED BY:

SCS ENGINEERS

Certification

Prepared by: _____ Date: 2/25/2025

Typed: Nathan Ohrt

Reviewed by: _____ Date: 2/25/2025

Typed: Timothy C. Buelow, P.E.

Certification page (PE or ground water scientist signature) **113.10(1)"d"**

For the purposes of this rule, a "qualified groundwater scientist" means a scientist or an engineer who has received a baccalaureate or postgraduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields demonstrated by state registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.

Executive Summary

ES.1 Period of Report Coverage

The period of report coverage is from January-December 2024 and includes the sampling events summarized in Table 2.

ES.2 Report Priority

The following summarizes report priorities associated with groundwater compliance at the Muscatine County Sanitary Landfill (Landfill):

- Department review urgency: None.
- Department review impact on rules schedule: None.
- Actions or activities on hold pending Department review or comment: None.
- Actions and/or permit amendments needed: None.

ES.3 Site Status and Applicable Rules

- Landfill Status: Active
- Types of waste accepted: MSW and C&D
- Applicable IAC rules: 2009 567-113.10

ES.4 Comments

The following summarizes points of special emphasis:

- An Assessment of Corrective Measures (ACM) report was submitted to the Iowa Department of Natural Resources (DNR) on March 31, 2021 (Doc #100106) and approved on September 21, 2023 (Doc #107733).
- A public meeting to discuss the ACM was conducted on February 27, 2024. Minutes of the meeting were submitted on April 17, 2024 (Doc #109860).
- The Selection of Remedy and Corrective Action Groundwater Monitoring Program (CAMP) was submitted on May 9, 2024 (Doc #110026). The selected corrective action remedy is source control via surface water drainage improvements, leachate management systems, and passive landfill gas vents, coupled with monitored natural attenuation. Attenuation zone point of compliance (AZPOC) monitoring wells are used to monitor the progress toward remedy completion. The Selection of Remedy and CAMP were approved in the revised permit dated June 13, 2024 (Doc #110239). Sampling in accordance with the approved CAMP was implemented during this reporting period.
- Documentation of financial assurance for corrective action was submitted on June 10, 2024 (Doc #110232) and approved on June 17, 2024 (Doc #110263).

Table of Contents

Executive Summary i
ES.1 Period of Report Coverage i
ES.2 Report Priority i
ES.3 Site Status and Applicable Rules i
ES.4 Comments i
Section 1.0 Acronyms/Abbreviations 1
Section 2.0 Site Background 2
2.1 Site Location 2
2.2 Facility 2
2.3 Geology and Hydrogeology of the Site 2
Section 3.0 Figures Discussion 3
3.1 Figure 1 – Approved Monitoring Network 3
3.2 Figure 2 – Groundwater Contours 3
3.3 Figure 3 – Reporting Period Detection Summary – HMSP 3
3.4 Figure 4 – Reporting Period Detection Summary – Corrective Action 3
3.5 Figure 5 – Arsenic Concentration Map 3
3.6 Figure 6– Barium Concentration Map 3
3.7 Figure 7 – Cobalt Concentration Map 4
3.8 Figure 8 – Benzene Concentration Map 5
3.9 Figure 9– Vinyl Chloride Concentration Map 5
Section 4.0 Standards History Graphs 6
Section 5.0 QA/QC Summary 7
Section 6.0 Data Evaluation 8
6.1 Data Evaluation 8
6.2 CAMP Evaluation 8
Section 7.0 Summary and Recommendations 10
7.1 Site Impact on Groundwater 10
7.2 Proposed Monitoring 10
7.3 Proposed Monitoring Well Changes 10

Tables

TABLE 1 MONITORING PROGRAM SUMMARY
TABLE 2 MONITORING PROGRAM IMPLEMENTATION SCHEDULE
TABLE 3 MONITORING WELL MAINTENANCE AND PERFORMANCE RE-EVALUATION SCHEDULE
TABLE 4 MONITORING WELL PERFORMANCE AND MAINTENANCE SUMMARY
TABLE 5 BACKGROUND AND GWPS SUMMARY
TABLE 6 SUMMARY OF WELL/DETECTED CONSTITUENT PAIRS WITH NO PREVIOUS SSIS
TABLE 7 SUMMARY TABLE OF ONGOING AND NEWLY IDENTIFIED SSIS
TABLE 8 SUMMARY TABLE OF ONGOING AND NEWLY IDENTIFIED SSLS
TABLE 9 SUMMARY OF GROUNDWATER CHEMISTRY (SEE APPENDICES C-1 AND C-2)
TABLE 10 HISTORICAL SSIS AND SSLS
TABLE 11 CORRECTIVE ACTION TREND ANALYSIS

Figures

FIGURE 1 APPROVED MONITORING NETWORK
FIGURE 2 GROUNDWATER CONTOURS
FIGURE 3 REPORTING PERIOD DETECTION SUMMARY
FIGURE 4 REPORTING PERIOD DETECTION SUMMARY – CORRECTIVE ACTION
FIGURE 5 ARSENIC CONCENTRATION MAP
FIGURE 6 BARIUM CONCENTRATION MAP
FIGURE 7 COBALT CONCENTRATION MAP
FIGURE 8 BENZENE CONCENTRATION MAP
FIGURE 9 VINYL CHLORIDE CONCENTRATION MAP

Appendices

APPENDIX A FIELD SAMPLING FORMS
APPENDIX B-1 LABORATORY ANALYTICAL DATA SHEETS
APPENDIX B-2 DATA VALIDATION DOCUMENTATION
APPENDIX C-1 SUMMARY OF GROUNDWATER CHEMISTRY – HMSP
APPENDIX C-2 SUMMARY OF GROUNDWATER CHEMISTRY – BRACKETING
APPENDIX D STATISTICAL METHOD AND OUTPUT
APPENDIX E 2024 LEACHATE CONTROL SYSTEM PERFORMANCE EVALUATION REPORT
APPENDIX F 2024 LANDFILL GAS ANNUAL REPORT
APPENDIX G STANDARDS HISTORY GRAPHS

Section 1.0
Acronyms/Abbreviations

ACM = Assessment of Corrective Measures
CAMP = Corrective Action Groundwater Monitoring Program
C&D = Construction and Demolition Waste
CCV = Continuing Calibration Verification
CL = Control Limit - Mean plus Two Standard Deviations
COC = Chain of Custody
DNR = Iowa Department of Natural Resources
DO = Dissolved Oxygen
DQR = Double Quantification Rule
GWPS = Groundwater Protection Standard
LEL = Lower Explosive Limit
LCL = Lower Confidence Limit
LCS = Laboratory Control Sample
LN = Lognormal
MCL = EPA Maximum Contaminant Level
MSW = Municipal Solid Waste
N = Normal
NC = No Change
NM = Not Measured
NP = Non-Parametric
ORP = Oxidation-Reduction Potential
P = Parametric
PL = Prediction Limit
RL = Reporting Limit
SWS = DNR Statewide Standard for a protected groundwater source
SSI = Statistically Significant Increase above background
SSL = Statistically Significant Level above groundwater protection standard
SSS = Site-Specific Standard (Site-Specific GWPS)
TSS = Total Suspended Solids
UCL = Upper Confidence Limit
VOC = Volatile Organic Compound

Section 2.0
Site Background

2.1 Site Location

The Landfill property is depicted in Figure 1, Approved Monitoring Network. The Landfill is located in SE ¼, Section 33, and the SW ¼, Section 34, T78N, R1E, and part of Section 3, and the NE 1/4, Section 4, T77N, R1E, in Muscatine County, Iowa. The Landfill property encompasses approximately 188 acres and is situated south of Highway 61 near the intersections of Ward Avenue and County Road Y30.

2.2 Facility

The Landfill originally consisted of seven individual ravines radiating outward from a topographic high ridge. Six ravines were filled with waste and are designated as Ravines 2, 3, and 7 on the west and Ravines 5, 6, and 4 on the east. Initial development of the Landfill occurred in 1974 and 1975 with some waste placement in all six ravines prior to 1982. The lower portions of all six ravines were closed prior to October 1989 with a 2-foot thick soil cap. Various vertical expansions occurred between 1989 and August 2006. Along the topographic high ridge, a six phase Subtitle D-compliant expansion was designed. Phases 1 through 5 have been constructed. Phases 3, 4, and 5 are actively receiving waste from the City of Muscatine Recycling Center & Solid Waste Transfer Station.

2.3 Geology and Hydrogeology of the Site

A hydrogeological review of the stratigraphy beneath and adjacent to the Landfill was prepared by Barker Lemar Engineering Consultants. The Hydrogeological Review dated March 2, 2015 (Doc #82603) provided a current summary of hydrogeological assessment activities at the Landfill. References to prior assessments were included therein.

A brief summary of the geology beneath the Landfill was provided in the Hydrogeologic Investigation of Muscatine County Sanitary Landfill Phase I Report, Indeco, Inc., July 1991 (Doc #14020). A citation from the report is included below.

> *The basic geology of the landfill site consists of loess capped glacial tills resting on shale or limestone bedrock. The loess materials represent Wisconsin Age wind deposited silts and clays lying on the tops of the upland interfluves. The loess ranges between 8 feet and 35 feet thick, with an average of approximately 16 feet. Along the ravine areas, approximately 2 feet to 16 feet of alluvial soils are underlain by glacial till materials. The Pre-Illinoian Age glacial till materials consist mainly of silt and clays with various amounts of sands and gravel ranging in thickness between 7 feet and 90 feet, averaging approximately 35 feet. The Pennsylvanian Age shale bedrock is thin and of limited lateral extent due to erosional processes before and during the deposition of the glacial till materials. The shales rest unconformably on Devonian Age limestones at a depth of 20 to 100 feet, averaging approximately 50 feet. Bedrock elevations range between 689 and 661 msl* [feet above mean sea level].

Section 3.0
Figures Discussion

The following figures are attached.

3.1 Figure 1 – Approved Monitoring Network

The Landfill property and hydrologic monitoring system plan (HMSP) monitoring network are depicted in Figure 1. Figure 1 indicates the respective monitoring programs of the HMSP monitoring points during this reporting period.

3.2 Figure 2 – Groundwater Contours

A groundwater contour map based on groundwater levels measured during the June 2024 sampling event is included in Figure 2.

Groundwater flows to the south, southwest, and southeast beneath the former ravines in the southern portion of the fill area. The high point is near the northeastern corner of the Landfill measured at background monitoring well MW-29.

3.3 Figure 3 – Reporting Period Detection Summary – HMSP

Figure 3 shows the range of measured concentrations by monitoring point for the HMSP monitoring wells in the assessment monitoring program and background during this reporting period. Further discussion of the detected constituents is included in Section 6.0 – Data Evaluation and Summary of this report.

3.4 Figure 4 – Reporting Period Detection Summary – Corrective Action

Figure 4 shows the range of measured concentrations for HMSP monitoring wells classified as source characterization monitoring wells, AZPOC monitoring wells, and the corrective action (bracketing) monitoring wells during this reporting period. Further discussion of the detected constituents is included in Section 6.0 – Data Evaluation and Summary of this report.

3.5 Figure 5 – Arsenic Concentration Map

The elevated arsenic concentrations to the east of the Landfill appear to be localized around corrective action monitoring wells MW-4, MW-12R, and MW-38. The elevated arsenic concentrations in MW-4 are bracketed to the northeast by MW-52, to the southeast by MW-26, to the west by the Landfill, and vertically by MW-3. The elevated arsenic concentrations in monitoring well MW-12R are bracketed horizontally to the north, east, and south by monitoring wells MW-26, MW-36, and MW-25, respectively, and vertically by MW-46. The elevated arsenic concentrations measured in MW-38 are bracketed to the east by MW-40, to the north/northeast by MW-51, to the south by MW-52, and vertically by MW-44. The arsenic concentration measured during the October 2024 sampling event was the second lowest in the period of record dating to 2015 for monitoring well MW-38 and the third lowest for monitoring well MW-4 since low-flow sampling was implemented in 2015. Monitoring well MW-26 is the AZPOC well for the arsenic impact measured in monitoring wells MW-4 and MW-38, and monitoring well MW-36 is the AZPOC well for the arsenic impact measured in monitoring well MW-12R. Measured arsenic concentrations in monitoring well MW-26 were J flags and were non-detect in monitoring well MW-36 during this reporting period.

3.6 Figure 6– Barium Concentration Map

The elevated barium concentrations to the east of the Landfill appear to be localized around corrective action monitoring wells MW-12R and MW-38. The elevated barium concentrations

in MW-38 are bracketed to the south by monitoring well MW-52 and to the west by the Landfill. Following a meeting with the DNR on February 7, 2020, horizontal bracketing well MW-58 was installed north of monitoring well MW-38. The barium concentration measured in MW-58 (0.371 mg/L) during the September 2020 sampling event was significantly below the GWPS (2 mg/L) but slightly elevated above the background concentration (0.303 mg/L).

Based on the steep decline of barium concentrations north of MW-38, as explained in the 2020 AWQR (Doc #99628) and approved in the 2020 AWQR response letter dated February 15, 2021 (Doc #99738), barium is considered to be horizontally bracketed at this time.

Vertical bracketing wells MW-44 and MW-54 also measured barium concentrations below the GWPS but above the background prediction limit. However, as noted in permit correspondence dated March 30, 2020 (Doc #97337) and approved in the DNR response dated April 15, 2020 (Doc #97491), although the barium concentrations measured in monitoring well MW-54 were slightly elevated above the background concentration of 0.303 mg/L, they remain lower than the barium concentrations measured in shallower vertical bracketing well MW-44. Additionally, it should be noted that the concentrations in both vertical bracketing wells are less than 50% of the barium GWPS of 2 mg/L. Therefore, elevated barium concentrations in MW-38 are considered to be vertically bracketed at this time.

Monitoring well MW-12R is bracketed horizontally to the north and south by monitoring wells MW-26 and MW-25, respectively. Vertical bracketing monitoring well MW-46 measured a barium concentration (0.447 mg/L) slightly above the background value of 0.303 mg/L during the March 2023 sampling event. However, as stated in permit correspondence dated March 30, 2020 (Doc #97337) and approved in DNR correspondence dated April 15, 2020 (Doc #97491), the elevated barium concentrations measured in MW-12R are considered to be vertically bracketed at this time.

Monitoring well MW-26 is the AZPOC well for the barium impact measured in monitoring wells MW-38, and monitoring well MW-36 is the AZPOC well for the barium impact measured in monitoring well MW-12R. Measured barium concentrations in monitoring well MW-26 were below the water table prediction limit during this reporting period. Measured barium concentrations in monitoring well MW-36 measured one sample above and one sample below the water table prediction limit during this reporting period.

3.7 Figure 7 – Cobalt Concentration Map

Elevated cobalt concentrations are generally localized east of the Landfill in monitoring wells MW-12R, MW-38, and MW-39. Elevated cobalt concentrations in monitoring well MW-38 are considered to be horizontally and vertically defined as the cobalt concentrations in the bracketing wells are below the current prediction limit. Elevated cobalt concentrations in corrective action monitoring well MW-39 are considered bracketed horizontally. Vertical bracketing wells MW-45 and MW-55 most recently measured cobalt concentrations were above the current prediction limit. However, as discussed in permit correspondence dated March 30, 2020 (Doc #97337) and approved in DNR correspondence dated April 15, 2020 (Doc #97491), it is not recommended to install an additional vertical bracketing well at this time. Both cobalt concentrations in monitoring well MW-39 measured during this reporting period were below the prediction limit.

Elevated cobalt concentrations near monitoring well MW-12R are bracketed horizontally to the north, east, and south by monitoring wells MW-26, MW-36, and MW-25, respectively, and vertically by monitoring well MW-46.

Monitoring well MW-26 is the AZPOC well for the cobalt impact measured in monitoring wells MW-38 and MW-39, and monitoring well MW-36 is the AZPOC well for the cobalt impact measured in monitoring well MW-12R. Measured cobalt concentrations in monitoring well MW-26 were below the water table prediction limit and were J flags in monitoring well MW-36 during this reporting period.

3.8 Figure 8 – Benzene Concentration Map

Elevated benzene concentrations have been defined to the south of the Landfill in the vicinity of corrective action monitoring well MW-23. The concentration in bracketing monitoring well MW-53 to the south/southeast was non-detect. Concentrations are bracketed by the Landfill to the north and west. Monitoring well MW-31, located southwest of monitoring well MW-23, had J flag concentrations measured during the five most recent sampling events; J flag concentrations indicate that monitoring well MW-31 is likely on the edge of the benzene impact. Therefore, benzene is considered bracketed at this time.

Monitoring well MW-37 is the AZPOC well for the benzene impact measured in monitoring well MW-23. Measured benzene concentrations in monitoring well MW-37 were non-detect during this reporting period.

3.9 Figure 9– Vinyl Chloride Concentration Map

Elevated vinyl chloride concentrations are localized around monitoring well MW-13 in the southwest portion of the Landfill property. The numerous bracketing wells in the vicinity of monitoring well MW-13 typically measure non-detect or J flag concentrations. Monitoring well MW-33 has measured elevated vinyl chloride concentrations intermittently, with two of the most recent five concentrations measured above the GWPS; however, the concentration was non-detect during this reporting period. Monitoring well MW-30 has consistent detections, but three of the most recent four concentrations have been below the GPWS. Additional bedrock bracketing wells MW-47 and MW-48 were installed to determine the extent of the vinyl chloride concentrations in the bedrock. Monitoring wells MW-47 and MW-48 have consistently measured non-detect concentrations. Therefore, vinyl chloride is considered bracketed at this time.

Section 4.0
Standards History Graphs

Standards history graphs for the Appendix I metals for both the water table and bedrock monitoring networks are included in Appendix G.

The prediction limits were below the GWPS with the exceptions of cobalt in the water table background and barium and cobalt in the bedrock background. The cobalt GWPS was established as 0.00797 mg/L for the water table monitoring network. For the bedrock monitoring wells, the barium GWPS was established as 2.716 mg/L and the cobalt GWPS was established as 0.01036 mg/L.

Section 5.0
QA/QC Summary

The quality assurance/quality control (QA/QC) program for the Landfill follows similar protocols as included in the HMSP. Data validation procedures are performed on analytical results for laboratory quality control samples and a quality assurance assessment of the data was conducted as the data was generated. The QA review procedure provided documentation of the accuracy and precision of the analytical data and confirmed that the analyses were sufficiently sensitive to detect constituents at levels below regulatory standards when technically feasible with the laboratory method utilized. SCS then conducted QA/QC data validation of the produced data, which included review of sample handling, analytical sensitivity, blanks, accuracy, and precision. A summary of the laboratory QA/QC and data validation can be found in Appendix B-1, Laboratory Analytical Data Sheets, and Appendix B-2, Data Validation Documentation, respectively.

Section 6.0
Data Evaluation

Assessment and corrective action monitoring statistical evaluations in accordance with the requirements of IAC 567-113.10(6) were conducted for the groundwater analytical data collected during the 2024 reporting period. The statistical evaluation for samples collected during this reporting period is located in Appendix D, Statistical Method and Output, of this report.

Groundwater monitoring for the Landfill consists of nineteen monitoring points, with background monitoring wells MW-49BG and MW-50BG located south of the Landfill and background monitoring well MW-29 located north of the Landfill. Compliance monitoring points are located along the downgradient east, west, and south boundaries. The range of measured concentrations for the detected constituents during this reporting period is shown in Figure 4, Reporting Period Detection Summary and Figure 5, Reporting Period Detection Summary – Corrective Action.

6.1 Data Evaluation

During this reporting period, the inorganic maximum concentrations for the water table monitoring wells were dispersed, with two maximum concentrations each measured in monitoring wells MW-2 and MW-22 and one maximum concentration each in monitoring wells MW-9, MW-10A, and MW-24. Only two monitoring wells in the bedrock monitoring network are not part of the corrective action monitoring well grouping – monitoring well MW-11 and background monitoring well MW-49R. Three metals and one VOC were measured at maximum concentrations for monitoring well MW-11 and MW-49BG had maximum concentrations for two metals. Exceedances of the GWPS were measured for cobalt in monitoring wells MW-2 and MW-9.

VOC detections at site-wide maximum concentrations occurred in monitoring wells MW-9 and MW-22 for the water table monitoring wells and MW-11 for the bedrock monitoring wells during this reporting period. No VOCs were measured above the GWPS in the assessment monitoring water table or bedrock monitoring wells. Apart from the corrective action monitoring wells, the remainder of the HMSP monitoring network appears generally not impacted, although VOC detections indicate limited impact near monitoring well MW-9 located west of the Landfill and monitoring well MW-22 located southwest of the Landfill.

6.2 CAMP Evaluation

Source Characterization Monitoring

Monitoring wells MW-4, MW-12R, MW-13, MW-23, MW-38, and MW-39 were designated as source characterization monitoring wells. Monitoring wells MW-26, MW-36, and MW-37 are AZPOC monitoring wells. Monitoring well MW-26 is in the assessment monitoring program in addition to being utilized as an AZPOC monitoring well.

The source characterization monitoring wells and AZPOC monitoring wells were analyzed for Appendix I and TSS during this reporting period. Additionally, Appendix II parameter 2,4,5-TP [Silvex] was added for monitoring well MW-12R and Endosulfan I was added for monitoring wells MW-38 and MW-39 during the June and October 2024 sampling events. Monitoring well MW-26 was sampled for Appendix II and TSS in June 2024 and Appendix I, TSS, and sulfide in October 2024.

Trending of the Appendix I parameters for the source characterization monitoring wells and AZPOC monitoring well MW-26 was evaluated using Mann-Kendall evaluation. The evaluation indicated barium in monitoring well MW-4 was decreasing at a statistically significant rate and chlorobenzene in monitoring well MW-38 was increasing at a statistically significant rate at 99% confidence (α = 0.01).

As shown in Table 11, there were 28 increasing trends indicated by a positive calculated Mann-Kendall statistic and 38 stable or decreasing trends indicated by a Mann-Kendall statistic of zero or less, which calculated to over 73% of the constituent-monitoring wells trends stable or decreasing. As AZPOC monitoring wells MW-36 and MW-37 do not yet have background established for the full Appendix I, the trend evaluation did not include those wells. A summary table and graphs of the Mann-Kendall trending evaluation are included in Appendix D. A summary of current and historical analytical results for the source wells and AZPOC wells is included in Appendix C-1.

Biennial sampling of natural attenuation parameters will begin in 2025 for the source characterization and AZPOC monitoring wells and the resultant data will be evaluated in the 2025 AWQR.

Corrective Action Monitoring

Nine corrective action monitoring wells are sampled for selected parameters to monitor the status of the groundwater impact in the area. Corrective action monitoring well MW-57 had insufficient water to produce a sample and monitoring well MW-56 was inaccessible during the June 2024 sampling event and dry during the October 2024 sampling event.

Barium is regularly detected in monitoring wells MW-46 and MW-51 with concentrations higher than the prediction limit. The elevated concentration measured in monitoring well MW-56 was likely influenced by an elevated TSS concentration.

Benzene is regularly detected in monitoring wells MW-31 and MW-34, but generally at J flag concentrations or concentrations slightly above the reporting limit. Vinyl chloride is regularly detected in monitoring wells MW-30 and MW-33, occasionally above the GWPS.

The AZPOC monitoring wells MW-26, MW-36, and MW-37 had multiple metal detections below the background. There were detections of sulfide in the assessment/AZPOC monitoring well MW-26. Acetone was detected in monitoring well MW-37 during the June 2024 sampling event but did not have a quantified detection during the October 2024 sampling event.

The range of measured concentrations for the detected constituents in the source characterization monitoring wells, AZPOC monitoring wells, and the corrective action (bracketing) monitoring wells during this reporting period is shown in Figure 4, Reporting Period Detection Summary – Corrective Action. Analytical results are included in Appendices C-1 & C-2.

Section 7.0
Summary and Recommendations

7.1 Site Impact on Groundwater

- The areas of groundwater impact are generally defined near the monitoring wells with previously identified SSLs.
- For the water table monitoring wells that have not had previously identified SSLs, monitoring wells MW-9 and MW-22 appear to have some impact from the Landfill based on consistent VOC detections. Both these assessment monitoring wells had numerous not confirmed SSIs.
- Bedrock monitoring well MW-11 has sporadic VOC detections, although with reduced frequency, which may indicate natural attenuation is occurring after the previous leachate releases for the leachate holding tank in the area were corrected.

7.2 Proposed Monitoring

Anticipated groundwater sampling for the 2025 reporting period is shown in Table 2.

7.3 Proposed Monitoring Well Changes

No changes to the monitoring wells are recommended at this time.

Tables

Table 1
Monitoring Program Summary
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Monitoring Well	Formation[1]	Current Monitoring Program	Change for Next Sampling Event	Constituents with SSIs during the 2024 Reporting Period[2]	Constituents with SSLs	Total Number of Samples in Each Monitoring Program Inorganic/Organic		
						Detection	Assessment	Corrective Action
HMSP Monitoring Points								
Water Table								
MW-29	Clay	Background	No Change	Not Applicable	Not Applicable	15/30	-	-
MW-50BG	Clay/Silt/Sand	Background	No Change	Not Applicable	Not Applicable	15/14	-	-
MW-2	Sand/Silt	Assessment	No Change	Barium, Cobalt	None	-	19/36	-
MW-9	Clay	Assessment	No Change	Barium, Cadmium, Cobalt, Nickel, Benzene, Chlorobenzene, cis-1,2-Dichloroethene	None	-	18/37	-
MW-10A	Silty Clay	Assessment	No Change	Barium	None	-	18/36	-
MW-20	Silt	Assessment	No Change	None	None	-	9/22	-
MW-21	Clay/Silt/Sand	Assessment	No Change	Barium, Cadmium	None	-	15/28	-
MW-22	Clay/Sand	Assessment	No Change	Barium, Cadmium, Nickel, Benzene	None	-	18/34	-
MW-24	Clay/Sand	Assessment	No Change	Copper	None	-	18/34	-
MW-25	Clay	Assessment	No Change	None	None	-	19/33	-
Bedrock								
MW-49BG	Limestone	Background	No Change	Not Applicable	Not Applicable	15/14	-	-
MW-11	Sand/Gravel, Clay, Limestone	Assessment	No Change	cis-1,2-Dichloroethene	None	-	19/38	-
Corrective Action								
MW-4	Sand	Source Characterization	No Change	Not Applicable	Not Applicable	-	-	19/37
MW-12R	Clay	Source Characterization	No Change	Not Applicable	Not Applicable	-	-	19/38
MW-13	Sand/Gravel, Clay, Limestone	Source Characterization	No Change	Not Applicable	Not Applicable	-	-	19/38
MW-23	Clay/Sand	Source Characterization	No Change	Not Applicable	Not Applicable	-	-	18/34
MW-26 (AZPOC)	Clay	Assessment/ Corrective Action	No Change	Sulfide	Not Applicable	-	19/35	-
MW-36 (AZPOC)	Clay/Sand and Gravel	Background Collection/ Corrective Action	No Change	Barium	Not Applicable	-	-	2/2*
MW-37 (AZPOC)	Sand	Background Collection/ Corrective Action	No Change	Acetone	Not Applicable	-	-	2/2*
MW-38	Clay/Sand and Gravel	Source Characterization	No Change	Not Applicable	Not Applicable	-	-	20/20
MW-39	Clay/Silt	Source Characterization	No Change	Not Applicable	Not Applicable	-	-	19/19

Table 1
Monitoring Program Summary
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Monitoring Well	Formation[1]	Current Monitoring Program	Change for Next Sampling Event	Constituents with SSIs during the 2024 Reporting Period[2]	Constituents with SSLs	Total Number of Samples in Each Monitoring Program Inorganic/Organic		
						Detection	Assessment	Corrective Action
Other Monitoring Points								
MW-30	Unknown	Bracketing for Benzene and Vinyl chloride						
MW-31	Unknown	Bracketing for Benzene						
MW-33	Limestone	Bracketing for Benzene and Vinyl Chloride						
MW-34	Limestone	Bracketing for Benzene and Vinyl Chloride						
MW-35	Clay/Silt/Sand and Gravel	Bracketing for Vinyl Chloride						
MW-46	Clay	Bracketing for Arsenic, Barium, and Cobalt						
MW-51	Clay/Sand/Shale	Bracketing for Arsenic, Barium, and Cobalt						
MW-56	Sandy Clay	Bracketing for Barium						
MW-57	Sandy Clay	Bracketing for Barium						

Notes:

[1] Obtained from screened interval in boring logs or cross sections.

[2] A single exceedance of an organic parameter or sulfide in an assessment /corrective action monitoring well is recorded above as an SSI. Retesting is not performed as these monitoring wells are not in the detection monitoring program.

SSL = Statistically Significant Level above groundwater protection standards.

SSI = Statistically Significant Increase above background.

* - Monitoring wells MW-36 and MW-37 have multiple samples for select parameters. However, as newly designated AZPOC monitoring wells, analysis of the full Appendix I began during this reporting period.

Table 2
Monitoring Program Implementation Schedule
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Monitoring Well	Recent Sampling Dates and Constituents		Upcoming Sampling Dates and Constituents		Full Appendix II Sample Dates	
	June 2024	November 2024	1st 2025 Semi-Annual	2nd 2025 Semi-Annual	Previously Collected	Next Event
MW-29	Metals List, TSS		Metals List, TSS		Not Applicable	Not Applicable
MW-49BG	Metals List, TSS		Metals List, TSS		Not Applicable	Not Applicable
MW-50BG	Metals List, TSS		Metals List, TSS		Not Applicable	Not Applicable
MW-2	Metals List, TSS	Metals List, TSS	Appendix II, TSS	Metals List, TSS	1/27/2010, 9/7/2010, 9/28/2015, 2/26/2020	2025
MW-4	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS, Natural Attenuation	1/27/2010, 9/7/2010, 9/28/2015, 2/26/2020	Not Applicable
MW-9	Metals List, TSS, Appendix I VOCs	Metals List, TSS, Appendix I VOCs	Metals List, TSS, Appendix I VOCs	Metals List, TSS, Appendix I VOCs	7/13/2009, 9/7/2010, 2/10/2016, 4/27/2021	2026
MW-10A	Metals List, TSS		Appendix II, TSS		1/27/2010, 9/7/2010, 9/28/2015, 2/26/2020	2025
MW-11	Metals List, TSS, Appendix I VOCs	Metals List, TSS, Appendix I VOCs	Appendix II, TSS	Metals List, TSS, Appendix I VOCs	7/13/2009, 9/7/2010, 9/28/2015, 9/15/2020	2025
MW-12R	Appendix I, TSS, 2,4,5-TP [Silvex]	Appendix I, TSS, 2,4,5-TP [Silvex]	Appendix I, TSS, 2,4,5-TP [Silvex]	Appendix I, TSS, 2,4,5-TP [Silvex], Natural Attenuation	7/13/2009, 9/7/2010, 9/28/2015, 9/15/2020	Not Applicable
MW-13	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS	7/13/2009, 9/7/2010, 9/28/2015, 4/27/2021	Not Applicable
MW-20	Not Sampled (Dry)	Not Sampled (Dty)	Metals List, TSS		1/27/2010, 9/7/2010, 2/10/2016, 4/27/2021	2026
MW-21	Metals List, TSS	Metals List, TSS	Metals List, TSS	Metals List, TSS	7/13/2009, 9/7/2010, 2/10/2016, 4/27/2021	2026
MW-22	Metals List, TSS, Appendix I VOCs	Metals List, TSS, Appendix I VOCs	Appendix II, TSS	Metals List, TSS, Appendix I VOCs	7/13/2009, 9/7/2010, 9/28/2015, 2/26/2020	2025
MW-23	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS, Natural Attenuation	7/13/2009, 9/7/2010, 9/28/2015, 2/26/2020	Not Applicable
MW-24	Metals List, TSS		Appendix II, TSS		1/27/2010, 9/7/2010, 9/28/2015, 9/15/2020	2025
MW-25	Metals List, TSS	Metals List, TSS	Appendix II, TSS	Metals List, TSS	7/13/2009, 9/7/2010, 9/28/2015, 9/15/2020	2025
MW-26	Appendix II, TSS	Appendix I metals, TSS, Sulfide*	Appendix I, TSS, Sulfide	Appendix I, TSS, Sulfide, Natural Attenuation	3/26/2014, 9/11/2014, 4/23/2019, 6/25/2024	2029
MW-36	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS, Natural Attenuation	Not Applicable	Not Applicable
MW-37	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS, Natural Attenuation	Not Applicable	Not Applicable
MW-38	Metals List, TSS, Endosulfan I	Metals List, TSS, Endosulfan I	Appendix I, TSS, Endosulfan I	Appendix I, TSS, Endosulfan I, Natural Attenuation	2/10/2016, 2/14/2017, 10/26/2022	Not Applicable
MW-39	Metals List, TSS, Endosulfan I	Metals List, TSS, Endosulfan I	Appendix I, TSS, Endosulfan I	Appendix I, TSS, Endosulfan I, Natural Attenuation	2/10/2016, 2/14/2017, 5/24/2022	Not Applicable

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2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Monitoring Well	Recent Sampling Dates and Constituents		Upcoming Sampling Dates and Constituents		Full Appendix II Sample Dates	
	June 2024	November 2024	1st 2025 Semi-Annual	2nd 2025 Semi-Annual	Previously Collected	Next Event
MW-30	Vinyl Chloride		Vinyl Chloride		Not Applicable	Not Applicable
MW-31	Benzene		Benzene		Not Applicable	Not Applicable
MW-33	Benzene, Vinyl Chloride		Benzene, Vinyl Chloride		Not Applicable	Not Applicable
MW-34	Benzene, Vinyl Chloride		Benzene, Vinyl Chloride		Not Applicable	Not Applicable
MW-35	Vinyl Chloride		Vinyl Chloride		Not Applicable	Not Applicable
MW-46	Barium, TSS		Barium, TSS		Not Applicable	Not Applicable
MW-51	Barium, TSS		Barium, TSS		Not Applicable	Not Applicable
MW-56	Not Sampled (Inaccessible)	Not Sampled (Dty)	Barium, TSS		Not Applicable	Not Applicable
MW-57	Not Sampled (Dry)		Barium, TSS		Not Applicable	Not Applicable

Notes:

TSS - Total Suspended Solids.

"Metals List" includes arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, and zinc.

"Natural Attenuation" includes nitrate, manganese, iron, and sulfate.

* - MW-26 had insufficient volume to perform VOC analysis.

Table 3
Monitoring Well Maintenance and Performance Re-evaluation Schedule
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Compliance with:	2022	2023	2024	2025	2026
567 IAC 113.10(2)"f"(1) high and low water levels (biennial)	Completed		Included		Scheduled
567 IAC 113.10(2)"f"(2) changes in the hydrologic setting and flow paths	Completed	Completed	Included	Scheduled	Scheduled
567 IAC 113.10(2)"f"(3) well depths	Completed	Completed	Included	Scheduled	Scheduled
567 IAC 113.10(2)"f"(4) well recharge rates and chemistry (biennial)	Completed		Included		Scheduled
Waste separation from groundwater 113.6(2)"l"	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Table 4
Monitoring Well Maintenance and Performance Summary
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Well	Top of Casing	Top of Screen	Total Depth		Date of Measurements		Maximum Depth Discrepancy (ft)	Baseline Recharge Rate* (L/min)/date	Current Recharge Rate	
					June 2024	October 2024			6/24/2024	% Change
MW-29	780.3	770.3	20.0	Groundwater Level (ft)	17.23	NM	-0.4	0.14 9/29/2015	0.175	25%
				Groundwater Elevation (Ft MSL)	763.07	NA				
				Measured Well Depth (ft)	20.4	NM				
				Submerged screen	N	NA				
MW-49BG	677.6	608.1	76.0	Groundwater Level (ft)	20.95	NM	NA	0.16 7/17/2018	0.208	28%
				Groundwater Elevation (Ft MSL)	656.64	NA				
				Measured Well Depth (ft)	NM	NM				
				Submerged screen	Y	NA				
MW-50BG	690.9	674.2	26.7	Groundwater Level (ft)	14.36	NM	-0.3	0.15 7/17/2018	0.175	14%
				Groundwater Elevation (Ft MSL)	676.51	NA				
				Measured Well Depth (ft)	27.0	NM				
				Submerged screen	Y	NA				
MW-2	702.8	690.8	20.0	Groundwater Level (ft)	10.86	12.17	-3.8	0.10 9/30/2015	0.158	58%
				Groundwater Elevation (Ft MSL)	691.94	690.63				
				Measured Well Depth (ft)	23.8	23.8				
				Submerged screen	Y	N				
MW-4	707.7	697.7	18.0	Groundwater Level (ft)	9.26	9.91	1.8	0.10 9/29/2015	0.175	75%
				Groundwater Elevation (Ft MSL)	698.44	697.79				
				Measured Well Depth (ft)	16.2	16.2				
				Submerged screen	Y	Y				
MW-9	697.5	691.5	20.0	Groundwater Level (ft)	11.30	12.31	-2.6	0.10 2/10/2016	0.150	50%
				Groundwater Elevation (Ft MSL)	686.18	685.17				
				Measured Well Depth (ft)	22.6	22.5				
				Submerged screen	N	N				
MW-10A	691.2	684.2	20.0	Groundwater Level (ft)	8.35	NM	0.4	0.10 9/29/2015	0.175	75%
				Groundwater Elevation (Ft MSL)	682.85	NA				
				Measured Well Depth (ft)	19.6	NM				
				Submerged screen	N	NA				
MW-11	684.5	676.5	23.0	Groundwater Level (ft)	8.14	8.77	4.3	0.12 9/30/2015	0.167	39%
				Groundwater Elevation (Ft MSL)	676.36	675.73				
				Measured Well Depth (ft)	18.7	18.7				
				Submerged screen	N	N				
MW-12R	700.3	691.5	18.8	Groundwater Level (ft)	7.54	8.00	1.3	0.10 9/29/2015	0.200	100%
				Groundwater Elevation (Ft MSL)	692.76	692.30				
				Measured Well Depth (ft)	17.5	18.5				
				Submerged screen	Y	Y				
MW-13	684.2	656.7	37.0	Groundwater Level (ft)	18.58	9.14	-0.7	0.12 9/30/2015	0.167	39%
				Groundwater Elevation (Ft MSL)	665.62	675.06				
				Measured Well Depth (ft)	37.7	37.6				
				Submerged screen	Y	Y				
MW-20	690.1	682.3	12.8	Groundwater Level (ft)	Dry	13.05	-0.4	0.10 2/10/2016	NM	NA
				Groundwater Elevation (Ft MSL)	NA	677.05				
				Measured Well Depth (ft)	13.2	13.2				
				Submerged screen	N	N				
MW-21	696.3	686.3	20.0	Groundwater Level (ft)	16.36	16.94	-0.4	0.13 2/10/2016	0.150	20%
				Groundwater Elevation (Ft MSL)	679.94	679.36				
				Measured Well Depth (ft)	20.4	20.4				
				Submerged screen	N	N				
MW-22	689.0	679.0	20.0	Groundwater Level (ft)	12.27	13.28	-0.5	0.10 9/30/2015	0.192	92%
				Groundwater Elevation (Ft MSL)	676.73	675.72				
				Measured Well Depth (ft)	20.5	20.4				
				Submerged screen	N	N				
MW-23	755.4	731.4	54.2	Groundwater Level (ft)	46.85	47.25	NA	0.30 9/28/2015	NM	NA
				Groundwater Elevation (Ft MSL)	708.55	708.15				
				Measured Well Depth (ft)	NM	NM				
				Submerged screen	N	N				
MW-24	715.5	705.5	20.0	Groundwater Level (ft)	10.96	NM	-0.5	0.16 9/28/2015	0.175	9%
				Groundwater Elevation (Ft MSL)	704.54	NA				
				Measured Well Depth (ft)	20.5	NM				
				Submerged screen	N	NA				
MW-25	697.5	687.5	20.0	Groundwater Level (ft)	11.11	12.30	-0.4	0.08 9/28/2015	0.167	109%
				Groundwater Elevation (Ft MSL)	686.39	685.20				
				Measured Well Depth (ft)	20.4	20.4				
				Submerged screen	N	N				
MW-26	701.8	691.8	15.0	Groundwater Level (ft)	7.31	10.52	-0.3	0.15 9/29/2015	0.217	45%
				Groundwater Elevation (Ft MSL)	694.49	691.28				
				Measured Well Depth (ft)	15.3	15.3				
				Submerged screen	Y	N				

Table 4
Monitoring Well Maintenance and Performance Summary
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Well	Top of Casing	Top of Screen	Total Depth		Date of Measurements		Maximum Depth Discrepancy (ft)	Baseline Recharge Rate* (L/min)/date	Current Recharge Rate	
					June 2024	October 2024			6/24/2024	% Change
MW-38	740.9	733.3	29.8	Groundwater Level (ft)	17.33	17.99	0.3	0.10 9/28/2015	0.175	75%
				Groundwater Elevation (Ft MSL)	723.57	722.91				
				Measured Well Depth (ft)	29.5	29.5				
				Submerged screen	N	N				
MW-39	756.0	751.2	26.7	Groundwater Level (ft)	14.82	21.11	-0.8	0.10 9/29/2015	0.175	75%
				Groundwater Elevation (Ft MSL)	741.18	734.89				
				Measured Well Depth (ft)	27.5	27.0				
				Submerged screen	N	N				

Notes:

NA - Not Available

NM - Not Measured.

Comments:

1) Monitoring wells with dedicated sampling pumps are measured once every 5 years. Monitoring wells MW-23 and MW-49BG were last measured during the 2020 reporting period. Well depths for monitoring wells MW-49BG and MW-23 will be measured next during the 2025 reporting period.

2) Measured well depths were within 1.8 foot of the installed depth with the following exceptions:

MW-2: The measured well depths have been consistent over the past several reporting periods. It is likely that the reported installed depth was based on the ground level rather than the top of casing.

MW-9: The measured well depths have been consistent over the past several reporting periods. It is likely that the reported installed depth based on the ground level rather than the top of casing.

MW-11: The measured well depths have been consistent over the past several reporting periods. It does not appear that siltation is adversely impacting the ability of the monitoring well to consistently produce samples.

Table 5
Background and GWPS Summary
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Background/GWPS Water Table (MW-29 and MW-50BG)

Constituent	Units	Samples	Detections	Min	Max	Mean	Background Level	Statistical Test	GWPS	Source
Antimony (Sb)	mg/L	28	1	0.0005 (1/2 RL)	0.001 (1/2 RL)	0.00066	0.001	PL (NP)	0.006	MCL
Arsenic (As)	mg/L	30	7	0.00053*	0.00768	0.00148	0.00768	PL (NP)	0.01	MCL
Barium (Ba)	mg/L	30	30	0.0444	0.303	0.15279	0.303	PL (NP)	2	MCL
Beryllium (Be)	mg/L	28	1	0.000272*	0.0005 (1/2 RL)	0.00049	0.0005	PL (NP)	0.004	MCL
Cadmium (Cd)	mg/L	30	4	0.00005 (1/2 RL)	0.00025 (1/2 RL)	0.00016	0.00025	PL (NP)	0.005	MCL
Chromium (Cr)	mg/L	30	9	0.0011*	0.00832	0.00248	0.00832	PL (NP)	0.1	MCL
Cobalt (Co)	mg/L	30	23	0.000068*	0.00797	0.00223	0.00797	PL (NP)	0.00797	SSS
Copper (Cu)	mg/L	30	4	0.001 (1/2 RL)	0.00516	0.00253	0.00516	PL (NP)	1.3	MCL
Lead (Pb)	mg/L	30	8	0.00014*	0.00312	0.00045	0.00312	PL (NP)	0.015	MCL
Nickel (Ni)	mg/L	30	17	0.00103*	0.0168	0.00771	0.0168	PL (NP)	0.1	SWS
Selenium (Se)	mg/L	28	10	0.00096*	0.0025 (1/2 RL)	0.00212	0.0025	PL (NP)	0.05	MCL
Silver (Ag)	mg/L	28	2	0.000142*	0.0005 (1/2 RL)	0.00048	0.0005	PL (NP)	0.1	SWS
Thallium (Tl)	mg/L	28	4	0.000026*	0.00154	0.00053	0.00154	PL (NP)	0.002	MCL
Vanadium (V)	mg/L	28	15	0.000546*	0.0112	0.00234	0.0112	PL (NP)	0.035	SWS
Zinc (Zn)	mg/L	30	4	0.005 (1/2 RL)	0.04 (1/2 RL)	0.01102	0.04	PL (NP)	2	SWS

Background/GWPS Bedrock (MW-49BG)

Constituent	Units	Samples	Detections	Min	Max	Mean	Background Level	Statistical Test	GWPS	Source
Antimony (Sb)	mg/L	14	1	0.0005 (1/2 RL)	0.001 (1/2 RL)	0.00080	0.001	PL (NP)	0.006	MCL
Arsenic (As)	mg/L	15	14	0.001 (1/2 RL)	0.00354	0.00211	0.003327	PL (P)	0.01	MCL
Barium (Ba)	mg/L	15	15	0.059	2.8	1.93193	2.716	PL (P)	2.716	SSS
Beryllium (Be)	mg/L	14	1	0.000308*	0.001 (1/2 RL)	0.00056	0.001	PL (NP)	0.004	MCL
Cadmium (Cd)	mg/L	15	2	0.00005 (1/2 RL)	0.0005 (1/2 RL)	0.00020	0.0005	PL (NP)	0.005	MCL
Chromium (Cr)	mg/L	15	2	0.00101*	0.005 (1/2 RL)	0.00285	0.005	PL (NP)	0.1	MCL
Cobalt (Co)	mg/L	15	15	0.0049	0.0123	0.00695	0.01036	PL (P)	0.01036	SSS
Copper (Cu)	mg/L	15	3	0.0025 (1/2 RL)	0.0286	0.00513	0.0286	PL (NP)	1.3	MCL
Lead (Pb)	mg/L	15	5	0.00025 (1/2 RL)	0.00225	0.00051	0.00225	PL (NP)	0.015	MCL
Nickel (Ni)	mg/L	15	15	0.00485*	0.0186	0.00784	0.0142	PL (P)	0.1	SWS
Selenium (Se)	mg/L	14	1	0.000971*	0.005 (1/2 RL)	0.00293	0.005	PL (NP)	0.05	MCL
Silver (Ag)	mg/L	14	2	0.0005 (1/2 RL)	0.001 (1/2 RL)	0.00063	0.001	PL (NP)	0.1	SWS
Thallium (Tl)	mg/L	14	1	0.0005 (1/2 RL)	0.001 (1/2 RL)	0.00062	0.001	PL (NP)	0.002	MCL
Vanadium (V)	mg/L	14	3	0.00096*	0.005 (1/2 RL)	0.00280	0.005	PL (NP)	0.035	SWS
Zinc (Zn)	mg/L	15	0	0.01 (1/2 RL)	0.04 (1/2 RL)	0.01400	< 0.08	DQR	2	SWS

Background levels based on calculated prediction limits or reporting limit, as applicable.

* Indicates a J flag; concentration is below the reporting limit but above the method detection limit. The concentration is estimated.

Acronyms/Abbreviations:

RL = Reporting Limit
GWPS = Groundwater Protection Standard (mg/L)
DQR = Double Quantification Rule
SSS = Site-Specific GWPS
SWS = Statewide Standard
PL = Prediction Limit
MCL = EPA Maximum Contaminant Level
NP = Non-Parametric
P = Parametric

Comments:

1) **Water quality results and effectiveness of the statistical data evaluation criteria:** Statistical evaluations consist of prediction limits, double quantification rule, and confidence intervals/confidence bands, as appropriate. Data from the background wells is not used for development of the confidence intervals or confidence bands.
2) **Changes to the previous statistical method during reporting period:** There were no changes to the statistical method during this reporting period.
3) **Re-sampling strategy:** Retesting is performed on a 1-of-2 scheme.
4) **Justification for data exclusion:** Due to the effect of elevated TSS on inorganic concentrations, data obtained prior to the implementation of low-flow sampling was removed from statistical consideration.

Table 6
Summary of Well/Detected Constituent Pairs With No Previous SSIs
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Well	Constituent	Units	Most Recent Result	Background Standard
MW-2	Cobalt	mg/L	0.000917	0.00797
MW-11	cis-1,2-Dichloroethene	µg/L	3.36	< 1
MW-21	Barium	mg/L	0.128	0.303
	Cadmium	mg/L	< 0.0002	0.00025
MW-22	Cadmium	mg/L	0.000219	0.00025
	Nickel	mg/L	0.0182	0.0168
MW-24	Copper	mg/L	0.00597	0.00516
MW-26	Sulfide	mg/L	1.1	<1
MW-36	Barium	mg/L	0.398	0.303
MW-37	Acetone	µg/L	6.52*	<10

Notes:

1) Criteria for inclusion in this table is a well/constituent pair with an indicated SSI during the 2024 reporting period and without an indicated SSI in the 2023 reporting period.
2) A single exceedance of an inorganic parameter or sulfide in an assessment/corrective action monitoring well is recorded above as an SSI. Retesting is not performed as the monitoring wells are not in the detection monitoring program.

Comments:

1) **Problems with the current detection network:** None.
2) **Schedule to implement remedies:** Not applicable.
3) **Alternative constituent or sample frequency changes:** None.
4) **Retesting scheme:** If any monitoring well returns to the detection monitoring program, retesting will be performed on a 1-of 2 retesting scheme.

Table 7
Summary of Ongoing and Newly Identified SSIs
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Well	Constituent	Units	Most Recent Result	Background Standard	Lower Confidence Limit	GWPS	Sample Dates		
							Initial Exceedance	Resample(s)	5th background sample
MW-2	Barium	mg/L	0.363	0.303	0.2476	2	11/7/2023	NM	9/19/2017
	Cobalt	mg/L	0.000917	0.00797	0.000163	0.00797	6/24/2024	NM	9/19/2017
MW-9	Barium	mg/L	0.991	0.303	0.004865	2	11/7/2023	NM	4/11/2018
	Cadmium	mg/L	0.000122*	0.00025	0.00004788	0.005	11/7/2023	NM	4/11/2018
	Cobalt	mg/L	0.0178	0.00797	0.004865	0.00797	11/7/2023	NM	4/11/2018
	Nickel	mg/L	0.0149	0.0168	0.01041	0.1	11/7/2023	NM	4/11/2018
	Benzene	µg/L	0.773	< 0.5	0.3834	5	9/28/1994	NM	1/21/2002
	Chlorobenzene	µg/L	29.6	< 1	7.53	100	3/6/2007	NM	7/8/2008
	cis-1,2-Dichloroethene	µg/L	1.37	< 1	0.8841	70	3/6/2007	NM	7/8/2008
MW-10A	Barium	mg/L	0.413	0.303	0.2185	2	11/7/2023	NM	9/19/2017
MW-11	cis-1,2-Dichloroethene	µg/L	3.36	< 1	0.1683	70	10/21/2024	NM	7/8/2008
MW-20	None								
MW-21	Barium	mg/L	0.128	0.303	0.0713	2	6/24/2024	NM	8/7/2018
	Cadmium	mg/L	< 0.0002	0.00025	0.000049	0.005	6/24/2024	NM	8/7/2018
MW-22	Barium	mg/L	0.732	0.303	0.3181	2	11/7/2023	NM	9/19/2017
	Cadmium	mg/L	0.000219	0.00025	0.00005	0.005	6/24/2024	NM	9/19/2017
	Nickel	mg/L	0.0182	0.0168	0.005519	0.0168	10/21/2014	NM	9/19/2017
	Benzene	µg/L	0.623	< 0.5	0.3553	5	1/29/2009	NM	9/7/2009
MW-24	Copper	mg/L	0.00597	0.00516	0.00221	1.3	6/24/2024	NM	9/19/2017
MW-25	None								
MW-26	Sulfide	mg/L	1.1	< 1	0	1	6/24/2024	NM	10/21/2024
MW-36	Barium	mg/L	0.398	0.303	0.0304	2	10/21/2024	NM	4 samples collected
MW-37	Acetone	µg/L	6.52*	<10	Insufficient data	6300	6/24/2024	NM	2 samples collected

Notes:

1) A single exceedance of an inorganic parameter or sulfide in an assessment/corrective action monitoring well is recorded above as an SSI. Retesting is not performed as the monitoring wells are not in the detection monitoring program.
2) Ongoing SSI is defined as an indicated SSI for a monitoring well/constituent pair in both the 2023 and 2024 reporting periods.

NM - Not Measured; retesting of constituents with indicated SSIs above background was not part of the statistical methodology performed by the previous consultant. For this reason, monitoring wells were moved to the assessment monitoring program following the collection of the 5th background sample.

* - J flag; concentration was below the reporting limit but above the method detection limit, the concentration is estimated.

Shaded indicates a newly indicated SSI during the 2024 reporting period.

Comments:

1) **Problems with the current assessment network:** None.
2) **Proposed remedies:** None.
3) **Alternative constituent of sample frequency changes:** None.
4) **Plume delineation strategies:** See discussion of Figures 5 through 9.

Table 8
Summary of Ongoing and Newly Identified SSLs
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

AZPOC Well	Original Well(s)	Constituent	Units	Most Recent Result	Upper Confidence Limit	GWPS	Initial Exceedance	Upper Confidence Limit Below GWPS					
								1st Year		2nd Year		3rd Year	
MW-26													
	MW-4, MW-38	Arsenic	mg/L	0.001125	0.00314	0.01	2019	10/24	NA	NA	NA	NA	NA
	MW-38	Barium	mg/L	0.1255	0.1323	2	2019	10/24	NA	NA	NA	NA	NA
	MW-38, MW-39	Cobalt	mg/L	0.00147	0.002078	0.00797	2019	10/24	NA	NA	NA	NA	NA
MW-36													
	MW-12R	Arsenic	mg/L	<0.002	None	0.01	2023	NA	NA	NA	NA	NA	NA
	MW-12R	Barium	mg/L	0.398	0.4741	2	2020	10/24	NA	NA	NA	NA	NA
	MW-12R	Cobalt	mg/L	0.00173*	None	0.00797	2022	NA	NA	NA	NA	NA	NA
MW-37													
	MW-23	Benzene	µg/L	<0.5	None	5	2013	NA	NA	NA	NA	NA	NA
None*	MW-13	Vinyl Chloride	µg/L	2.805	3.074	2	2015	NA	NA	NA	NA	NA	NA

Notes

1) * - Monitoring well MW-13 does not utilize an AZPOC monitoring well to evaluate compliance.
2) "None" indicates that the AZPOC monitoring well does not have sufficient data to calculate confidence intervals for this constituent (4 samples are needed). Sufficient data is anticipated to be available for the 2nd 2025 statistical evaluation.
3) NA - Indicates that the constituent-monitoring point dataset has not satisfied the statistical requirements of IAC 567-113.10(9)"e"(2), which is identified by the entire confidence interval or entire upper confidence band, as appropriate, being below the GWPS.
4) The "Selection of Remedy and Corrective Action Groundwater Monitoring Program" was submitted on May 9, 2024 (Doc #110026). This date is considered the beginning of the three year period specified in IAC 567-113.10(9)*e* (2).

Table 9
Summary of Groundwater Chemistry
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

The Summary of Groundwater Chemistry tables for the HMSP monitoring network is located in Appendix C-1.

The Summary of Groundwater Chemistry tables for the bracketing monitoring wells is located in Appendix C-2.

Table 10
Historical SSIs and SSLs
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Key

SSI - Statistically Significant Increase Above Background

SSL - Statistically Significant Level Above a Groundwater Protection Standard

Well	Constituent	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	Spring 2024	Fall 2024
MW-2	Barium												
	Cobalt												
	Nickel												
MW-9	Arsenic												
	Barium												
	Cadmium												
	Cobalt												
	Nickel												
	Benzene												
	Chlorobenzene												
	cis-1,2-Dichloroethene												
MW-10A	Barium												
	Zinc												
MW-11	Chromium												
	cis-1,2-Dichloroethene												
MW-20	Selenium										NS		NS
MW-21	Barium										NS		NS
	Cadmium												
MW-22	Barium							NS					
	Cadmium												
	Nickel							NS					
	Benzene							NS					
MW-24	Copper												
MW-25	None												
MW-26	Sulfide												
MW-36	Barium												
MW-37	Acetone												
Source Wells													
MW-4	Arsenic												
	Barium												
	Toluene												
MW-12R	Arsenic												
	Barium												
	Cobalt												
	Nickel												
	Benzene												
	Chlorobenzene												
	2,4,5-TP [Silvex]												
MW-13	Arsenic												
	Thallium												
	1,1-Dichloroethane												
	Benzene												
	cis-1,2-Dichloroethene												
	trans-1,2-Dichloroethene												
	Vinyl Chloride												
MW-23	Arsenic										NS		
	Barium										NS		
	Chromium										NS		
	Cobalt										NS		
	Copper										NS		
	Nickel										NS		
	Benzene												
	Carbon Disulfide										NS		
	Chlorobenzene										NS		
	Chloroethane										NS		
	cis-1,2-Dichloroethene										NS		

Table 10
Historical SSIs and SSLs
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Key

SSI - Statistically Significant Increase Above Background

SSL - Statistically Significant Level Above a Groundwater Protection Standard

Well	Constituent	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	Spring 2024	Fall 2024
MW-38	Arsenic												
	Barium												
	Cobalt												
	Nickel							NS					
	1,1-Dichloroethane							NS					
	1,4-Dichlorobenzene							NS					
	Acetone							NS					
	Benzene							NS					
	Chlorobenzene							NS					
	Ethylbenzene							NS					
	Endosulfan I							NS					
MW-39	Arsenic						NS						
	Barium						NS						
	Cadmium						NS						
	Cobalt												
	Copper						NS						
	Nickel						NS						
	1,2-Dichlorobenzene						NS						
	1,4-Dichlorobenzene						NS						
	Benzene						NS						
	Carbon Disulfide						NS						
	Chlorobenzene						NS						
	Endosulfan I						NS						

Comments:

1) NS - Not Sampled during sampling event due to insufficient water; therefore, statistical analyses were not performed.

2) For the 2022 reporting period and earlier, only initial confirmed SSIs were recorded on this table for inorganic compounds. Beginning in the 2023 reporting period, indicated inorganic SSIs are included in this table.

3) SSIs recorded on this table for monitoring points in the assessment and corrective action monitoring programs are not confirmed.

4) A detection of an organic compound or sulfide is recorded as an SSI for this table.

Table 11
Corrective Action Trend Analysis
2024 Annual Water Quality Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Well	Constituent	Trend	Calculated S	Critical S	Total N
Statistically Significant Trends in Source Wells					
MW-4	Barium	Decreasing	-26	-21	8
MW-38	Chlorobenzene	Increasing	22	21	8

Overall Trends of Detected Appendix I Constituents in Source Wells						
	MW-4	MW-12R	MW-13	MW-23	MW-38	MW-39
Increasing (S = >0):	1	5	5	3	6	3
Decreasing (S = ≤0):	4	2	6	10	5	9

Overall Trends of Detected Appendix I Constituents in AZPOC Wells				
	MW-26	MW-36	MW-37	Total
Increasing (S = >0):	5	NA	NA	28
Decreasing (S = ≤0):	2	NA	NA	38

NA - Not applicable. Monitoring wells MW-36 and MW-37 do not yet have sufficient data of the full Appendix I to perform trend analysis.

Over 73% of the trends are stable or decreasing.

Mann-Kendall/Sen's Slope trending summary tables and graphs are included in Appendix D.

Notes:
N - Number of Samples
S - Mann-Kendall Statistic

Comments:
1) The approved remedy is source control via surface water drainage improvements, leachate management systems, and passive landfill gas vents coupled with monitored natural attenuation (Doc #110026).
2) The source control methods are in place and are addressing groundwater impact.

Figures

Monitoring Well	Current Monitoring Program
Water Table	
MW-29	Background
MW-50BG	Background
MW-2	Assessment
MW-4	Corrective Action
MW-9	Assessment
MW-10A	Assessment
MW-12R	Corrective Action
MW-20	Assessment
MW-21	Assessment
MW-22	Assessment
MW-23	Corrective Action
MW-24	Assessment
MW-25	Assessment
MW-26	Corrective Action
MW-36	Corrective Action
MW-37	Corrective Action
MW-38	Corrective Action
MW-39	Corrective Action
Bedrock	
MW-49BG	Background
MW-11	Assessment
MW-13	Corrective Action

Approved Monitoring Network

Figure 1

Legend

- HMSP Monitoring Well
- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

N E S W

0 275 550 1,100 Feet

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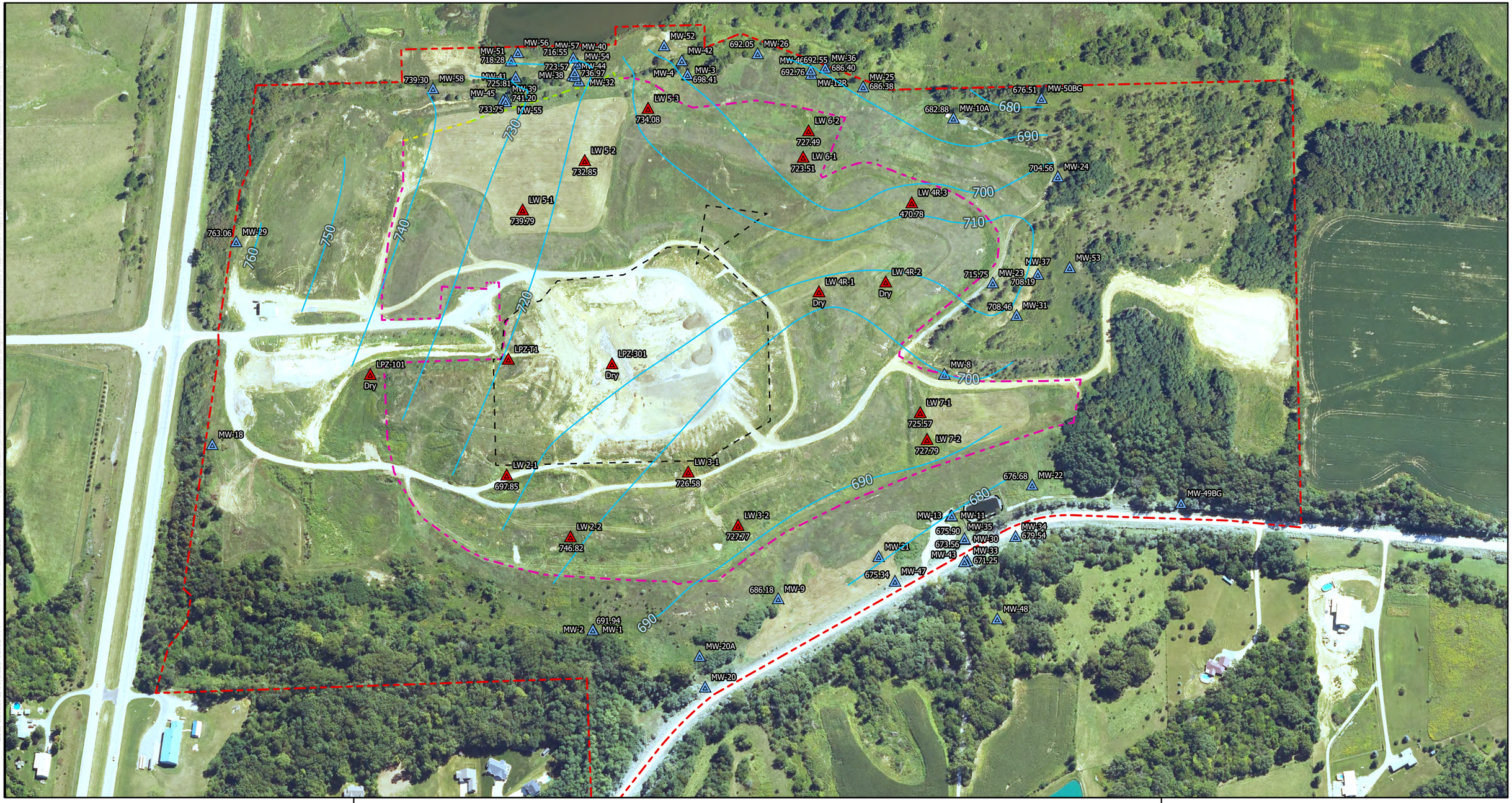

Groundwater Contours

Legend

- Approximate Groundwater Contour Based on Field Measurments Taken June 24-26, 2024
- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

Figure 2

0 275 550 1,100 Feet

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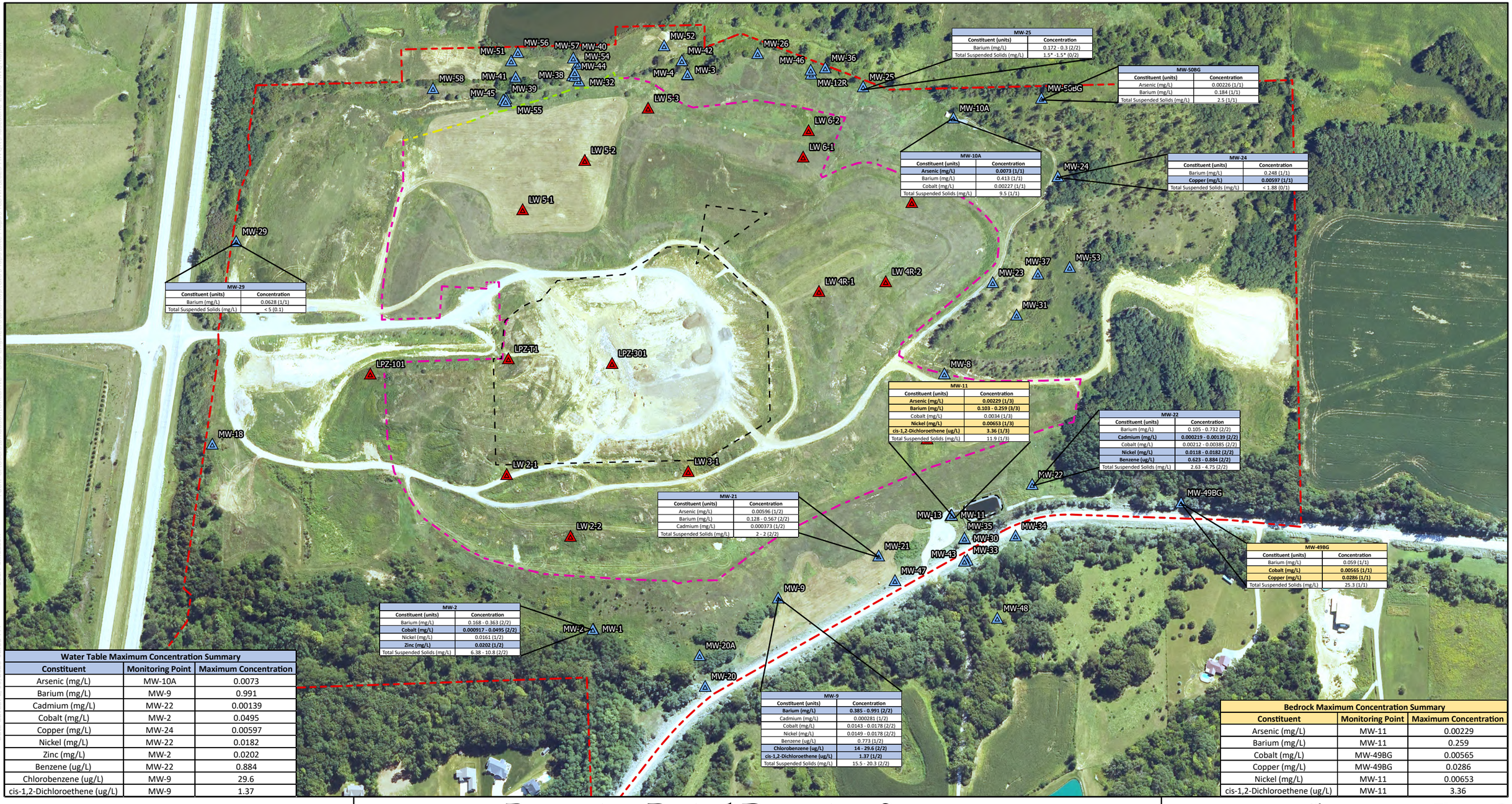

Water Table Maximum Concentration Summary		
Constituent	**Monitoring Point**	**Maximum Concentration**
Arsenic (mg/L)	MW-10A	0.0073
Barium (mg/L)	MW-9	0.991
Cadmium (mg/L)	MW-22	0.00139
Cobalt (mg/L)	MW-2	0.0495
Copper (mg/L)	MW-24	0.00597
Nickel (mg/L)	MW-22	0.0182
Zinc (mg/L)	MW-2	0.0202
Benzene (ug/L)	MW-22	0.884
Chlorobenzene (ug/L)	MW-9	29.6
cis-1,2-Dichloroethene (ug/L)	MW-9	1.37

Bedrock Maximum Concentration Summary		
Constituent	**Monitoring Point**	**Maximum Concentration**
Arsenic (mg/L)	MW-11	0.00229
Barium (mg/L)	MW-11	0.259
Cobalt (mg/L)	MW-49BG	0.00565
Copper (mg/L)	MW-49BG	0.0286
Nickel (mg/L)	MW-11	0.00653
cis-1,2-Dichloroethene (ug/L)	MW-11	3.36

Reporting Period Detection Summary

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Legend

- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary

* J Flag concentrations are not included in the lists of detected parameters

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

Figure 3

E N S W

0 275 550 1,100 Feet

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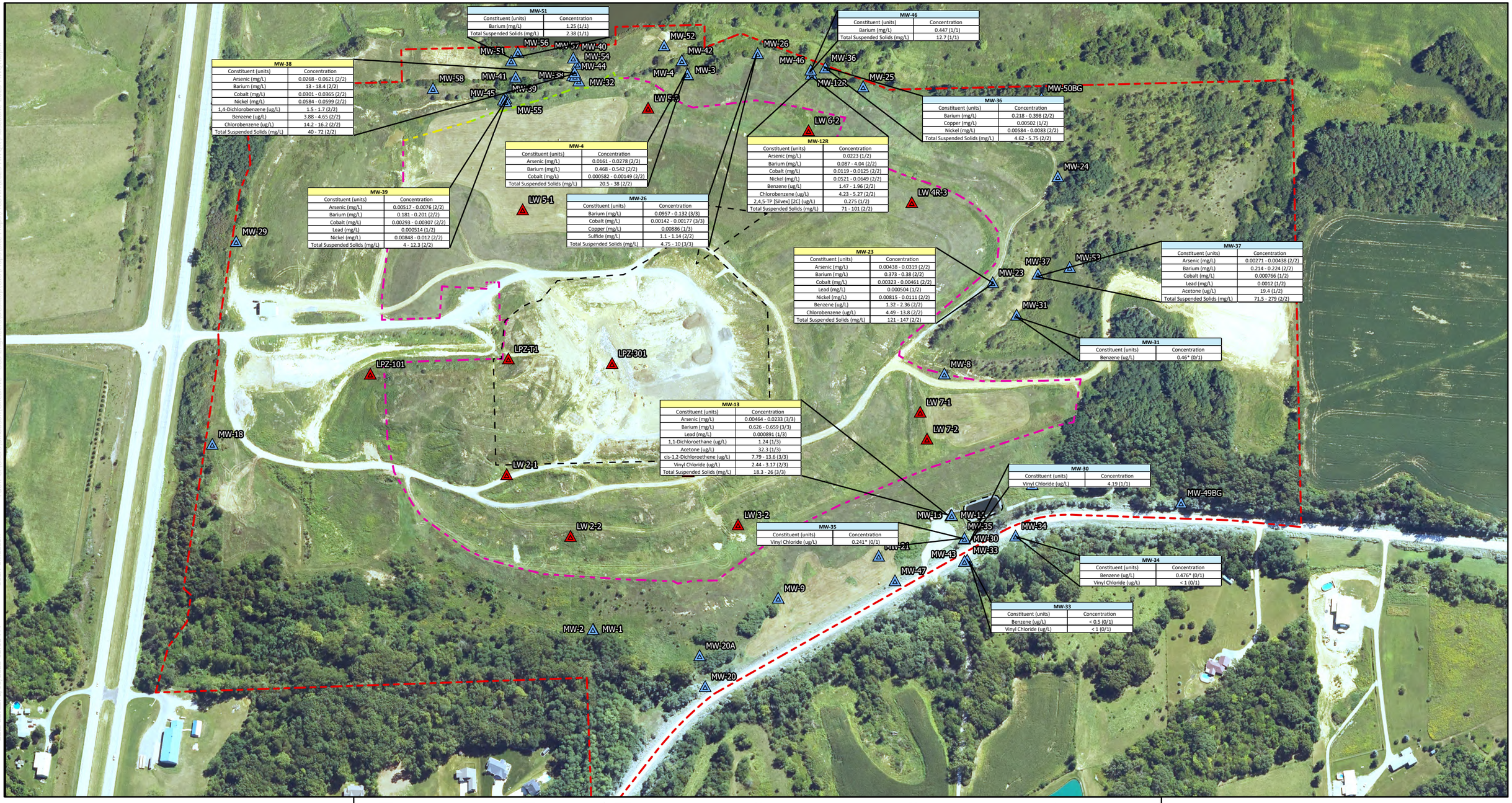

Reporting Period Detection Summary - Corrective Action

Legend

- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary
- Source Well
- Corrective Action Well

* J Flag concentrations are not included in the lists of detected parameters

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

Figure 4

0 275 550 1,100 Feet

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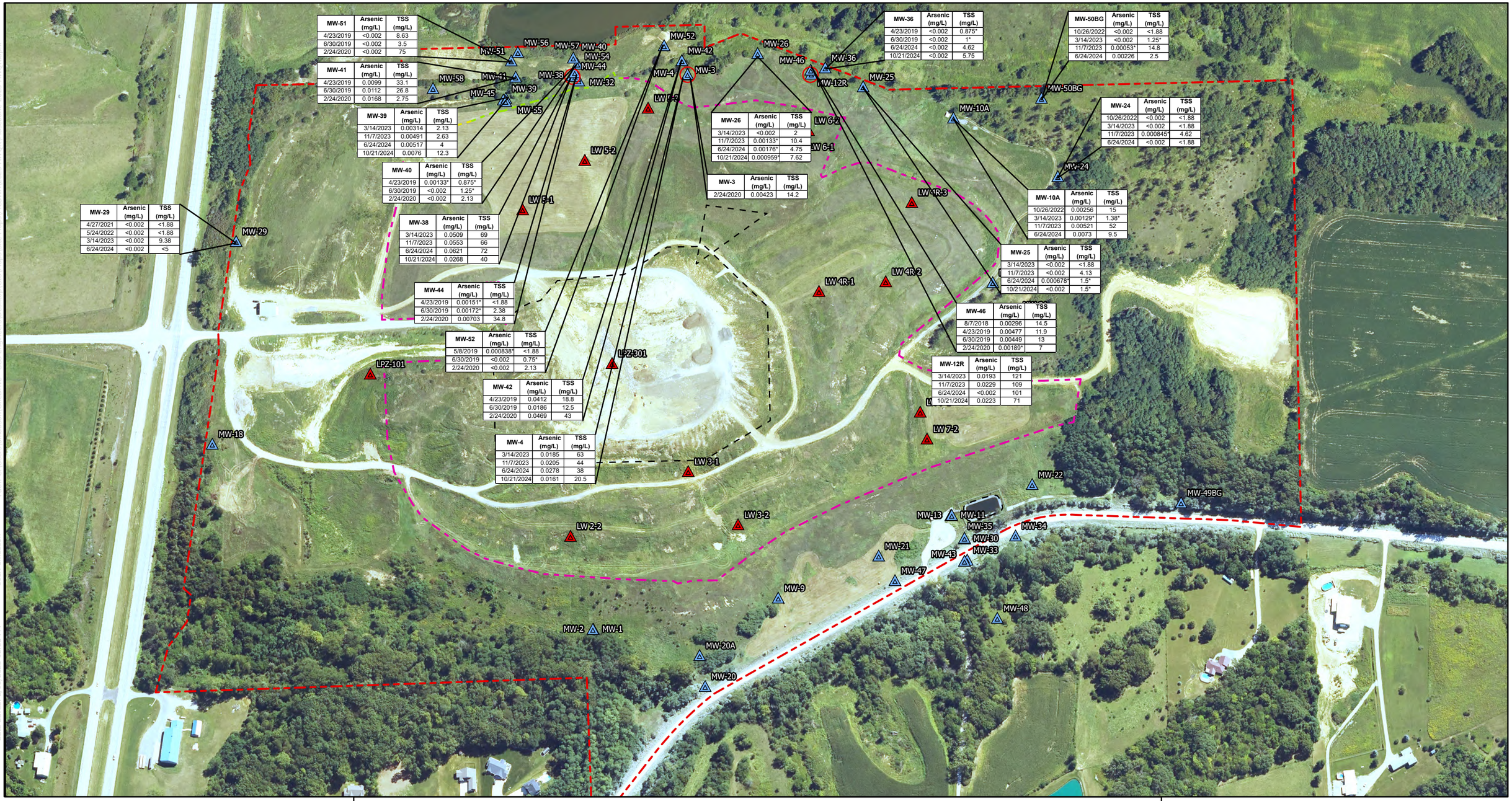

MW-51	Arsenic (mg/L)	TSS (mg/L)
4/23/2019	<0.002	8.63
6/30/2019	<0.002	3.5
2/24/2020	<0.002	75

MW-41	Arsenic (mg/L)	TSS (mg/L)
4/23/2019	0.0099	33.1
6/30/2019	0.0112	26.8
2/24/2020	0.0168	2.75

MW-39	Arsenic (mg/L)	TSS (mg/L)
3/14/2023	0.00314	2.13
11/7/2023	0.00491	2.63
6/24/2024	0.00517	4
10/21/2024	0.0076	12.3

MW-40	Arsenic (mg/L)	TSS (mg/L)
4/23/2019	0.00133*	0.875*
6/30/2019	<0.002	1.25*
2/24/2020	<0.002	2.13

MW-38	Arsenic (mg/L)	TSS (mg/L)
3/14/2023	0.0509	69
11/7/2023	0.0553	66
6/24/2024	0.0621	72
10/21/2024	0.0268	40

MW-29	Arsenic (mg/L)	TSS (mg/L)
4/27/2021	<0.002	<1.88
5/24/2022	<0.002	<1.88
3/14/2023	<0.002	9.38
6/24/2024	<0.002	<5

MW-44	Arsenic (mg/L)	TSS (mg/L)
4/23/2019	0.00151*	<1.88
6/30/2019	0.00172*	2.38
2/24/2020	0.00703	34.8

MW-52	Arsenic (mg/L)	TSS (mg/L)
5/8/2019	0.000838*	<1.88
6/30/2019	<0.002	0.75*
2/24/2020	<0.002	2.13

MW-42	Arsenic (mg/L)	TSS (mg/L)
4/23/2019	0.0412	18.8
6/30/2019	0.0186	12.5
2/24/2020	0.0469	43

MW-4	Arsenic (mg/L)	TSS (mg/L)
3/14/2023	0.0185	63
11/7/2023	0.0205	44
6/24/2024	0.0278	38
10/21/2024	0.0161	20.5

MW-26	Arsenic (mg/L)	TSS (mg/L)
3/14/2023	<0.002	2
11/7/2023	0.00133*	10.4
6/24/2024	0.00176*	4.75
10/21/2024	0.000959*	7.62

MW-3	Arsenic (mg/L)	TSS (mg/L)
2/24/2020	0.00423	14.2

MW-36	Arsenic (mg/L)	TSS (mg/L)
4/23/2019	<0.002	0.875*
6/30/2019	<0.002	1*
6/24/2024	<0.002	4.62
10/21/2024	<0.002	5.75

MW-50BG	Arsenic (mg/L)	TSS (mg/L)
10/26/2022	<0.002	<1.88
3/14/2023	<0.002	1.25*
11/7/2023	0.00053*	14.8
6/24/2024	0.00226	2.5

MW-24	Arsenic (mg/L)	TSS (mg/L)
10/26/2022	<0.002	<1.88
3/14/2023	<0.002	<1.88
11/7/2023	0.000845*	4.62
6/24/2024	<0.002	<1.88

MW-10A	Arsenic (mg/L)	TSS (mg/L)
10/26/2022	0.00256	15
3/14/2023	0.00129*	1.38*
11/7/2023	0.00521	52
6/24/2024	0.0073	9.5

MW-25	Arsenic (mg/L)	TSS (mg/L)
3/14/2023	<0.002	<1.88
11/7/2023	<0.002	4.13
6/24/2024	0.000678*	1.5*
10/21/2024	<0.002	1.5*

MW-46	Arsenic (mg/L)	TSS (mg/L)
8/7/2018	0.00296	14.5
4/23/2019	0.00477	11.9
6/30/2019	0.00449	13
2/24/2020	0.00189*	7

MW-12R	Arsenic (mg/L)	TSS (mg/L)
3/14/2023	0.0193	121
11/7/2023	0.0229	109
6/24/2024	<0.002	101
10/21/2024	0.0223	71

Arsenic Concentration Map

Arsenic Water Table Prediction Limit = 0.00768 mg/L

Legend

- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary
- SSL Well

* J Flag concentrations are not included in the lists of detected parameters

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

Figure 5

N E S W

0 275 550 1,100 Feet

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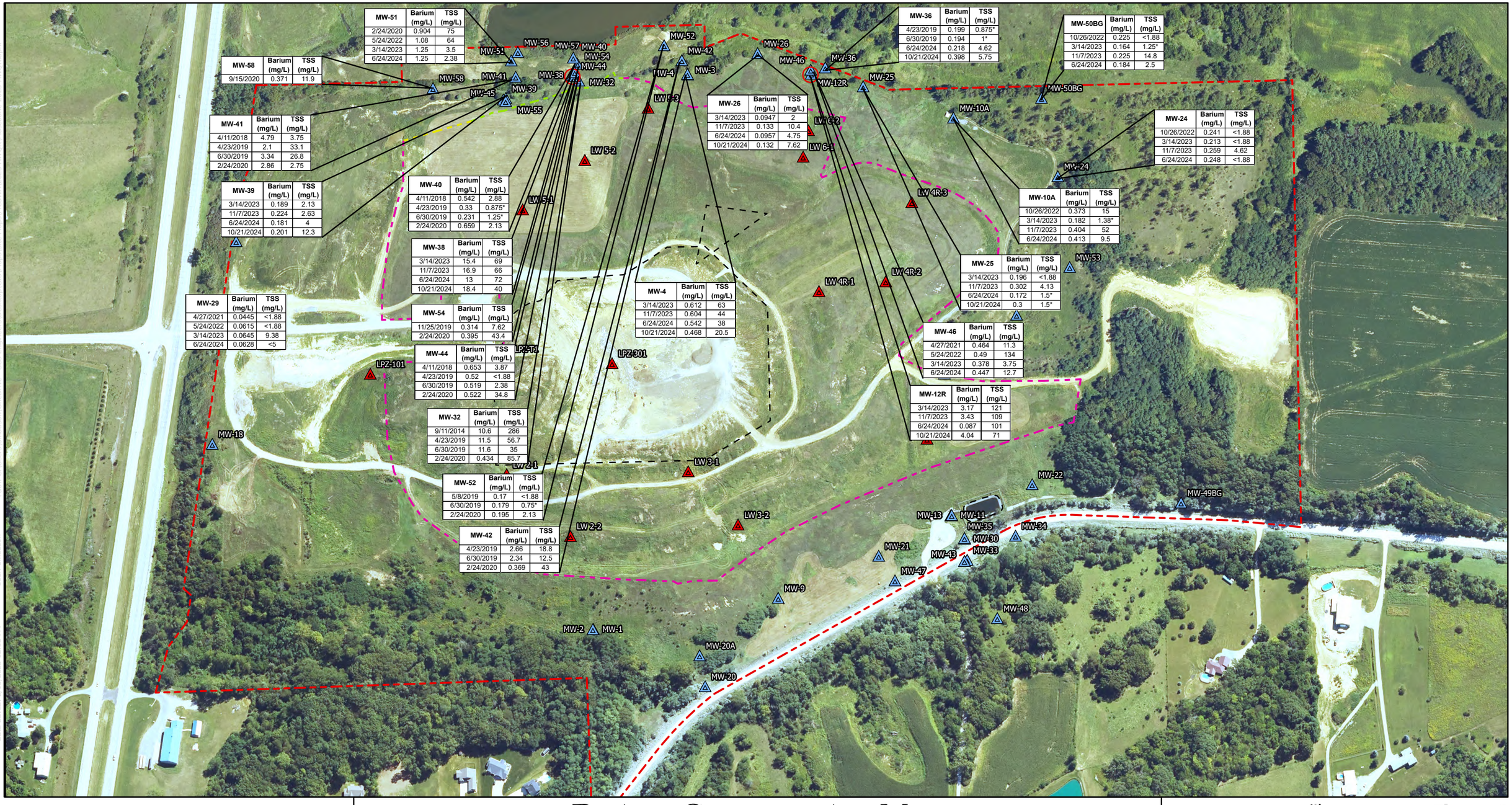

Barium Concentration Map

Figure 6

Legend

Barium Water Table Prediction Limit = 0.303 mg/L

- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary
- SSL Well

* J Flag concentrations are not included in the lists of detected parameters

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

N E S W

0 275 550 1,100 Feet

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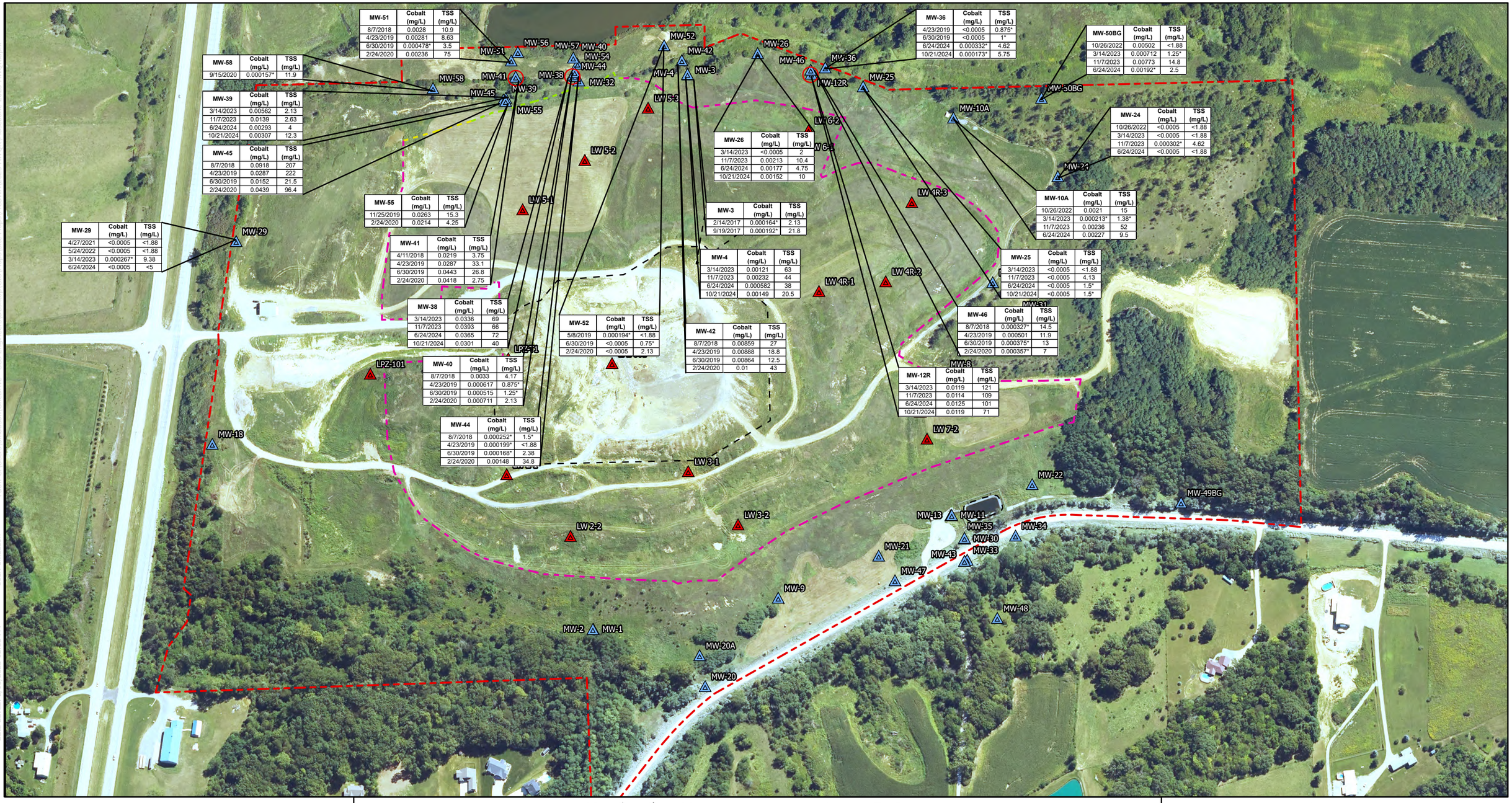

MW-51	Cobalt (mg/L)	TSS (mg/L)
8/7/2018	0.0028	10.9
4/23/2019	0.00281	8.63
6/30/2019	0.000478*	3.5
2/24/2020	0.00236	75

MW-58	Cobalt (mg/L)	TSS (mg/L)
9/15/2020	0.000157*	11.9

MW-39	Cobalt (mg/L)	TSS (mg/L)
3/14/2023	0.00562	2.13
11/7/2023	0.0139	2.63
6/24/2024	0.00293	4
10/21/2024	0.00307	12.3

MW-45	Cobalt (mg/L)	TSS (mg/L)
8/7/2018	0.0918	207
4/23/2019	0.0287	222
6/30/2019	0.0152	21.5
2/24/2020	0.0439	96.4

MW-55	Cobalt (mg/L)	TSS (mg/L)
11/25/2019	0.0263	15.3
2/24/2020	0.0214	4.25

MW-29	Cobalt (mg/L)	TSS (mg/L)
4/27/2021	<0.0005	<1.88
5/24/2022	<0.0005	<1.88
3/14/2023	0.000267*	9.38
6/24/2024	<0.0005	<5

MW-41	Cobalt (mg/L)	TSS (mg/L)
4/11/2018	0.0219	3.75
4/23/2019	0.0287	33.1
6/30/2019	0.0443	26.8
2/24/2020	0.0418	2.75

MW-38	Cobalt (mg/L)	TSS (mg/L)
3/14/2023	0.0336	69
11/7/2023	0.0393	66
6/24/2024	0.0365	72
10/21/2024	0.0301	40

MW-40	Cobalt (mg/L)	TSS (mg/L)
8/7/2018	0.0033	4.17
4/23/2019	0.000617	0.875*
6/30/2019	0.000515	1.25*
2/24/2020	0.000711	2.13

MW-44	Cobalt (mg/L)	TSS (mg/L)
8/7/2018	0.000252*	1.5*
4/23/2019	0.000199*	<1.88
6/30/2019	0.000168*	2.38
2/24/2020	0.00148	34.8

MW-52	Cobalt (mg/L)	TSS (mg/L)
5/8/2019	0.000194*	<1.88
6/30/2019	<0.0005	0.75*
2/24/2020	<0.0005	2.13

MW-42	Cobalt (mg/L)	TSS (mg/L)
8/7/2018	0.00859	27
4/23/2019	0.00888	18.8
6/30/2019	0.00864	12.5
2/24/2020	0.01	43

MW-26	Cobalt (mg/L)	TSS (mg/L)
3/14/2023	<0.0005	2
11/7/2023	0.00213	10.4
6/24/2024	0.00177	4.75
10/21/2024	0.00152	10

MW-3	Cobalt (mg/L)	TSS (mg/L)
2/14/2017	0.000164*	2.13
9/19/2017	0.000192*	21.8

MW-4	Cobalt (mg/L)	TSS (mg/L)
3/14/2023	0.00121	63
11/7/2023	0.00232	44
6/24/2024	0.000582	38
10/21/2024	0.00149	20.5

MW-36	Cobalt (mg/L)	TSS (mg/L)
4/23/2019	<0.0005	0.875*
6/30/2019	<0.0005	1*
6/24/2024	0.000332*	4.62
10/21/2024	0.000173*	5.75

MW-50BG	Cobalt (mg/L)	TSS (mg/L)
10/26/2022	0.00502	<1.88
3/14/2023	0.000712	1.25*
11/7/2023	0.00773	14.8
6/24/2024	0.00192*	2.5

MW-24	Cobalt (mg/L)	TSS (mg/L)
10/26/2022	<0.0005	<1.88
3/14/2023	<0.0005	<1.88
11/7/2023	0.000302*	4.62
6/24/2024	<0.0005	<1.88

MW-10A	Cobalt (mg/L)	TSS (mg/L)
10/26/2022	0.0021	15
3/14/2023	0.000213*	1.38*
11/7/2023	0.00236	52
6/24/2024	0.00227	9.5

MW-25	Cobalt (mg/L)	TSS (mg/L)
3/14/2023	<0.0005	<1.88
11/7/2023	<0.0005	4.13
6/24/2024	<0.0005	1.5*
10/21/2024	<0.0005	1.5*

MW-46	Cobalt (mg/L)	TSS (mg/L)
8/7/2018	0.000327*	14.5
4/23/2019	0.000501	11.9
6/30/2019	0.000375*	13
2/24/2020	0.000357*	7

MW-12R	Cobalt (mg/L)	TSS (mg/L)
3/14/2023	0.0119	121
11/7/2023	0.0114	109
6/24/2024	0.0125	101
10/21/2024	0.0119	71

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Cobalt Concentration Map

Figure 7

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Legend

Cobalt Water Table Prediction Limit = 0.00797 mg/L

- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary
- SSL Well

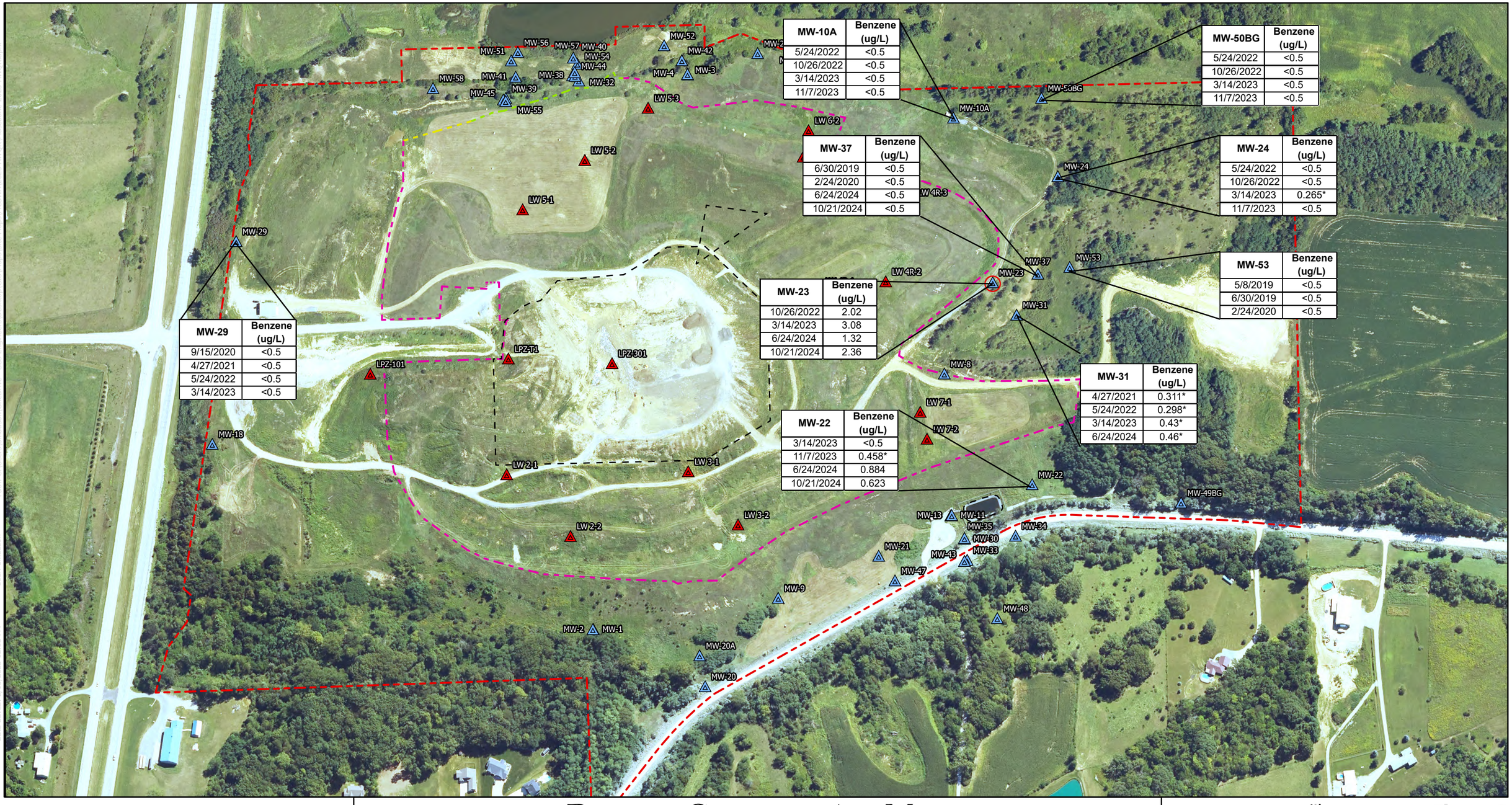
* J Flag concentrations are not included in the lists of detected parameters

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

N E S W

0 275 550 1,100 Feet

Esri, CGIAR, USGS, Esri, TomTom, Garmin, Foursquare, FAO, METI/NASA, USGS, USDA NAIP, Iowa State University GIS Facility



MW-10A	Benzene (ug/L)
5/24/2022	<0.5
10/26/2022	<0.5
3/14/2023	<0.5
11/7/2023	<0.5

MW-50BG	Benzene (ug/L)
5/24/2022	<0.5
10/26/2022	<0.5
3/14/2023	<0.5
11/7/2023	<0.5

MW-37	Benzene (ug/L)
6/30/2019	<0.5
2/24/2020	<0.5
6/24/2024	<0.5
10/21/2024	<0.5

MW-24	Benzene (ug/L)
5/24/2022	<0.5
10/26/2022	<0.5
3/14/2023	0.265*
11/7/2023	<0.5

MW-53	Benzene (ug/L)
5/8/2019	<0.5
6/30/2019	<0.5
2/24/2020	<0.5

MW-23	Benzene (ug/L)
10/26/2022	2.02
3/14/2023	3.08
6/24/2024	1.32
10/21/2024	2.36

MW-29	Benzene (ug/L)
9/15/2020	<0.5
4/27/2021	<0.5
5/24/2022	<0.5
3/14/2023	<0.5

MW-31	Benzene (ug/L)
4/27/2021	0.311*
5/24/2022	0.298*
3/14/2023	0.43*
6/24/2024	0.46*

MW-22	Benzene (ug/L)
3/14/2023	<0.5
11/7/2023	0.458*
6/24/2024	0.884
10/21/2024	0.623

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Benzene Concentration Map

Figure 8

Legend

Benzene Prediction Limit = < 0.5 ug/L

- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary
- SSL Well

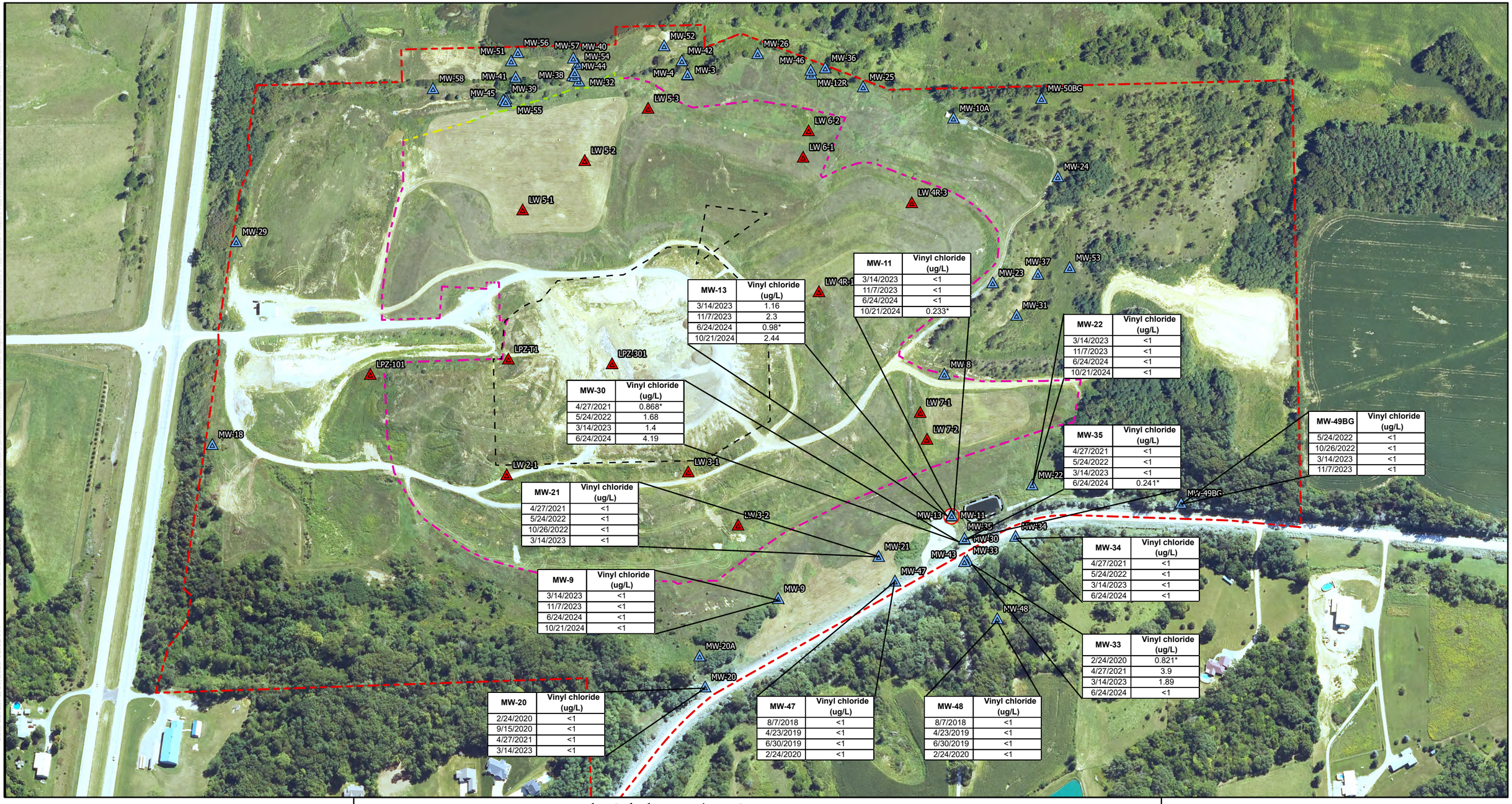
* J Flag concentrations are not included in the lists of detected parameters

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

N E S W

0 275 550 1,100 Feet

Esri, CGIAR, USGS, Esri, TomTom, Garmin, Foursquare, FAO, METI/NASA, USGS, USDA NAIP, Iowa State University GIS Facility



MW-11	Vinyl chloride (ug/L)
3/14/2023	<1
11/7/2023	<1
6/24/2024	<1
10/21/2024	0.233*

MW-13	Vinyl chloride (ug/L)
3/14/2023	1.16
11/7/2023	2.3
6/24/2024	0.98*
10/21/2024	2.44

MW-22	Vinyl chloride (ug/L)
3/14/2023	<1
11/7/2023	<1
6/24/2024	<1
10/21/2024	<1

MW-30	Vinyl chloride (ug/L)
4/27/2021	0.868*
5/24/2022	1.68
3/14/2023	1.4
6/24/2024	4.19

MW-35	Vinyl chloride (ug/L)
4/27/2021	<1
5/24/2022	<1
3/14/2023	<1
6/24/2024	0.241*

MW-49BG	Vinyl chloride (ug/L)
5/24/2022	<1
10/26/2022	<1
3/14/2023	<1
11/7/2023	<1

MW-21	Vinyl chloride (ug/L)
4/27/2021	<1
5/24/2022	<1
10/26/2022	<1
3/14/2023	<1

MW-34	Vinyl chloride (ug/L)
4/27/2021	<1
5/24/2022	<1
3/14/2023	<1
6/24/2024	<1

MW-9	Vinyl chloride (ug/L)
3/14/2023	<1
11/7/2023	<1
6/24/2024	<1
10/21/2024	<1

MW-33	Vinyl chloride (ug/L)
2/24/2020	0.821*
4/27/2021	3.9
3/14/2023	1.89
6/24/2024	<1

MW-20	Vinyl chloride (ug/L)
2/24/2020	<1
9/15/2020	<1
4/27/2021	<1
3/14/2023	<1

MW-47	Vinyl chloride (ug/L)
8/7/2018	<1
4/23/2019	<1
6/30/2019	<1
2/24/2020	<1

MW-48	Vinyl chloride (ug/L)
8/7/2018	<1
4/23/2019	<1
6/30/2019	<1
2/24/2020	<1

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Vinyl Chloride Concentration Map

Figure 9

Legend

Vinyl Chloride Prediction Limit = < 1 ug/L

- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary
- SSL Well

* J Flag concentrations are not included in the lists of detected parameters

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

N E S W

0 275 550 1,100 Feet

Esri, CGIAR, USGS, Esri, TomTom, Garmin, Foursquare, FAO, METI/NASA, USGS, USDA NAIP, Iowa State University GIS Facility

Appendix A
Field Sampling Forms

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-2**	Date:	**6/24/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	23.8
Initial Static Water Level (feet):	10.86
Initial Groundwater Elevation (ft-amsl):	691.94
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
3:08 PM	Purging start time.						
3:11 PM	16.1	0.7	823.8	6.83	-71.4	288.6	
3:14 PM	18.1	0.4	840.8	6.99	-100.3	312.9	
3:17 PM	20.6	0.5	844.7	7.03	-115.2	253.3	
3:20 PM	17.4	0.1	842.1	7.09	-128.5	246.2	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	158.33

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear/Black particles Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-4**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS		
Well/Piezometer Capped?	Yes	
Litter/Standing Water?	No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	16.2
Initial Static Water Level (feet):	9.26
Initial Groundwater Elevation (ft-amsl):	698.41
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
3:02 PM	Purging start time.						
3:05 PM	15.5	0.3	1847.8	6.57	-110.5	265.6	
3:08 PM	15.6	<0.1	1839.2	6.57	-112.6	341.3	
3:11 PM	16.0	0.3	1830.2	6.54	-107.4	312.0	
3:14 PM	15.8	0.2	1843.2	6.52	-105.5	277.4	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear/Black particles Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-9**	Date:	**6/24/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS		
Well/Piezometer Capped?	Yes	
Litter/Standing Water?	No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	22.6
Initial Static Water Level (feet):	11.30
Initial Groundwater Elevation (ft-amsl):	686.18
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
4:08 PM	Purging start time.						
4:11 PM	1875.9	0.8	1086.0	6.23	48.8	16.9	
4:14 PM	1873.7	0.6	1049.0	6.24	45.5	17.9	
4:17 PM	1855.2	0.5	796.0	6.24	44.0	18.3	
4:20 PM	1866.1	0.5	688.8	6.23	43.2	18.7	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.8
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	150.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Light brown/Orange Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-10A**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	19.6
Initial Static Water Level (feet):	8.35
Initial Groundwater Elevation (ft-amsl):	682.88
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
12:22 PM	Purging start time.						
12:25 PM	17.1	0.3	1291.0	6.74	-65.9	174.2	
12:28 PM	17.3	<0.1	1289.1	6.72	-72.0	179.5	
12:31 PM	17.2	<0.1	1286.7	6.72	-74.7	190.6	
12:34 PM	17.7	<0.1	1283.5	6.71	-76.5	199.4	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-11**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	18.7
Initial Static Water Level (feet):	8.14
Initial Groundwater Elevation (ft-amsl):	676.34
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
9:26 AM	Purging start time.						
9:29 AM	17.9	0.6	1009.3	6.60	104.3	182.7	
9:32 AM	17.6	0.2	1002.0	6.52	110.1	251.5	
9:35 AM	17.3	0.1	997.4	6.50	111.0	287.0	
9:38 AM	16.5	<0.1	990.7	6.49	110.6	350.5	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	166.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-12R**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	17.5
Initial Static Water Level (feet):	7.54
Initial Groundwater Elevation (ft-amsl):	692.76
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
1:43 PM	Purging start time.						
1:46 PM	14.6	0.4	6845.1	6.30	-74.9	171.9	
1:49 PM	14.9	<0.1	6833.5	6.33	-80.0	283.4	
1:52 PM	15.5	<0.1	6824.3	6.34	-83.0	337.4	
1:55 PM	15.9	<0.1	6830.6	6.35	-85.1	305.1	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.4
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	200.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No
If yes, explain:	

Additional Comments:	Color: Clear/yellow tint Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-13**	Date:	**6/24/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	37.7
Initial Static Water Level (feet):	18.58
Initial Groundwater Elevation (ft-amsl):	665.63
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
6:07 PM	Purging start time.						
6:10 PM	1746.1	0.3	193.1	6.50	-70.7	14.9	
6:13 PM	1738.0	<0.1	188.6	6.53	-80.5	15.1	
6:16 PM	1733.5	<0.1	273.9	6.54	-85.4	15.3	
6:19 PM	1729.5	<0.1	250.5	6.55	-88.7	15.7	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	166.67

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-20**	Date:	**6/24/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	13.2
Initial Static Water Level (feet):	Dry
Initial Groundwater Elevation (ft-amsl):	NA
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
	Purging start time.						
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	0.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	0
Average Purge Rate (mL/min):	0.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Well did not have sufficient water to sample.

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-21**	Date:	**6/24/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	20.4
Initial Static Water Level (feet):	16.36
Initial Groundwater Elevation (ft-amsl):	679.91
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
4:49 PM	Purging start time.						
4:52 PM	628.2	5.8	314.8	6.25	94.4	16.0	
4:55 PM	615.9	5.9	229.5	6.19	111.8	16.1	
4:58 PM	604.0	6.0	210.2	6.18	120.9	16.4	
5:01 PM	603.6	6.0	199.1	6.16	127.4	16.7	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.8
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	150.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-22**	Date:	**6/24/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	20.5
Initial Static Water Level (feet):	12.27
Initial Groundwater Elevation (ft-amsl):	676.68
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
10:35 AM	Purging start time.						
10:38 AM	14.3	0.5	4323.1	6.13	15.5	349.1	
10:41 AM	15.3	0.2	4252.7	6.10	31.3	210.9	
10:44 AM	15.0	0.1	4098.2	6.10	35.1	202.1	
10:47 AM	15.0	0.1	4102.5	6.07	38.1	212.0	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.3
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	191.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Orange Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-24**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	20.5
Initial Static Water Level (feet):	10.96
Initial Groundwater Elevation (ft-amsl):	704.56
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
4:53 PM	Purging start time.						
4:56 PM	16.4	3.7	934.7	6.86	26.5	159.9	
4:59 PM	16.6	3.6	938.2	6.81	34.6	155.7	
5:02 PM	16.8	3.5	933.7	6.80	38.0	155.8	
5:05 PM	16.9	3.5	934.4	6.78	39.9	156.4	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color Clear Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-25**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	20.4
Initial Static Water Level (feet):	11.11
Initial Groundwater Elevation (ft-amsl):	686.38
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
12:51 PM	Purging start time.						
12:54 PM	14.6	2.6	932.5	6.42	19.2	148.2	
12:57 PM	15.0	3.1	667.6	6.42	43.8	150.1	
1:00 PM	15.1	2.8	628.9	6.39	60.6	164.1	
1:03 PM	15.1	2.6	611.7	6.39	69.7	175.7	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	166.67

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-26**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	15.3
Initial Static Water Level (feet):	9.74
Initial Groundwater Elevation (ft-amsl):	692.05
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
2:11 PM	Purging start time.						
2:14 PM	18.1	0.7	1641.3	7.04	-136.8	367.8	
2:17 PM	18.2	0.2	1196.6	7.03	-139.3	252.4	
2:20 PM	16.0	<0.1	932.4	7.06	-141.6	227.9	
2:23 PM	16.6	<0.1	902.7	7.01	-149.6	215.4	
2:26 PM	16.8	<0.1	857.1	6.98	-165.5	191.2	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.6
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	216.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Cloudy/Light brown Odor: Sulfur

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-29**	Date:	**6/26/2024**
Gradient:	Up	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	20.4
Initial Static Water Level (feet):	17.23
Initial Groundwater Elevation (ft-amsl):	763.06
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
10:31 AM	Purging start time.						
10:34 AM	14.8	0.6	5871.0	6.17	-36.6	184.9	
10:37 AM	14.5	0.1	5898.9	6.18	-46.1	181.8	
10:40 AM	14.2	<0.1	5897.5	6.19	-49.9	191.1	
10:43 AM	14.3	<0.1	5896.1	6.19	-52.1	246.4	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-30**	Date:	**6/26/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	52.6
Initial Static Water Level (feet):	6.63
Initial Groundwater Elevation (ft-amsl):	675.90
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
1:48 PM	Purging start time.						
1:51 PM	14.6	5.6	1430.5	7.27	12.9	186.8	
1:54 PM	14.7	4.8	1498.3	7.09	23.8	185.3	
1:57 PM	15.0	2.4	1596.7	6.74	-22.4	176.6	
2:00 PM	15.2	1.4	1660.0	6.63	-42.5	173.2	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.2
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	15:00
Average Purge Rate (mL/min):	146.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-31**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	25.0
Initial Static Water Level (feet):	6.87
Initial Groundwater Elevation (ft-amsl):	708.46
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
6:10 PM	Purging start time.						
6:13 PM	16.0	0.5	1289.2	6.68	-93.9	3382.3	
6:16 PM	17.3	0.2	1279.4	6.65	-98.9	1056.4	
6:19 PM	17.0	<0.1	1250.6	6.64	-102.4	725.8	
6:22 PM	17.4	<0.1	1214.0	6.62	-103.8	738.5	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.2
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	183.33

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Orange/Brown Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-33**	Date:	**6/26/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	52.0
Initial Static Water Level (feet):	1.65
Initial Groundwater Elevation (ft-amsl):	676.73
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
2:14 PM	Purging start time.						
2:17 PM	16.0	1.5	1422.7	6.85	-21.2	413.6	
2:20 PM	15.9	0.9	1414.6	6.82	-13.9	363.7	
2:23 PM	16.3	0.6	1415.0	6.81	-8.0	333.1	
2:26 PM	16.4	0.4	1415.6	6.81	-3.2	333.4	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Yellow tint Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-34**	Date:	**6/26/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	33.6
Initial Static Water Level (feet):	0.31
Initial Groundwater Elevation (ft-amsl):	679.54
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
2:36 PM	Purging start time.						
2:39 PM	16.4	0.6	2276.7	6.40	-34.1	172.7	
2:42 PM	16.1	0.1	2275.6	6.41	-38.7	170.9	
2:45 PM	16.0	<0.1	2278.7	6.41	-42.0	170.2	
2:48 PM	15.8	<0.1	2280.1	6.41	-44.2	170.7	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear Odor:Sulfur

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-35**	Date:	**6/24/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	22.2
Initial Static Water Level (feet):	9.55
Initial Groundwater Elevation (ft-amsl):	673.56
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
5:40 PM	Purging start time.						
5:43 PM	1331.9	0.7	155.1	6.44	-1.6	15.2	
5:46 PM	1294.4	<0.1	162.2	6.44	-3.0	15.3	
5:49 PM	1290.7	<0.1	183.8	6.45	-6.3	15.4	
5:52 PM	1298.4	<0.1	203.3	6.45	-12.2	16.2	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	158.33

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-36**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	18.5
Initial Static Water Level (feet):	10.52
Initial Groundwater Elevation (ft-amsl):	686.40
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
1:17 PM	Purging start time.						
1:20 PM	13.6	0.6	1433.2	6.43	81.7	150.5	
1:23 PM	15.0	0.3	1429.7	6.42	83.1	149.0	
1:26 PM	14.9	0.2	1416.7	6.43	83.9	149.4	
1:29 PM	15.8	0.2	1385.7	6.43	84.1	158.5	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.2
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	183.33

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-37**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	8.7
Initial Static Water Level (feet):	6.97
Initial Groundwater Elevation (ft-amsl):	708.19
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
6:33 PM	Purging start time.						
6:36 PM	20.7	0.6	404.7	6.54	-75.7	1475.5	
6:39 PM	20.9	0.8	478.0	6.39	-54.2	368.2	
6:42 PM	20.5	1.7	589.8	6.44	-47.3	243.7	
6:45 PM	20.6	2.1	626.1	6.47	-41.1	241.0	
6:48 PM	20.4	2.4	643.6	6.47	-35.3	285.6	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.8
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	15:00
Average Purge Rate (mL/min):	186.67

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Cloudy/Orange Odor:None Color of water changed throughout the sample.

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-38**	Date:	**6/26/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	29.5
Initial Static Water Level (feet):	17.33
Initial Groundwater Elevation (ft-amsl):	723.57
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
9:31 AM	Purging start time.						
9:34 AM	14.2	5.9	495.7	6.69	98.2	176.2	
9:37 AM	14.3	5.7	494.1	6.64	104.4	163.9	
9:40 AM	14.5	5.6	493.5	6.62	107.5	160.9	
9:43 AM	14.6	5.6	494.4	6.61	109.4	162.4	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Yellow tint Odor:Sulfur

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-39**	Date:	**6/25/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	27.5
Initial Static Water Level (feet):	14.82
Initial Groundwater Elevation (ft-amsl):	741.20
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
3:34 PM	Purging start time.						
3:37 PM	15.6	0.3	1284.4	6.54	-57.2	231.5	
3:40 PM	16.0	<0.1	1260.2	6.50	-64.3	267.7	
3:43 PM	16.1	<0.1	1260.5	6.48	-69.0	219.9	
3:46 PM	15.9	<0.1	1219.0	6.49	-73.4	301.5	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-46**	Date:	**6/26/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	NM
Initial Static Water Level (feet):	6.34
Initial Groundwater Elevation (ft-amsl):	692.55
Equipment Used:	Dedicated Submersible Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
3:46 PM	Purging start time.						
3:49 PM	14.0	0.6	1024.7	7.42	-116.5	345.8	
3:52 PM	16.7	0.2	1038.9	7.42	-136.0	307.3	
3:55 PM	13.1	<0.1	1026.1	7.46	-147.3	238.8	
3:58 PM	13.7	<0.1	1031.3	7.45	-152.6	215.3	
4:01 PM	14.8	<0.1	16.4	7.44	-155.8	793.3	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.7
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	225.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Light yellow Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-49BG**	Date:	**6/26/2024**
Gradient:	Up	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes	
Litter/Standing Water?	No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	74.4
Initial Static Water Level (feet):	20.95
Initial Groundwater Elevation (ft-amsl):	656.64
Equipment Used:	Dedicated Submersible Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
3:15 PM	Purging start time.						
3:18 PM	12.8	0.7	881.5	7.38	-93.0	292.1	
3:21 PM	12.6	0.2	881.5	7.26	-106.1	219.0	
3:24 PM	12.5	<0.1	882.1	7.21	-107.0	188.6	
3:27 PM	12.6	<0.1	884.6	7.18	-106.8	179.5	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.5
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	208.33

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear Odor:Sulfur

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-50BG**	Date:	**6/25/2024**
Gradient:	Up	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	30.0
Initial Static Water Level (feet):	14.36
Initial Groundwater Elevation (ft-amsl):	676.51
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
5:25 PM	Purging start time.						
5:28 PM	14.6	0.5	1216.2	6.91	42.7	179.7	
5:31 PM	15.2	0.1	1214.8	6.87	44.8	220.2	
5:34 PM	15.5	<0.1	1210.9	6.87	44.2	216.5	
5:37 PM	16.1	<0.1	1213.7	6.87	43.7	225.5	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No
If yes, explain:	

Additional Comments:	Color:Clear Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-51**	Date:	**6/26/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	21.6
Initial Static Water Level (feet):	9.80
Initial Groundwater Elevation (ft-amsl):	718.28
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
11:11 AM	Purging start time.						
11:14 AM	13.6	0.5	3861.7	6.28	30.5	195.3	
11:17 AM	13.5	0.1	3787.7	6.25	42.5	173.6	
11:20 AM	13.9	<0.1	3722.6	6.24	48.5	163.5	
11:23 AM	14.1	<0.1	3696.6	6.24	52.5	164.8	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.3
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	191.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-57**	Date:	**6/26/2024**
Gradient:	Up	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	8.4
Initial Static Water Level (feet):	7.62
Initial Groundwater Elevation (ft-amsl):	716.55
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
	Purging start time.						
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	0.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	0
Average Purge Rate (mL/min):	0.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Well did not have sufficient water to sample.

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-2**	Date:	**10/21/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	23.8
Initial Static Water Level (feet):	12.17
Initial Groundwater Elevation (ft-amsl):	690.63
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
2:10 PM	Purging start time.						
2:13 PM	14.9	0.9	739.4	7.05	-128.0	8.0	
2:16 PM	15.2	0.5	732.2	7.13	-150.9	7.9	
2:19 PM	15.2	0.4	732.0	7.18	-163.9	5.7	
2:22 PM	15.4	0.3	733.6	7.20	-171.9	7.5	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-4**	Date:	**10/22/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	16.2
Initial Static Water Level (feet):	9.91
Initial Groundwater Elevation (ft-amsl):	697.76
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
10:39 AM	Purging start time.						
10:42 AM	14.8	1.3	1503.7	6.75	-114.3	3.3	
10:45 AM	14.9	0.6	1509.6	6.76	-117.8	2.7	
10:48 AM	15.1	0.5	1509.9	6.76	-120.3	4.4	
10:51 AM	15.2	0.4	1503.2	6.76	-120.8	4.6	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	158.33

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: Sulfur

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-9**	Date:	**10/21/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	22.5
Initial Static Water Level (feet):	12.31
Initial Groundwater Elevation (ft-amsl):	685.17
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
2:49 PM	Purging start time.						
2:52 PM	16.9	0.7	1979.4	6.25	-48.2	28.2	
2:55 PM	17.3	0.5	1983.8	6.30	-60.2	31.4	
2:58 PM	17.5	0.5	1981.3	6.32	-61.2	33.3	
3:01 PM	17.4	0.5	1990.2	6.33	-60.9	21.9	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-11**	Date:	**10/21/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	18.7
Initial Static Water Level (feet):	8.77
Initial Groundwater Elevation (ft-amsl):	675.71
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
4:30 PM	Purging start time.						
4:33 PM	18.1	1.0	1371.1	6.44	-4.2	6.8	
4:36 PM	18.0	0.6	1383.4	6.44	-3.3	11.6	
4:39 PM	17.8	0.4	1384.4	6.45	-3.5	14.0	
4:42 PM	17.5	0.3	1384.0	6.45	-3.9	13.0	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.8
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	150.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-12R**	Date:	**10/22/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	18.5
Initial Static Water Level (feet):	8.00
Initial Groundwater Elevation (ft-amsl):	692.30
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
8:44 AM	Purging start time.						
8:47 AM	13.9	1.0	6032.2	6.48	-98.3	4.8	
8:50 AM	14.0	0.6	6056.8	6.49	-100.4	2.9	
8:53 AM	14.1	0.5	6062.9	6.50	-101.8	2.9	
8:56 AM	14.1	0.4	6063.7	6.50	-102.9	2.9	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	166.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-13**	Date:	**10/21/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	37.6
Initial Static Water Level (feet):	9.14
Initial Groundwater Elevation (ft-amsl):	675.07
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
3:52 PM	Purging start time.						
3:55 PM	17.2	1.7	1542.7	6.61	-86.6	4.2	
3:58 PM	17.0	0.7	1554.1	6.63	-96.0	4.0	
4:01 PM	16.6	0.5	1553.3	6.65	-100.1	5.5	
4:04 PM	16.5	0.4	1548.1	6.66	-102.9	4.7	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	158.33

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None MW-D1 Duplicate collected.

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-20**	Date:	**10/21/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	13.2
Initial Static Water Level (feet):	Dry
Initial Groundwater Elevation (ft-amsl):	NA
Equipment Used:	

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
	Purging start time.						
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	0.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	
Average Purge Rate (mL/min):	0.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Monitoring well was dry. No sample collected.

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-21**	Date:	**10/21/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	20.4
Initial Static Water Level (feet):	16.94
Initial Groundwater Elevation (ft-amsl):	679.33
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
3:22 PM	Purging start time.						
3:25 PM	16.7	4.9	652.4	6.38	8.9	4.2	
3:28 PM	16.9	5.7	629.0	6.33	49.2	4.5	
3:31 PM	17.0	5.8	609.6	6.30	69.7	8.8	
3:34 PM	17.0	5.6	629.6	6.28	76.0	7.0	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.8
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	150.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-22**	Date:	**10/21/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	20.4
Initial Static Water Level (feet):	13.28
Initial Groundwater Elevation (ft-amsl):	675.67
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
5:00 PM	Purging start time.						
5:03 PM	15.8	1.3	3516.2	6.30	-45.1	9.5	
5:06 PM	15.7	0.7	3511.5	6.31	-37.2	12.8	
5:09 PM	15.7	0.5	3500.5	6.35	-23.0	16.5	
5:12 PM	15.3	0.5	3509.3	6.36	-13.6	13.0	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.7
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	141.67

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-23**	Date:	**10/22/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	53.8
Initial Static Water Level (feet):	47.25
Initial Groundwater Elevation (ft-amsl):	715.35
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
1:51 PM	Purging start time.						
3:19 PM	20.1	3.1	704.6	6.57	-72.4	371.9	
3:22 PM	16.3	0.6	1240.5	6.37	-76.2	379.3	
3:25 PM	16.5	0.4	1232.2	6.37	-81.1	419.5	
3:28 PM	16.2	0.5	1208.5	6.42	-87.6	184.2	
3:31 PM	16.3	0.3	1183.0	6.42	-91.7	86.3	
3:34 PM	16.3	0.2	1173.0	6.42	-95.0	71.7	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	7.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	15:00
Average Purge Rate (mL/min):	466.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Cloudy/ Light brown Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-25**	Date:	**10/21/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS		
Well/Piezometer Capped?	Yes	
Litter/Standing Water?	No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	20.4
Initial Static Water Level (feet):	12.30
Initial Groundwater Elevation (ft-amsl):	685.19
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
5:35 PM	Purging start time.						
5:38 PM	14.7	1.2	1023.8	6.58	33.9	3.4	
5:41 PM	14.6	1.1	913.9	6.50	56.7	3.7	
5:44 PM	14.5	1.1	865.4	6.47	68.2	4.8	
5:47 PM	14.5	1.3	793.4	6.46	75.2	7.5	
5:50 PM	14.4	1.3	770.6	6.47	77.8	7.4	
5:53 PM	14.3	1.2	761.4	6.48	78.7	4.8	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.3
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	18:00
Average Purge Rate (mL/min):	127.78

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-26**	Date:	**10/22/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	15.3
Initial Static Water Level (feet):	10.52
Initial Groundwater Elevation (ft-amsl):	691.27
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
9:55 AM	Purging start time.						
9:58 AM	13.5	1.2	821.2	7.19	-110.9	3.7	
10:01 AM	13.6	0.6	800.2	7.13	-107.4	3.3	
10:04 AM	13.7	0.5	790.4	7.10	-104.9	4.4	
10:07 AM	13.7	0.4	786.1	7.07	-103.3	4.6	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	166.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear/Black particles Odor: Sulfur Duplicate MW-D2 Collected.

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-36**	Date:	**10/21/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	18.5
Initial Static Water Level (feet):	10.80
Initial Groundwater Elevation (ft-amsl):	686.12
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
6:10 PM	Purging start time.						
6:13 PM	14.3	1.2	1659.7	6.46	90.1	4.2	
6:16 PM	14.3	0.7	1673.8	6.50	88.0	4.7	
6:19 PM	14.3	0.5	1673.3	6.51	88.7	2.9	
6:22 PM	14.3	0.4	1672.5	6.51	90.0	3.6	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	158.33

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: None

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-37**	Date:	**10/22/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	8.7
Initial Static Water Level (feet):	7.27
Initial Groundwater Elevation (ft-amsl):	707.89
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
1:33 PM	Purging start time.						
1:36 PM	19.0	1.4	459.5	7.08	-16.0	29.1	
1:39 PM	18.8	1.2	484.5	6.92	-55.9	11.4	
1:42 PM	18.9	1.9	524.9	6.91	-69.2	7.5	
1:45 PM	18.7	3.1	549.1	6.92	-69.3	6.6	
1:48 PM	18.9	4.5	563.2	6.92	-68.6	28.5	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.5
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	15:00
Average Purge Rate (mL/min):	166.67

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Yellow tint Odor: Sulfur

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-38**	Date:	**10/22/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	29.5
Initial Static Water Level (feet):	17.99
Initial Groundwater Elevation (ft-amsl):	722.91
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
12:15 PM	Purging start time.						
12:18 PM	19.0	1.3	5207.2	6.30	-65.4	13.1	
12:21 PM	18.8	0.7	5349.3	6.32	-70.0	10.8	
12:24 PM	18.9	0.6	5365.9	6.33	-71.7	8.5	
12:27 PM	18.5	0.5	5419.6	6.33	-72.9	4.9	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.3
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	108.33

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear/Slight yellow tint Odor: Sulfur

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-39**	Date:	**10/22/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS		
Well/Piezometer Capped?	Yes	
Litter/Standing Water?	No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	27.0
Initial Static Water Level (feet):	21.11
Initial Groundwater Elevation (ft-amsl):	734.91
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
11:12 AM	Purging start time.						
11:15 AM	14.1	1.0	1302.4	6.59	-49.4	87.3	
11:18 AM	14.0	0.6	1266.7	6.58	-49.8	37.0	
11:21 AM	14.1	0.4	1233.7	6.58	-54.6	13.5	
11:24 AM	14.3	0.4	1204.2	6.58	-59.8	7.9	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.1
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	175.00

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: Sulfur

FORM FOR GROUNDWATER SAMPLING

Project:	**Muscatine County Sanitary Landfill**		
Monitoring Well/Piezometer ID:	**MW-56**	Date:	**10/22/2024**
Gradient:	Down	Sampler:	Cole Tesar

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	8.2
Initial Static Water Level (feet):	7.50
Initial Groundwater Elevation (ft-amsl):	713.98
Equipment Used:	

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	Temperature (°C) 10%	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV)	Turbidity (FNU)	
	Purging start time.						
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	0.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	
Average Purge Rate (mL/min):	0.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Insufficient water to sample.

Appendix B-1
Laboratory Analytical Data Sheets

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Nathan Ohrt
SCS Engineers
1690 All State Court
Suite 100
West Des Moines, Iowa 50265

Generated 7/9/2024 10:50:12 AM

JOB DESCRIPTION

Muscatine Co. Landfill 1st 2024 Bracketing

JOB NUMBER

310-284592-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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Authorized for release by
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Table of Contents

Cover Page 1
Table of Contents 3
Case Narrative 4
Sample Summary 5
Detection Summary 6
Client Sample Results 7
Definitions 15
Surrogate Summary 16
QC Sample Results 17
QC Association 20
Chronicle 21
Certification Summary 23
Method Summary 24
Chain of Custody 25
Receipt Checklists 27

Job ID: 310-284592-1 Eurofins Cedar Falls

Job Narrative
310-284592-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/27/2024 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.1°C.

GC/MS VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-284592-1	MW-30	Water	06/26/24 13:48	06/27/24 15:40
310-284592-2	MW-31	Water	06/25/24 18:10	06/27/24 15:40
310-284592-3	MW-33	Water	06/26/24 14:14	06/27/24 15:40
310-284592-4	MW-34	Water	06/26/24 14:36	06/27/24 15:40
310-284592-5	MW-35	Water	06/24/24 17:40	06/27/24 15:40
310-284592-6	MW-46	Water	06/26/24 15:46	06/27/24 15:40
310-284592-7	MW-51	Water	06/26/24 11:11	06/27/24 15:40
310-284592-8	Trip Blank	Water	06/26/24 00:00	06/27/24 15:40

Detection Summary

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-30 — Lab Sample ID: 310-284592-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	4.19		1.00	0.180	ug/L	1		8260D	Total/NA

Client Sample ID: MW-31 — Lab Sample ID: 310-284592-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.460	J	0.500	0.220	ug/L	1		8260D	Total/NA

Client Sample ID: MW-33 — Lab Sample ID: 310-284592-3

No Detections.

Client Sample ID: MW-34 — Lab Sample ID: 310-284592-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.476	J	0.500	0.220	ug/L	1		8260D	Total/NA

Client Sample ID: MW-35 — Lab Sample ID: 310-284592-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.241	J	1.00	0.180	ug/L	1		8260D	Total/NA

Client Sample ID: MW-46 — Lab Sample ID: 310-284592-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.447		0.00200	0.000660	mg/L	1		6020B	Total/NA
Total Suspended Solids	12.7		5.00	3.70	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-51 — Lab Sample ID: 310-284592-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	1.25		0.00200	0.000660	mg/L	1		6020B	Total/NA
Total Suspended Solids	2.38		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-284592-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-30
Lab Sample ID: 310-284592-1
Date Collected: 06/26/24 13:48
Matrix: Water
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	4.19		1.00	0.180	ug/L			06/29/24 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*102*		*73 - 130*		*06/29/24 14:19*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*06/29/24 14:19*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/29/24 14:19*	*1*

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-31
Lab Sample ID: 310-284592-2
Date Collected: 06/25/24 18:10
Matrix: Water
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.460	J	0.500	0.220	ug/L			06/29/24 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*102*		*73 - 130*		*06/29/24 14:42*	*1*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*06/29/24 14:42*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/29/24 14:42*	*1*

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-33
Lab Sample ID: 310-284592-3
Date Collected: 06/26/24 14:14
Matrix: Water
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500	0.220	ug/L			06/29/24 01:44	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/29/24 01:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*113*		*73 - 130*		*06/29/24 01:44*	*1*
Dibromofluoromethane (Surr)	*101*		*73 - 130*		*06/29/24 15:04*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/29/24 01:44*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*06/29/24 15:04*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/29/24 01:44*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/29/24 15:04*	*1*

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-34
Lab Sample ID: 310-284592-4
Date Collected: 06/26/24 14:36
Matrix: Water
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.476**	**J**	0.500	0.220	ug/L			06/29/24 02:06	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/29/24 02:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*06/29/24 02:06*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/29/24 02:06*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/29/24 02:06*	*1*

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-35
Lab Sample ID: 310-284592-5
Date Collected: 06/24/24 17:40
Matrix: Water
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**0.241**	**J**	1.00	0.180	ug/L			06/29/24 02:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*111*		*73 - 130*		*06/29/24 02:29*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/29/24 02:29*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/29/24 02:29*	*1*

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-46
Lab Sample ID: 310-284592-6
Date Collected: 06/26/24 15:46
Matrix: Water
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.447		0.00200	0.000660	mg/L		07/02/24 08:45	07/08/24 17:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	12.7		5.00	3.70	mg/L			06/28/24 15:44	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-51
Lab Sample ID: 310-284592-7
Date Collected: 06/26/24 11:11
Matrix: Water
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	1.25		0.00200	0.000660	mg/L		07/02/24 08:45	07/08/24 17:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	2.38		1.88	1.39	mg/L			06/28/24 15:44	1

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: Trip Blank
Lab Sample ID: 310-284592-8
Date Collected: 06/26/24 00:00
Matrix: Water
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500	0.220	ug/L			06/29/24 00:35	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/29/24 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*113*		*73 - 130*		*06/29/24 00:35*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/29/24 00:35*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/29/24 00:35*	*1*

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		DBFM	BFB	TOL
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)
310-284592-1	MW-30	102	106	101
310-284592-2	MW-31	102	108	99
310-284592-3	MW-33	113	103	99
310-284592-3	MW-33	101	106	99
310-284592-4	MW-34	114	104	99
310-284592-5	MW-35	111	102	100
310-284592-8	Trip Blank	113	102	97
LCS 310-425976/6	Lab Control Sample	101	99	102
LCS 310-425976/7	Lab Control Sample	115	103	100
LCS 310-425985/6	Lab Control Sample	96	104	100
LCS 310-425985/7	Lab Control Sample	99	104	99
MB 310-425976/5	Method Blank	114	104	100
MB 310-425985/5	Method Blank	101	104	98

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-425976/5
Matrix: Water
Analysis Batch: 425976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500	0.220	ug/L			06/28/24 23:04	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/28/24 23:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*06/28/24 23:04*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/28/24 23:04*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/28/24 23:04*	*1*

Lab Sample ID: LCS 310-425976/6
Matrix: Water
Analysis Batch: 425976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	18.85		ug/L		94	72 - 124		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*101*		*73 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: LCS 310-425976/7
Matrix: Water
Analysis Batch: 425976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Vinyl chloride			20.0	21.73		ug/L		109	56 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*115*		*73 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 310-425985/5
Matrix: Water
Analysis Batch: 425985

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500	0.220	ug/L			06/29/24 09:24	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/29/24 09:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*73 - 130*		*06/29/24 09:24*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/29/24 09:24*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/29/24 09:24*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-425985/6
Matrix: Water
Analysis Batch: 425985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	18.62		ug/L		93	72 - 124		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*96*		*73 - 130*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCS 310-425985/7
Matrix: Water
Analysis Batch: 425985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Vinyl chloride			20.0	20.62		ug/L		103	56 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*99*		*73 - 130*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-426153/1-A
Matrix: Water
Analysis Batch: 426684

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426153

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.00200		0.00200	0.000660	mg/L		07/02/24 08:45	07/08/24 16:47	1

Lab Sample ID: LCS 310-426153/2-A
Matrix: Water
Analysis Batch: 426684

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426153

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Barium			0.100	0.1011		mg/L		101	80 - 120		

Lab Sample ID: 310-284592-7 DU
Matrix: Water
Analysis Batch: 426684

Client Sample ID: MW-51
Prep Type: Total/NA
Prep Batch: 426153

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Barium	1.25			1.101		mg/L				13	20

QC Sample Results

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-426013/1
Matrix: Water
Analysis Batch: 426013

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			06/28/24 15:44	1

Lab Sample ID: LCS 310-426013/2
Matrix: Water
Analysis Batch: 426013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	33.3	31.33		mg/L		94	81 - 116

GC/MS VOA

Analysis Batch: 425976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284592-3	MW-33	Total/NA	Water	8260D	
310-284592-4	MW-34	Total/NA	Water	8260D	
310-284592-5	MW-35	Total/NA	Water	8260D	
310-284592-8	Trip Blank	Total/NA	Water	8260D	
MB 310-425976/5	Method Blank	Total/NA	Water	8260D	
LCS 310-425976/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-425976/7	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 425985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284592-1	MW-30	Total/NA	Water	8260D	
310-284592-2	MW-31	Total/NA	Water	8260D	
310-284592-3	MW-33	Total/NA	Water	8260D	
MB 310-425985/5	Method Blank	Total/NA	Water	8260D	
LCS 310-425985/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-425985/7	Lab Control Sample	Total/NA	Water	8260D	

Metals

Prep Batch: 426153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284592-6	MW-46	Total/NA	Water	3005A	
310-284592-7	MW-51	Total/NA	Water	3005A	
MB 310-426153/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-426153/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-284592-7 DU	MW-51	Total/NA	Water	3005A	

Analysis Batch: 426684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284592-6	MW-46	Total/NA	Water	6020B	426153
310-284592-7	MW-51	Total/NA	Water	6020B	426153
MB 310-426153/1-A	Method Blank	Total/NA	Water	6020B	426153
LCS 310-426153/2-A	Lab Control Sample	Total/NA	Water	6020B	426153
310-284592-7 DU	MW-51	Total/NA	Water	6020B	426153

General Chemistry

Analysis Batch: 426013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284592-6	MW-46	Total/NA	Water	I-3765-85	
310-284592-7	MW-51	Total/NA	Water	I-3765-85	
MB 310-426013/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-426013/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-30
Lab Sample ID: 310-284592-1
Date Collected: 06/26/24 13:48
Matrix: Water
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	425985	FE5V	EET CF	06/29/24 14:19

Client Sample ID: MW-31
Lab Sample ID: 310-284592-2
Date Collected: 06/25/24 18:10
Matrix: Water
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	425985	FE5V	EET CF	06/29/24 14:42

Client Sample ID: MW-33
Lab Sample ID: 310-284592-3
Date Collected: 06/26/24 14:14
Matrix: Water
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	425976	FE5V	EET CF	06/29/24 01:44
Total/NA	Analysis	8260D		1	425985	FE5V	EET CF	06/29/24 15:04

Client Sample ID: MW-34
Lab Sample ID: 310-284592-4
Date Collected: 06/26/24 14:36
Matrix: Water
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	425976	FE5V	EET CF	06/29/24 02:06

Client Sample ID: MW-35
Lab Sample ID: 310-284592-5
Date Collected: 06/24/24 17:40
Matrix: Water
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	425976	FE5V	EET CF	06/29/24 02:29

Client Sample ID: MW-46
Lab Sample ID: 310-284592-6
Date Collected: 06/26/24 15:46
Matrix: Water
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426153	QTZ5	EET CF	07/02/24 08:45
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 17:40
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Lab Chronicle

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Client Sample ID: MW-51
Lab Sample ID: 310-284592-7
Date Collected: 06/26/24 11:11
Matrix: Water
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426153	QTZ5	EET CF	07/02/24 08:45
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 17:42
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: Trip Blank
Lab Sample ID: 310-284592-8
Date Collected: 06/26/24 00:00
Matrix: Water
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	425976	FE5V	EET CF	06/29/24 00:35

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

Method Summary

Client: SCS Engineers
Job ID: 310-284592-1
Project/Site: Muscatine Co. Landfill 1st 2024 Bracketing

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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310-284592 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS			
City/State:	CITY	STATE	Project.
Receipt Information			
Date/Time Received:	DATE 6/27/24	TIME 1540	Received By. KB

Delivery Type. ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers			
Sample(s) received in Cooler?	☑ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☐ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present? No	☐ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present? No	☐ Yes	☐ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☒ Yes	☐ No	*If yes:* Which VOA samples are in cooler? ↓

all

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: X	Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.1	Corrected Temp (°C): 4.1

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE. If yes, contact PM before proceeding If no, proceed with login

Additional Comments

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

TestAmerica Des Moines SC
214

eurofins

Chain of Custody Record

Client Information	Sampler: Cole Tesar	Lab PM: Yang, Mary E	Carrier Tracking No(s):	COC No: 310-94337-25888 1
Client Contact: Nathan Ohrt	Phone:	E-Mail: Mary Yang@ET EurofinsUS com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 1690 All State Court Suite 100	Due Date Requested:			
City: West Des Moines	TAT Requested (days):			
State, Zip: IA, 50265	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 27223255 24			
Email: nohrt@scsengineers.com	WO #:			
Project Name: Muscatine Co. Landfill 1st 2024 Bracketing	Project #: 31006335			
Site: Iowa	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
D - HNO3
N - None

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D - (MOD) Benzene	8260D - (MOD) Vinyl Chloride	6020B - (MOD) Barium	I_3765_85 - Residue, Non-filterable (TSS)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	D	N		
MW-30	6/26/24	13:48	G	Water				X				
MW-31	6/25/24	18:10	G	Water			X					
MW-33	6/26/24	14:14	G	Water			X	X				
MW-34	6/26/24	14:36	G	Water			X	X				
MW-35	6/24/24	17:40	G	Water				X				
MW-46	6/26/24	15:46	G	Water					X	X		
MW-51	6/26/26	11:11	G	Water					X	X		
MW-56				Water					X	X		
MW-57				Water					X	X		
Trip Blank				Water			X	X				

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Homer Roth	Date/Time: 6-27-24 / 14:00	Company: SCS	Received by: Grink	Date/Time: 6/27/24 14:00	Company: Eurofins
Relinquished by:	Date/Time:	Company:	Received by: Mc	Date/Time: 6-27-24 1540	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No | Custody Seal No | Cooler Temperature(s) °C and Other Remarks:

Ver: 04/02/2024

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-284592-1

Login Number: 284592

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Costello, Mackenzie K

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Nathan Ohrt
SCS Engineers
1690 All State Court
Suite 100
West Des Moines, Iowa 50265

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JOB DESCRIPTION

Muscatine Co. Landfill 1st 2024 HMSP
1st 2024 HMSP

JOB NUMBER

310-284531-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

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Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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Table of Contents

Cover Page 1
Table of Contents 3
Case Narrative 4
Sample Summary 6
Detection Summary 7
Client Sample Results 12
Definitions 51
Surrogate Summary 52
QC Sample Results 55
QC Association 81
Chronicle 88
Certification Summary 95
Method Summary 96
Chain of Custody 97
Receipt Checklists 106

Job ID: 310-284531-1 Eurofins Cedar Falls

Job Narrative
310-284531-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/27/2024 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.1°C, 2.9°C, 3.6°C and 7.8°C.

Receipt Exceptions
One container (C-8) for the following sample was received broken: MW-12R (310-284531-8). Enough volume in remaining container for analysis.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 310-426115 recovered above the upper control limit for Vinyl chloride (28.3%D) and Trichlorofluoromethane (33.1%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 310-426115/4).

Method 8260D: The method blank for analytical batch 310-426359 contained Benzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA
Method 8270E: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-426155.

Method 8270E: The continuing calibration verification (CCV) associated with batch 310-426950 recovered above the upper control limit for Diethyl phthalate (21.0%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 310-426155 and analytical batch 310-426950 recovered outside control limits for the following analytes: Famphur and Kepone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8270E: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 310-426155 and analytical batch 310-426950 recovered outside control limits for the following analyte(s): p-Phenylene diamine. p-Phenylene diamine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 310-426155 and analytical batch 310-426950 recovered outside control limits for the following analytes: 3,3'-Dimethylbenzidine and Hexachloropropene.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Herbicides
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

PCBs
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Pesticides
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
Method 6020B: The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: MW-23 (310-284531-12) and MW-38 (310-284531-18). The sample(s) was preserved to the appropriate pH in the laboratory.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-284531-1	MW-29	Groundwater	06/25/24 09:31	06/27/24 15:40
310-284531-2	MW-49BG	Groundwater	06/26/24 15:15	06/27/24 15:40
310-284531-3	MW-50BG	Groundwater	06/25/24 17:25	06/27/24 15:40
310-284531-4	MW-2	Groundwater	06/24/24 15:02	06/27/24 15:40
310-284531-5	MW-9	Groundwater	06/24/24 16:08	06/27/24 15:40
310-284531-6	MW-10A	Groundwater	06/25/24 12:22	06/27/24 15:40
310-284531-7	MW-11	Groundwater	06/24/24 09:26	06/27/24 15:40
310-284531-8	MW-12R	Groundwater	06/25/24 13:43	06/27/24 15:40
310-284531-9	MW-13	Groundwater	06/24/24 18:07	06/27/24 15:40
310-284531-10	MW-21	Groundwater	06/24/24 16:49	06/27/24 15:40
310-284531-11	MW-22	Groundwater	06/25/24 10:35	06/27/24 15:40
310-284531-12	MW-23	Groundwater	06/26/24 13:08	06/27/24 15:40
310-284531-13	MW-24	Groundwater	06/25/24 16:53	06/27/24 15:40
310-284531-14	MW-25	Groundwater	06/25/24 12:51	06/27/24 15:40
310-284531-15	MW-26	Groundwater	06/25/24 14:11	06/27/24 15:40
310-284531-16	MW-36	Groundwater	06/25/24 13:17	06/27/24 15:40
310-284531-17	MW-37	Groundwater	06/25/24 18:33	06/27/24 15:40
310-284531-18	MW-38	Groundwater	06/26/24 10:31	06/27/24 15:40
310-284531-19	MW-39	Groundwater	06/25/24 15:34	06/27/24 15:40
310-284531-21	MW-D1	Groundwater	06/24/24 09:26	06/27/24 15:40
310-284531-22	Trip Blank	Groundwater	06/24/24 00:00	06/27/24 15:40
310-284531-23	MW-4	Groundwater	06/24/24 14:30	06/27/24 15:40

Detection Summary

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-29 — Lab Sample ID: 310-284531-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0628		0.00200	0.000660	mg/L	1		6020B	Total/NA

Client Sample ID: MW-49BG — Lab Sample ID: 310-284531-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0590		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00565		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.0286	B	0.00500	0.00180	mg/L	1		6020B	Total/NA
Nickel	0.00485	J	0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	25.3		3.75	2.78	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-50BG — Lab Sample ID: 310-284531-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00226		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.184		0.00800	0.00264	mg/L	4		6020B	Total/NA
Cobalt	0.00192	J	0.00200	0.000680	mg/L	4		6020B	Total/NA
Nickel	0.0119	J	0.0200	0.00840	mg/L	4		6020B	Total/NA
Total Suspended Solids	2.50		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-2 — Lab Sample ID: 310-284531-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.168		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.0495		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00195	J B	0.00500	0.00180	mg/L	1		6020B	Total/NA
Nickel	0.0161		0.00500	0.00210	mg/L	1		6020B	Total/NA
Zinc	0.0202		0.0200	0.00970	mg/L	1		6020B	Total/NA
Total Suspended Solids	10.8		3.75	2.78	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-9 — Lab Sample ID: 310-284531-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.392	J	0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	14.0		1.00	0.400	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.865	J	1.00	0.210	ug/L	1		8260D	Total/NA
Arsenic	0.00162	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.385		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000281		0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.0143		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00399	J B	0.00500	0.00180	mg/L	1		6020B	Total/NA
Nickel	0.0178		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	20.3		3.75	2.78	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-10A — Lab Sample ID: 310-284531-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00730		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.413		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000149	J	0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.00227		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00310	J B	0.00500	0.00180	mg/L	1		6020B	Total/NA
Nickel	0.00437	J	0.00500	0.00210	mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-10A (Continued)
Lab Sample ID: 310-284531-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	9.50		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-11
Lab Sample ID: 310-284531-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dichlorobenzene	0.237	J	1.00	0.230	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.507	J	1.00	0.210	ug/L	1		8260D	Total/NA
Arsenic	0.00229		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.259		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000175	J	0.000500	0.000170	mg/L	1		6020B	Total/NA

Client Sample ID: MW-12R
Lab Sample ID: 310-284531-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.98	J	10.0	3.10	ug/L	1		8260D	Total/NA
Benzene	1.47		0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	4.23		1.00	0.400	ug/L	1		8260D	Total/NA
Barium	0.0870		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.0125		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00247	J B	0.00500	0.00180	mg/L	1		6020B	Total/NA
Nickel	0.0521		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	101		7.50	5.55	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-13
Lab Sample ID: 310-284531-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.860	J	1.00	0.220	ug/L	1		8260D	Total/NA
1,2-Dichloroethane	0.419	J	1.00	0.390	ug/L	1		8260D	Total/NA
Acetone	32.3		10.0	3.10	ug/L	1		8260D	Total/NA
Benzene	0.276	J	0.500	0.220	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	7.79		1.00	0.210	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.662	J	1.00	0.270	ug/L	1		8260D	Total/NA
Vinyl chloride	0.980	J	1.00	0.180	ug/L	1		8260D	Total/NA
Arsenic	0.0233		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.628		0.00800	0.00264	mg/L	4		6020B	Total/NA
Copper	0.00192	J B	0.00500	0.00180	mg/L	1		6020B	Total/NA
Lead	0.000288	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Total Suspended Solids	26.0		3.75	2.78	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-21
Lab Sample ID: 310-284531-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00596		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.567		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000373		0.000200	0.000100	mg/L	1		6020B	Total/NA
Copper	0.00332	J B	0.00500	0.00180	mg/L	1		6020B	Total/NA
Nickel	0.00355	J	0.00500	0.00210	mg/L	1		6020B	Total/NA
Zinc	0.0158	J	0.0200	0.00970	mg/L	1		6020B	Total/NA
Total Suspended Solids	2.00		1.88	1.39	mg/L	1		I-3765-85	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-22 — Lab Sample ID: 310-284531-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.884		0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	0.655	J	1.00	0.400	ug/L	1		8260D	Total/NA
Barium	0.105		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.00139		0.000200	0.000100	mg/L	1		6020B	Total/NA
Chromium	0.00226	J	0.00500	0.00120	mg/L	1		6020B	Total/NA
Cobalt	0.00385		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00281	J B	0.00500	0.00180	mg/L	1		6020B	Total/NA
Nickel	0.0118		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	2.63		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-23 — Lab Sample ID: 310-284531-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.365	J	1.00	0.220	ug/L	1		8260D	Total/NA
Acetone	3.59	J	10.0	3.10	ug/L	1		8260D	Total/NA
Benzene	1.32		0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	4.49		1.00	0.400	ug/L	1		8260D	Total/NA
Chloroethane	3.01	J	4.00	0.790	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.698	J	1.00	0.210	ug/L	1		8260D	Total/NA
Arsenic	0.0319		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.373		0.00200	0.000660	mg/L	1		6020B	Total/NA
Beryllium	0.000334	J	0.00100	0.000330	mg/L	1		6020B	Total/NA
Chromium	0.00220	J	0.00500	0.00120	mg/L	1		6020B	Total/NA
Cobalt	0.00461		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00270	J	0.00500	0.00180	mg/L	1		6020B	Total/NA
Lead	0.000504		0.000500	0.000260	mg/L	1		6020B	Total/NA
Nickel	0.00815		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	147		15.0	11.1	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-24 — Lab Sample ID: 310-284531-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.248		0.00200	0.000660	mg/L	1		6020B	Total/NA
Copper	0.00597		0.00500	0.00180	mg/L	1		6020B	Total/NA

Client Sample ID: MW-25 — Lab Sample ID: 310-284531-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.000678	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.172		0.00200	0.000660	mg/L	1		6020B	Total/NA
Copper	0.00416	J	0.00500	0.00180	mg/L	1		6020B	Total/NA
Zinc	0.0104	J	0.0200	0.00970	mg/L	1		6020B	Total/NA
Total Suspended Solids	1.50	J	1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-26 — Lab Sample ID: 310-284531-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00176	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0957		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00177		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00886		0.00500	0.00180	mg/L	1		6020B	Total/NA
Lead	0.000463	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Sulfide	1.14		1.00	0.231	mg/L	1		9034	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-26 (Continued) — Lab Sample ID: 310-284531-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	4.75		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-36 — Lab Sample ID: 310-284531-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.218		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000107	J	0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.000332	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00502		0.00500	0.00180	mg/L	1		6020B	Total/NA
Lead	0.000421	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Nickel	0.00584		0.00500	0.00210	mg/L	1		6020B	Total/NA
Zinc	0.0143	J	0.0200	0.00970	mg/L	1		6020B	Total/NA
Total Suspended Solids	4.62		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-37 — Lab Sample ID: 310-284531-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	19.4		10.0	3.10	ug/L	1		8260D	Total/NA
Arsenic	0.00271		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.214		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000391	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00308	J	0.00500	0.00180	mg/L	1		6020B	Total/NA
Lead	0.000292	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Total Suspended Solids	279		7.50	5.55	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-38 — Lab Sample ID: 310-284531-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.765	J	1.00	0.220	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	1.50		1.00	0.230	ug/L	1		8260D	Total/NA
Acetone	8.75	J	10.0	3.10	ug/L	1		8260D	Total/NA
Benzene	3.88		0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	14.2		1.00	0.400	ug/L	1		8260D	Total/NA
Chloroethane	1.65	J	4.00	0.790	ug/L	1		8260D	Total/NA
Ethylbenzene	0.571	J	1.00	0.310	ug/L	1		8260D	Total/NA
Xylenes, Total	0.977	J	3.00	0.400	ug/L	1		8260D	Total/NA
Arsenic	0.0621		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	13.0		0.0200	0.00660	mg/L	10		6020B	Total/NA
Chromium	0.00183	J	0.00500	0.00120	mg/L	1		6020B	Total/NA
Cobalt	0.0365		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000308	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Nickel	0.0584		0.0500	0.0210	mg/L	10		6020B	Total/NA
Total Suspended Solids	72.0		15.0	11.1	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-39 — Lab Sample ID: 310-284531-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dichlorobenzene	0.284	J	1.00	0.230	ug/L	1		8260D	Total/NA
Arsenic	0.00517		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.181		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00293		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00215	J	0.00500	0.00180	mg/L	1		6020B	Total/NA
Lead	0.000514		0.000500	0.000260	mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-39 (Continued) — Lab Sample ID: 310-284531-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	0.00848		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	4.00		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-D1 — Lab Sample ID: 310-284531-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.495	J	1.00	0.210	ug/L	1		8260D	Total/NA
Barium	0.103		0.00200	0.000660	mg/L	1		6020B	Total/NA
Copper	0.00294	J	0.00500	0.00180	mg/L	1		6020B	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-284531-22

No Detections.

Client Sample ID: MW-4 — Lab Sample ID: 310-284531-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0278		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.542		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000582		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00198	J	0.00500	0.00180	mg/L	1		6020B	Total/NA
Lead	0.000357	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Vanadium	0.00112	J	0.00500	0.00110	mg/L	1		6020B	Total/NA
Total Suspended Solids	38.0		7.50	5.55	mg/L	1		I-3765-85	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-29
Lab Sample ID: 310-284531-1
Date Collected: 06/25/24 09:31
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 20:50	1
Barium	**0.0628**		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 20:50	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 20:50	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 20:50	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 15:00	1
Copper	<0.00500		0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 20:50	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 20:50	1
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/09/24 18:12	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/10/24 18:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	<5.00		5.00	3.70	mg/L			06/28/24 15:44	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-49BG
Lab Sample ID: 310-284531-2

Date Collected: 06/26/24 15:15
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 20:52	1
Barium	**0.0590**		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 20:52	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 20:52	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 20:52	1
Cobalt	**0.00565**		0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 15:02	1
Copper	**0.0286**	**B**	0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 20:52	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 20:52	1
Nickel	**0.00485**	**J**	0.00500	0.00210	mg/L		07/01/24 09:00	07/09/24 18:16	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/15/24 14:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**25.3**		3.75	2.78	mg/L			06/28/24 15:44	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-50BG
Lab Sample ID: 310-284531-3

Date Collected: 06/25/24 17:25
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00226**		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 21:04	1
Barium	**0.184**		0.00800	0.00264	mg/L		07/01/24 09:00	07/08/24 15:04	4
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 21:04	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 21:04	1
Cobalt	**0.00192**	**J**	0.00200	0.000680	mg/L		07/01/24 09:00	07/08/24 15:04	4
Copper	<0.00500		0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 21:04	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 21:04	1
Nickel	**0.0119**	**J**	0.0200	0.00840	mg/L		07/01/24 09:00	07/09/24 18:20	4
Zinc	<0.0800		0.0800	0.0388	mg/L		07/01/24 09:00	07/15/24 14:32	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**2.50**		1.88	1.39	mg/L			06/28/24 15:44	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-2
Lab Sample ID: 310-284531-4

Date Collected: 06/24/24 15:02
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 21:08	1
Barium	**0.168**		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 21:08	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 21:08	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 21:08	1
Cobalt	**0.0495**		0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 15:09	1
Copper	**0.00195**	**J B**	0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 21:08	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 21:08	1
Nickel	**0.0161**		0.00500	0.00210	mg/L		07/01/24 09:00	07/09/24 18:27	1
Zinc	**0.0202**		0.0200	0.00970	mg/L		07/01/24 09:00	07/15/24 14:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**10.8**		3.75	2.78	mg/L			06/28/24 15:44	1

Client Sample ID: MW-9
Lab Sample ID: 310-284531-5
Date Collected: 06/24/24 16:08
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 13:58	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 13:58	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 13:58	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 13:58	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 13:58	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 13:58	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 13:58	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 13:58	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 13:58	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 13:58	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 13:58	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 13:58	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 13:58	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 13:58	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 13:58	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 13:58	1
Acetone	<10.0		10.0	3.10	ug/L			07/01/24 13:58	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 13:58	1
Benzene	**0.392**	**J**	0.500	0.220	ug/L			07/01/24 13:58	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 13:58	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 13:58	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 13:58	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 13:58	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 13:58	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 13:58	1
Chlorobenzene	**14.0**		1.00	0.400	ug/L			07/01/24 13:58	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 13:58	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 13:58	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 13:58	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 13:58	1
cis-1,2-Dichloroethene	**0.865**	**J**	1.00	0.210	ug/L			07/01/24 13:58	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 13:58	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 13:58	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 13:58	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 13:58	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 13:58	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 13:58	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 13:58	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 13:58	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 13:58	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 13:58	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 13:58	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 13:58	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 13:58	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 13:58	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 13:58	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*108*		*73 - 130*		*07/01/24 13:58*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-9
Lab Sample ID: 310-284531-5
Date Collected: 06/24/24 16:08
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/01/24 13:58*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*07/01/24 13:58*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00162**	**J**	0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 21:10	1
Barium	**0.385**		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 21:10	1
Cadmium	**0.000281**		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 21:10	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 21:10	1
Cobalt	**0.0143**		0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 15:11	1
Copper	**0.00399**	**J B**	0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 21:10	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 21:10	1
Nickel	**0.0178**		0.00500	0.00210	mg/L		07/01/24 09:00	07/09/24 18:31	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/15/24 14:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**20.3**		3.75	2.78	mg/L			06/28/24 15:44	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-10A
Lab Sample ID: 310-284531-6

Date Collected: 06/25/24 12:22
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00730**		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 21:12	1
Barium	**0.413**		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 21:12	1
Cadmium	**0.000149**	**J**	0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 21:12	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 21:12	1
Cobalt	**0.00227**		0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 15:13	1
Copper	**0.00310**	**J B**	0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 21:12	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 21:12	1
Nickel	**0.00437**	**J**	0.00500	0.00210	mg/L		07/01/24 09:00	07/09/24 18:34	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/15/24 14:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**9.50**		1.88	1.39	mg/L			07/01/24 11:43	1

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-11
Lab Sample ID: 310-284531-7
Date Collected: 06/24/24 09:26
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 14:21	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 14:21	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 14:21	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 14:21	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 14:21	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 14:21	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 14:21	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 14:21	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 14:21	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 14:21	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 14:21	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 14:21	1
1,4-Dichlorobenzene	**0.237**	**J**	1.00	0.230	ug/L			07/01/24 14:21	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 14:21	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 14:21	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 14:21	1
Acetone	<10.0		10.0	3.10	ug/L			07/01/24 14:21	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 14:21	1
Benzene	<0.500		0.500	0.220	ug/L			07/01/24 14:21	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 14:21	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 14:21	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 14:21	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 14:21	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 14:21	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 14:21	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/01/24 14:21	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 14:21	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 14:21	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 14:21	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 14:21	1
cis-1,2-Dichloroethene	**0.507**	**J**	1.00	0.210	ug/L			07/01/24 14:21	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 14:21	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 14:21	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 14:21	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 14:21	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 14:21	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 14:21	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 14:21	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 14:21	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 14:21	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 14:21	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 14:21	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 14:21	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 14:21	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 14:21	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 14:21	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*73 - 130*		*07/01/24 14:21*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-11
Lab Sample ID: 310-284531-7
Date Collected: 06/24/24 09:26
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/01/24 14:21*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*07/01/24 14:21*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00229**		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 21:14	1
Barium	**0.259**		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 21:14	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 21:14	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 21:14	1
Cobalt	**0.000175**	**J**	0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 15:15	1
Copper	<0.00500		0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 21:14	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 21:14	1
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/09/24 18:38	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/15/24 14:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	<1.88		1.88	1.39	mg/L			06/28/24 15:44	1

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-12R
Lab Sample ID: 310-284531-8
Date Collected: 06/25/24 13:43
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 14:43	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 14:43	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 14:43	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 14:43	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 14:43	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 14:43	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 14:43	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 14:43	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 14:43	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 14:43	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 14:43	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 14:43	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 14:43	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 14:43	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 14:43	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 14:43	1
Acetone	**5.98**	**J**	10.0	3.10	ug/L			07/01/24 14:43	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 14:43	1
Benzene	**1.47**		0.500	0.220	ug/L			07/01/24 14:43	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 14:43	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 14:43	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 14:43	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 14:43	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 14:43	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 14:43	1
Chlorobenzene	**4.23**		1.00	0.400	ug/L			07/01/24 14:43	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 14:43	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 14:43	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 14:43	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 14:43	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/01/24 14:43	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 14:43	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 14:43	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 14:43	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 14:43	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 14:43	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 14:43	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 14:43	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 14:43	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 14:43	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 14:43	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 14:43	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 14:43	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 14:43	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 14:43	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 14:43	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*110*		*73 - 130*		*07/01/24 14:43*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-12R
Lab Sample ID: 310-284531-8
Date Collected: 06/25/24 13:43
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/01/24 14:43*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*07/01/24 14:43*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	<0.0488		0.0488	0.0215	ug/L		07/02/24 15:15	07/03/24 11:52	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/01/24 09:00	07/08/24 15:17	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 21:17	1
Barium	**0.0870**		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 21:17	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/01/24 09:00	07/09/24 18:56	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 21:17	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 21:17	1
Cobalt	**0.0125**		0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 15:17	1
Copper	**0.00247**	**J B**	0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 21:17	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 21:17	1
Nickel	**0.0521**		0.00500	0.00210	mg/L		07/01/24 09:00	07/15/24 14:53	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/01/24 09:00	07/05/24 21:17	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/01/24 09:00	07/05/24 21:17	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/01/24 09:00	07/08/24 15:17	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		07/01/24 09:00	07/08/24 15:17	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/15/24 14:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**101**		7.50	5.55	mg/L			06/28/24 15:44	1

Client: SCS Engineers
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Job ID: 310-284531-1

Client Sample ID: MW-13
Date Collected: 06/24/24 18:07
Date Received: 06/27/24 15:40

Lab Sample ID: 310-284531-9
Matrix: Groundwater

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 15:06	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 15:06	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 15:06	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 15:06	1
1,1-Dichloroethane	**0.860**	**J**	1.00	0.220	ug/L			07/01/24 15:06	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 15:06	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 15:06	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 15:06	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 15:06	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 15:06	1
1,2-Dichloroethane	**0.419**	**J**	1.00	0.390	ug/L			07/01/24 15:06	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 15:06	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 15:06	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 15:06	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 15:06	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 15:06	1
Acetone	**32.3**		10.0	3.10	ug/L			07/01/24 15:06	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 15:06	1
Benzene	**0.276**	**J**	0.500	0.220	ug/L			07/01/24 15:06	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 15:06	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 15:06	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 15:06	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 15:06	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 15:06	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 15:06	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/01/24 15:06	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 15:06	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 15:06	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 15:06	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 15:06	1
cis-1,2-Dichloroethene	**7.79**		1.00	0.210	ug/L			07/01/24 15:06	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 15:06	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 15:06	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 15:06	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 15:06	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 15:06	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 15:06	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 15:06	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 15:06	1
trans-1,2-Dichloroethene	**0.662**	**J**	1.00	0.270	ug/L			07/01/24 15:06	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 15:06	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 15:06	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 15:06	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 15:06	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 15:06	1
Vinyl chloride	**0.980**	**J**	1.00	0.180	ug/L			07/03/24 15:31	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*73 - 130*		*07/01/24 15:06*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-13
Lab Sample ID: 310-284531-9
Date Collected: 06/24/24 18:07
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*104*		*73 - 130*		*07/03/24 15:31*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/01/24 15:06*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/03/24 15:31*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*07/01/24 15:06*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*07/03/24 15:31*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00800		0.00800	0.00400	mg/L		07/01/24 09:00	07/08/24 15:29	4
Arsenic	**0.0233**		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 21:19	1
Barium	**0.628**		0.00800	0.00264	mg/L		07/01/24 09:00	07/08/24 15:29	4
Beryllium	<0.00400		0.00400	0.00132	mg/L		07/01/24 09:00	07/09/24 18:59	4
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 21:19	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 21:19	1
Cobalt	<0.00200		0.00200	0.000680	mg/L		07/01/24 09:00	07/08/24 15:29	4
Copper	**0.00192**	**J B**	0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 21:19	1
Lead	**0.000288**	**J**	0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 21:19	1
Nickel	<0.0200		0.0200	0.00840	mg/L		07/01/24 09:00	07/15/24 14:57	4
Selenium	<0.00500		0.00500	0.00140	mg/L		07/01/24 09:00	07/05/24 21:19	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/01/24 09:00	07/05/24 21:19	1
Thallium	<0.00400		0.00400	0.00228	mg/L		07/01/24 09:00	07/08/24 15:29	4
Vanadium	<0.0200		0.0200	0.00440	mg/L		07/01/24 09:00	07/08/24 15:29	4
Zinc	<0.0800		0.0800	0.0388	mg/L		07/01/24 09:00	07/15/24 14:57	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**26.0**		3.75	2.78	mg/L			06/28/24 15:44	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-21
Lab Sample ID: 310-284531-10

Date Collected: 06/24/24 16:49
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00596**		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 21:21	1
Barium	**0.567**		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 21:21	1
Cadmium	**0.000373**		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 21:21	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 21:21	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 15:31	1
Copper	**0.00332**	**J B**	0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 21:21	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 21:21	1
Nickel	**0.00355**	**J**	0.00500	0.00210	mg/L		07/01/24 09:00	07/15/24 15:01	1
Zinc	**0.0158**	**J**	0.0200	0.00970	mg/L		07/01/24 09:00	07/15/24 15:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**2.00**		1.88	1.39	mg/L			06/28/24 15:44	1

Client: SCS Engineers
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Job ID: 310-284531-1

Client Sample ID: MW-22
Date Collected: 06/25/24 10:35
Date Received: 06/27/24 15:40

Lab Sample ID: 310-284531-11
Matrix: Groundwater

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 15:29	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 15:29	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 15:29	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 15:29	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 15:29	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 15:29	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 15:29	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 15:29	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 15:29	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 15:29	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 15:29	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 15:29	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 15:29	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 15:29	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 15:29	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 15:29	1
Acetone	<10.0		10.0	3.10	ug/L			07/01/24 15:29	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 15:29	1
Benzene	**0.884**		0.500	0.220	ug/L			07/01/24 15:29	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 15:29	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 15:29	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 15:29	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 15:29	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 15:29	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 15:29	1
Chlorobenzene	**0.655**	**J**	1.00	0.400	ug/L			07/01/24 15:29	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 15:29	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 15:29	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 15:29	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 15:29	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/01/24 15:29	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 15:29	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 15:29	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 15:29	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 15:29	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 15:29	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 15:29	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 15:29	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 15:29	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 15:29	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 15:29	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 15:29	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 15:29	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 15:29	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 15:29	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 15:29	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*73 - 130*		*07/01/24 15:29*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-22
Lab Sample ID: 310-284531-11
Date Collected: 06/25/24 10:35
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/01/24 15:29*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*07/01/24 15:29*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 21:23	1
Barium	**0.105**		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 21:23	1
Cadmium	**0.00139**		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 21:23	1
Chromium	**0.00226**	**J**	0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 21:23	1
Cobalt	**0.00385**		0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 15:33	1
Copper	**0.00281**	**J B**	0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 21:23	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 21:23	1
Nickel	**0.0118**		0.00500	0.00210	mg/L		07/01/24 09:00	07/15/24 15:04	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/15/24 15:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**2.63**		1.88	1.39	mg/L			07/01/24 11:43	1

Client: SCS Engineers
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Job ID: 310-284531-1

Client Sample ID: MW-23
Date Collected: 06/26/24 13:08
Date Received: 06/27/24 15:40

Lab Sample ID: 310-284531-12
Matrix: Groundwater

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 15:51	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 15:51	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 15:51	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 15:51	1
1,1-Dichloroethane	**0.365**	**J**	1.00	0.220	ug/L			07/01/24 15:51	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 15:51	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 15:51	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 15:51	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 15:51	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 15:51	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 15:51	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 15:51	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 15:51	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 15:51	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 15:51	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 15:51	1
Acetone	**3.59**	**J**	10.0	3.10	ug/L			07/01/24 15:51	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 15:51	1
Benzene	**1.32**		0.500	0.220	ug/L			07/01/24 15:51	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 15:51	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 15:51	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 15:51	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 15:51	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 15:51	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 15:51	1
Chlorobenzene	**4.49**		1.00	0.400	ug/L			07/01/24 15:51	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 15:51	1
Chloroethane	**3.01**	**J**	4.00	0.790	ug/L			07/01/24 15:51	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 15:51	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 15:51	1
cis-1,2-Dichloroethene	**0.698**	**J**	1.00	0.210	ug/L			07/01/24 15:51	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 15:51	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 15:51	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 15:51	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 15:51	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 15:51	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 15:51	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 15:51	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 15:51	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 15:51	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 15:51	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 15:51	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 15:51	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 15:51	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 15:51	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 15:51	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*73 - 130*		*07/01/24 15:51*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-23
Lab Sample ID: 310-284531-12

Date Collected: 06/26/24 13:08
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/01/24 15:51*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*07/01/24 15:51*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/01/24 09:00	07/11/24 20:02	1
Arsenic	**0.0319**		0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:02	1
Barium	**0.373**		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 20:02	1
Beryllium	**0.000334**	**J**	0.00100	0.000330	mg/L		07/01/24 09:00	07/11/24 20:02	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:02	1
Chromium	**0.00220**	**J**	0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:02	1
Cobalt	**0.00461**		0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:02	1
Copper	**0.00270**	**J**	0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:02	1
Lead	**0.000504**		0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:02	1
Nickel	**0.00815**		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 18:01	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/01/24 09:00	07/11/24 20:02	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/01/24 09:00	07/11/24 20:02	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/01/24 09:00	07/11/24 20:02	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		07/01/24 09:00	07/11/24 20:02	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**147**		15.0	11.1	mg/L			07/01/24 11:43	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-24
Lab Sample ID: 310-284531-13
Date Collected: 06/25/24 16:53
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:04	1
Barium	**0.248**		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 20:04	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:04	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:04	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:04	1
Copper	**0.00597**		0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:04	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:04	1
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 18:05	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	<1.88		1.88	1.39	mg/L			06/28/24 15:44	1

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-25
Lab Sample ID: 310-284531-14
Date Collected: 06/25/24 12:51
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.000678	J	0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:25	1
Barium	0.172		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 20:25	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:25	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:25	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:25	1
Copper	0.00416	J	0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:25	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:25	1
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 18:16	1
Zinc	0.0104	J	0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	1.50	J	1.88	1.39	mg/L			06/28/24 15:44	1

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-26
Lab Sample ID: 310-284531-15
Date Collected: 06/25/24 14:11
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 16:14	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 16:14	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 16:14	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 16:14	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 16:14	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 16:14	1
1,1-Dichloropropene	<1.00		1.00	0.430	ug/L			07/01/24 16:14	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 16:14	1
1,2,4-Trichlorobenzene	<5.00		5.00	0.750	ug/L			07/01/24 16:14	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 16:14	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 16:14	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 16:14	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 16:14	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 16:14	1
1,3-Dichlorobenzene	<1.00		1.00	0.300	ug/L			07/01/24 16:14	1
1,3-Dichloropropane	<1.00		1.00	0.400	ug/L			07/01/24 16:14	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 16:14	1
2,2-Dichloropropane	<4.00		4.00	0.690	ug/L			07/01/24 16:14	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 16:14	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 16:14	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 16:14	1
Acetone	<10.0		10.0	3.10	ug/L			07/01/24 16:14	1
Acrolein	<10.0		10.0	3.60	ug/L			07/01/24 16:14	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 16:14	1
Allyl chloride	<2.00		2.00	0.700	ug/L			07/01/24 16:14	1
Benzene	<0.500		0.500	0.220	ug/L			07/01/24 16:14	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 16:14	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 16:14	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 16:14	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 16:14	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 16:14	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 16:14	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/01/24 16:14	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 16:14	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 16:14	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 16:14	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 16:14	1
Chloroprene	<1.00		1.00	0.230	ug/L			07/01/24 16:14	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/01/24 16:14	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 16:14	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 16:14	1
Dichlorodifluoromethane	<3.00		3.00	0.250	ug/L			07/01/24 16:14	1
Ethyl methacrylate	<2.00		2.00	0.680	ug/L			07/01/24 16:14	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 16:14	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 16:14	1
Methacrylonitrile	<10.0		10.0	3.30	ug/L			07/01/24 16:14	1
Methyl methacrylate	<2.00		2.00	0.760	ug/L			07/01/24 16:14	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 16:14	1
Naphthalene	<5.00		5.00	3.00	ug/L			07/01/24 16:14	1

Client Sample ID: MW-26
Lab Sample ID: 310-284531-15
Date Collected: 06/25/24 14:11
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	<10.0		10.0	3.40	ug/L			07/01/24 16:14	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 16:14	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 16:14	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 16:14	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 16:14	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 16:14	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 16:14	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 16:14	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 16:14	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 16:14	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 16:14	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*07/01/24 16:14*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/01/24 16:14*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*07/01/24 16:14*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	<9.62		9.62	0.519	ug/L		07/02/24 08:00	07/11/24 12:39	1
1,3,5-Trinitrobenzene	<9.62		9.62	2.21	ug/L		07/02/24 08:00	07/11/24 12:39	1
1,3-Dinitrobenzene	<9.62		9.62	3.08	ug/L		07/02/24 08:00	07/11/24 12:39	1
1,4-Naphthoquinone	<9.62		9.62	3.46	ug/L		07/02/24 08:00	07/11/24 12:39	1
1,4-phenylenediamine	<9.62	*-	9.62	1.83	ug/L		07/02/24 08:00	07/11/24 12:39	1
1-Naphthylamine	<9.62		9.62	2.40	ug/L		07/02/24 08:00	07/11/24 12:39	1
2,3,4,6-Tetrachlorophenol	<9.62		9.62	5.10	ug/L		07/02/24 08:00	07/11/24 12:39	1
2,4,5-Trichlorophenol	<9.62		9.62	5.10	ug/L		07/02/24 08:00	07/11/24 12:39	1
2,4,6-Trichlorophenol	<9.62		9.62	4.81	ug/L		07/02/24 08:00	07/11/24 12:39	1
2,4-Dichlorophenol	<9.62		9.62	0.817	ug/L		07/02/24 08:00	07/11/24 12:39	1
2,4-Dimethylphenol	<9.62		9.62	0.558	ug/L		07/02/24 08:00	07/11/24 12:39	1
2,4-Dinitrophenol	<19.2		19.2	12.5	ug/L		07/02/24 08:00	07/11/24 12:39	1
2,4-Dinitrotoluene	<9.62		9.62	6.15	ug/L		07/02/24 08:00	07/11/24 12:39	1
2,6-Dichlorophenol	<9.62		9.62	0.663	ug/L		07/02/24 08:00	07/11/24 12:39	1
2,6-Dinitrotoluene	<9.62		9.62	0.500	ug/L		07/02/24 08:00	07/11/24 12:39	1
2-Acetylaminofluorene	<9.62		9.62	2.60	ug/L		07/02/24 08:00	07/11/24 12:39	1
2-Chloronaphthalene	<9.62		9.62	0.615	ug/L		07/02/24 08:00	07/11/24 12:39	1
2-Chlorophenol	<9.62		9.62	0.519	ug/L		07/02/24 08:00	07/11/24 12:39	1
2-Methylnaphthalene	<9.62		9.62	0.567	ug/L		07/02/24 08:00	07/11/24 12:39	1
2-Methylphenol	<9.62		9.62	0.625	ug/L		07/02/24 08:00	07/11/24 12:39	1
2-Naphthylamine	<9.62		9.62	2.02	ug/L		07/02/24 08:00	07/11/24 12:39	1
2-Nitroaniline	<9.62		9.62	5.67	ug/L		07/02/24 08:00	07/11/24 12:39	1
2-Nitrophenol	<9.62		9.62	6.54	ug/L		07/02/24 08:00	07/11/24 12:39	1
3,3'-Dichlorobenzidine	<9.62		9.62	1.35	ug/L		07/02/24 08:00	07/11/24 12:39	1
3,3'-Dimethylbenzidine	<9.62	*1	9.62	1.44	ug/L		07/02/24 08:00	07/11/24 12:39	1
3-Methylcholanthrene	<9.62		9.62	0.308	ug/L		07/02/24 08:00	07/11/24 12:39	1
3-Nitroaniline	<9.62		9.62	2.60	ug/L		07/02/24 08:00	07/11/24 12:39	1
4,6-Dinitro-2-methylphenol	<9.62		9.62	6.63	ug/L		07/02/24 08:00	07/11/24 12:39	1
4-Aminobiphenyl	<9.62		9.62	2.12	ug/L		07/02/24 08:00	07/11/24 12:39	1
4-Bromophenyl phenyl ether	<9.62		9.62	0.673	ug/L		07/02/24 08:00	07/11/24 12:39	1

Client: SCS Engineers
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Job ID: 310-284531-1

Client Sample ID: MW-26
Date Collected: 06/25/24 14:11
Date Received: 06/27/24 15:40

Lab Sample ID: 310-284531-15
Matrix: Groundwater

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloro-3-methylphenol	<9.62		9.62	0.808	ug/L		07/02/24 08:00	07/11/24 12:39	1
4-Chloroaniline	<9.62		9.62	0.596	ug/L		07/02/24 08:00	07/11/24 12:39	1
4-Chlorophenyl phenyl ether	<9.62		9.62	0.663	ug/L		07/02/24 08:00	07/11/24 12:39	1
Methylphenol, 3 & 4	<9.62		9.62	0.673	ug/L		07/02/24 08:00	07/11/24 12:39	1
4-Nitroaniline	<9.62		9.62	1.25	ug/L		07/02/24 08:00	07/11/24 12:39	1
4-Nitrophenol	<9.62		9.62	7.31	ug/L		07/02/24 08:00	07/11/24 12:39	1
5-Nitro-o-toluidine	<9.62		9.62	2.69	ug/L		07/02/24 08:00	07/11/24 12:39	1
7,12-Dimethylbenz(a)anthracene	<9.62		9.62	1.83	ug/L		07/02/24 08:00	07/11/24 12:39	1
Acenaphthene	<9.62		9.62	0.615	ug/L		07/02/24 08:00	07/11/24 12:39	1
Acenaphthylene	<9.62		9.62	0.692	ug/L		07/02/24 08:00	07/11/24 12:39	1
Acetophenone	<9.62		9.62	0.663	ug/L		07/02/24 08:00	07/11/24 12:39	1
Anthracene	<9.62		9.62	0.837	ug/L		07/02/24 08:00	07/11/24 12:39	1
Benzo[a]anthracene	<9.62		9.62	0.817	ug/L		07/02/24 08:00	07/11/24 12:39	1
Benzo[a]pyrene	<9.62		9.62	7.79	ug/L		07/02/24 08:00	07/11/24 12:39	1
Benzo[b]fluoranthene	<9.62		9.62	4.71	ug/L		07/02/24 08:00	07/11/24 12:39	1
Benzo[g,h,i]perylene	<9.62		9.62	6.06	ug/L		07/02/24 08:00	07/11/24 12:39	1
Benzo[k]fluoranthene	<9.62		9.62	2.12	ug/L		07/02/24 08:00	07/11/24 12:39	1
Benzyl alcohol	<9.62		9.62	1.25	ug/L		07/02/24 08:00	07/11/24 12:39	1
Bis(2-chloroethoxy)methane	<9.62		9.62	0.731	ug/L		07/02/24 08:00	07/11/24 12:39	1
Bis(2-chloroethyl)ether	<9.62		9.62	0.788	ug/L		07/02/24 08:00	07/11/24 12:39	1
bis (2-chloroisopropyl) ether	<9.62		9.62	0.519	ug/L		07/02/24 08:00	07/11/24 12:39	1
Bis(2-ethylhexyl) phthalate	<9.62		9.62	5.29	ug/L		07/02/24 08:00	07/11/24 12:39	1
Butyl benzyl phthalate	<9.62		9.62	5.19	ug/L		07/02/24 08:00	07/11/24 12:39	1
Chlorobenzilate	<9.62		9.62	3.46	ug/L		07/02/24 08:00	07/11/24 12:39	1
Chrysene	<9.62		9.62	0.837	ug/L		07/02/24 08:00	07/11/24 12:39	1
Diallate	<9.62		9.62	3.85	ug/L		07/02/24 08:00	07/11/24 12:39	1
Dibenzo(a,h)anthracene	<9.62		9.62	3.75	ug/L		07/02/24 08:00	07/11/24 12:39	1
Dibenzofuran	<9.62		9.62	0.712	ug/L		07/02/24 08:00	07/11/24 12:39	1
Diethyl phthalate	<9.62		9.62	1.63	ug/L		07/02/24 08:00	07/11/24 12:39	1
Dimethoate	<9.62		9.62	3.46	ug/L		07/02/24 08:00	07/11/24 12:39	1
Dimethyl phthalate	<9.62		9.62	0.962	ug/L		07/02/24 08:00	07/11/24 12:39	1
Di-n-butyl phthalate	<9.62		9.62	5.38	ug/L		07/02/24 08:00	07/11/24 12:39	1
Di-n-octyl phthalate	<19.2		19.2	6.73	ug/L		07/02/24 08:00	07/11/24 12:39	1
Dinoseb	<9.62		9.62	2.31	ug/L		07/02/24 08:00	07/11/24 12:39	1
Diphenylamine	<9.62		9.62	5.77	ug/L		07/02/24 08:00	07/11/24 12:39	1
Disulfoton	<9.62		9.62	2.31	ug/L		07/02/24 08:00	07/11/24 12:39	1
Ethyl methanesulfonate	<9.62		9.62	3.46	ug/L		07/02/24 08:00	07/11/24 12:39	1
Ethyl Parathion	<9.62		9.62	2.12	ug/L		07/02/24 08:00	07/11/24 12:39	1
Famphur	<9.62	*+	9.62	3.65	ug/L		07/02/24 08:00	07/11/24 12:39	1
Fluoranthene	<9.62		9.62	1.63	ug/L		07/02/24 08:00	07/11/24 12:39	1
Fluorene	<9.62		9.62	0.760	ug/L		07/02/24 08:00	07/11/24 12:39	1
Hexachlorobenzene	<9.62		9.62	0.673	ug/L		07/02/24 08:00	07/11/24 12:39	1
Hexachlorobutadiene	<9.62		9.62	0.827	ug/L		07/02/24 08:00	07/11/24 12:39	1
Hexachlorocyclopentadiene	<9.62		9.62	4.90	ug/L		07/02/24 08:00	07/11/24 12:39	1
Hexachloroethane	<9.62		9.62	0.933	ug/L		07/02/24 08:00	07/11/24 12:39	1
Hexachloropropene	<9.62	*1	9.62	2.50	ug/L		07/02/24 08:00	07/11/24 12:39	1
Indeno[1,2,3-cd]pyrene	<9.62		9.62	4.04	ug/L		07/02/24 08:00	07/11/24 12:39	1
Isodrin	<9.62		9.62	4.52	ug/L		07/02/24 08:00	07/11/24 12:39	1
Isophorone	<9.62		9.62	0.894	ug/L		07/02/24 08:00	07/11/24 12:39	1

Client Sample ID: MW-26
Lab Sample ID: 310-284531-15
Date Collected: 06/25/24 14:11
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isosafrole	<9.62		9.62	2.21	ug/L		07/02/24 08:00	07/11/24 12:39	1
Kepone	<9.62	*+	9.62	0.962	ug/L		07/02/24 08:00	07/11/24 12:39	1
Methapyrilene	<9.62		9.62	0.731	ug/L		07/02/24 08:00	07/11/24 12:39	1
Methyl methanesulfonate	<9.62		9.62	3.17	ug/L		07/02/24 08:00	07/11/24 12:39	1
Methyl parathion	<9.62		9.62	2.21	ug/L		07/02/24 08:00	07/11/24 12:39	1
Nitrobenzene	<9.62		9.62	0.769	ug/L		07/02/24 08:00	07/11/24 12:39	1
N-Nitrosodiethylamine	<9.62		9.62	3.27	ug/L		07/02/24 08:00	07/11/24 12:39	1
N-Nitrosodimethylamine	<9.62		9.62	0.692	ug/L		07/02/24 08:00	07/11/24 12:39	1
N-Nitrosodi-n-butylamine	<9.62		9.62	3.75	ug/L		07/02/24 08:00	07/11/24 12:39	1
N-Nitrosodi-n-propylamine	<9.62		9.62	0.885	ug/L		07/02/24 08:00	07/11/24 12:39	1
N-Nitrosodiphenylamine	<9.62		9.62	0.721	ug/L		07/02/24 08:00	07/11/24 12:39	1
N-Nitrosomethylethylamine	<9.62		9.62	4.71	ug/L		07/02/24 08:00	07/11/24 12:39	1
N-Nitrosopiperidine	<9.62		9.62	2.60	ug/L		07/02/24 08:00	07/11/24 12:39	1
N-Nitrosopyrrolidine	<9.62		9.62	3.46	ug/L		07/02/24 08:00	07/11/24 12:39	1
o,o',o''-Triethylphosphorothioate	<9.62		9.62	3.08	ug/L		07/02/24 08:00	07/11/24 12:39	1
o-Toluidine	<9.62		9.62	2.79	ug/L		07/02/24 08:00	07/11/24 12:39	1
p-Dimethylamino azobenzene	<9.62		9.62	2.12	ug/L		07/02/24 08:00	07/11/24 12:39	1
Pentachlorobenzene	<9.62		9.62	2.69	ug/L		07/02/24 08:00	07/11/24 12:39	1
Pentachloronitrobenzene	<9.62		9.62	5.58	ug/L		07/02/24 08:00	07/11/24 12:39	1
Pentachlorophenol	<9.62		9.62	9.23	ug/L		07/02/24 08:00	07/11/24 12:39	1
Phenacetin	<9.62		9.62	1.83	ug/L		07/02/24 08:00	07/11/24 12:39	1
Phenanthrene	<9.62		9.62	0.760	ug/L		07/02/24 08:00	07/11/24 12:39	1
Phenol	<9.62		9.62	1.06	ug/L		07/02/24 08:00	07/11/24 12:39	1
Phorate	<9.62		9.62	3.08	ug/L		07/02/24 08:00	07/11/24 12:39	1
Pronamide	<9.62		9.62	2.60	ug/L		07/02/24 08:00	07/11/24 12:39	1
Pyrene	<9.62		9.62	0.760	ug/L		07/02/24 08:00	07/11/24 12:39	1
Safrole	<9.62		9.62	2.69	ug/L		07/02/24 08:00	07/11/24 12:39	1
Thionazin	<9.62		9.62	3.37	ug/L		07/02/24 08:00	07/11/24 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*61*		*25 - 110*	*07/02/24 08:00*	*07/11/24 12:39*	*1*
Phenol-d5 (Surr)	*62*		*21 - 110*	*07/02/24 08:00*	*07/11/24 12:39*	*1*
Nitrobenzene-d5 (Surr)	*96*		*45 - 129*	*07/02/24 08:00*	*07/11/24 12:39*	*1*
2-Fluorobiphenyl (Surr)	*77*		*39 - 118*	*07/02/24 08:00*	*07/11/24 12:39*	*1*
2,4,6-Tribromophenol (Surr)	*87*		*27 - 136*	*07/02/24 08:00*	*07/11/24 12:39*	*1*
Terphenyl-d14 (Surr)	*110*		*12 - 144*	*07/02/24 08:00*	*07/11/24 12:39*	*1*

Method: SW846 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	<10.0		10.0	2.60	mg/L			07/01/24 11:34	1
Isobutanol	<10.0		10.0	2.40	mg/L			07/01/24 11:34	1

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	<0.0886		0.0886	0.0222	ug/L		07/01/24 13:13	07/10/24 16:24	1
4,4'-DDE	<0.0886		0.0886	0.0266	ug/L		07/01/24 13:13	07/10/24 16:24	1
4,4'-DDT	<0.0886		0.0886	0.0177	ug/L		07/01/24 13:13	07/10/24 16:24	1
Aldrin	<0.0886		0.0886	0.0195	ug/L		07/01/24 13:13	07/10/24 16:24	1
alpha-BHC	<0.0886		0.0886	0.00886	ug/L		07/01/24 13:13	07/10/24 16:24	1
beta-BHC	<0.0886		0.0886	0.0372	ug/L		07/01/24 13:13	07/10/24 16:24	1

Client Sample ID: MW-26
Lab Sample ID: 310-284531-15
Date Collected: 06/25/24 14:11
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	<1.77		1.77	0.346	ug/L		07/01/24 13:13	07/10/24 16:24	1
delta-BHC	<0.0886		0.0886	0.0284	ug/L		07/01/24 13:13	07/10/24 16:24	1
Dieldrin	<0.0886		0.0886	0.0186	ug/L		07/01/24 13:13	07/10/24 16:24	1
Endosulfan I	<0.0886		0.0886	0.0248	ug/L		07/01/24 13:13	07/10/24 16:24	1
Endosulfan II	<0.0886		0.0886	0.0230	ug/L		07/01/24 13:13	07/10/24 16:24	1
Endosulfan sulfate	<0.0886		0.0886	0.0159	ug/L		07/01/24 13:13	07/10/24 16:24	1
Endrin	<0.0886		0.0886	0.0248	ug/L		07/01/24 13:13	07/10/24 16:24	1
Endrin aldehyde	<0.0886		0.0886	0.0239	ug/L		07/01/24 13:13	07/10/24 16:24	1
gamma-BHC (Lindane)	<0.0886		0.0886	0.00886	ug/L		07/01/24 13:13	07/10/24 16:24	1
Heptachlor	<0.0886		0.0886	0.0204	ug/L		07/01/24 13:13	07/10/24 16:24	1
Heptachlor epoxide	<0.0886		0.0886	0.0284	ug/L		07/01/24 13:13	07/10/24 16:24	1
Methoxychlor	<0.0886		0.0886	0.0284	ug/L		07/01/24 13:13	07/10/24 16:24	1
Toxaphene	<1.77		1.77	0.886	ug/L		07/01/24 13:13	07/10/24 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*32*		*10 - 136*	*07/01/24 13:13*	*07/10/24 16:24*	*1*
Tetrachloro-m-xylene	*79*		*10 - 130*	*07/01/24 13:13*	*07/10/24 16:24*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.77		1.77	0.727	ug/L		07/01/24 13:13	07/10/24 16:24	1
PCB-1221	<1.77		1.77	0.727	ug/L		07/01/24 13:13	07/10/24 16:24	1
PCB-1232	<1.77		1.77	0.727	ug/L		07/01/24 13:13	07/10/24 16:24	1
PCB-1242	<1.77		1.77	0.727	ug/L		07/01/24 13:13	07/10/24 16:24	1
PCB-1248	<1.77		1.77	0.611	ug/L		07/01/24 13:13	07/10/24 16:24	1
PCB-1254	<1.77		1.77	0.611	ug/L		07/01/24 13:13	07/10/24 16:24	1
PCB-1260	<1.77		1.77	0.611	ug/L		07/01/24 13:13	07/10/24 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*32*		*10 - 136*	*07/01/24 13:13*	*07/10/24 16:24*	*1*
Tetrachloro-m-xylene	*79*		*10 - 130*	*07/01/24 13:13*	*07/10/24 16:24*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	<0.147		0.147	0.0639	ug/L		07/02/24 15:15	07/03/24 12:20	1
Silvex (2,4,5-TP)	<0.0491		0.0491	0.0216	ug/L		07/02/24 15:15	07/03/24 12:20	1
2,4-D	<0.590		0.590	0.246	ug/L		07/02/24 15:15	07/03/24 12:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid (Surr)	*57*		*34 - 142*	*07/02/24 15:15*	*07/03/24 12:20*	*1*
2,4-Dichlorophenylacetic acid (Surr)	*51*		*34 - 142*	*07/02/24 15:15*	*07/03/24 12:20*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/01/24 09:00	07/11/24 20:27	1
Arsenic	**0.00176**	**J**	0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:27	1
Barium	**0.0957**		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 20:27	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/01/24 09:00	07/11/24 20:27	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:27	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:27	1
Cobalt	**0.00177**		0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:27	1

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-26
Lab Sample ID: 310-284531-15
Date Collected: 06/25/24 14:11
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	**0.00886**		0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:27	1
Lead	**0.000463**	**J**	0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:27	1
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 18:20	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/01/24 09:00	07/11/24 20:27	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/01/24 09:00	07/11/24 20:27	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/01/24 09:00	07/11/24 20:27	1
Tin	<0.00500		0.00500	0.00230	mg/L		07/01/24 09:00	07/11/24 20:27	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		07/01/24 09:00	07/11/24 20:27	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:27	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200	0.000110	mg/L		07/02/24 11:14	07/03/24 16:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	<0.0100		0.0100	0.00350	mg/L		07/03/24 09:55	07/03/24 17:41	1
Sulfide (SW846 9034)	**1.14**		1.00	0.231	mg/L		07/01/24 18:12	07/01/24 20:56	1
Total Suspended Solids (USGS I-3765-85)	**4.75**		1.88	1.39	mg/L			07/01/24 11:43	1

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-36
Lab Sample ID: 310-284531-16
Date Collected: 06/25/24 13:17
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 16:37	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 16:37	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 16:37	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 16:37	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 16:37	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 16:37	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 16:37	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 16:37	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 16:37	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 16:37	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 16:37	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 16:37	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 16:37	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 16:37	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 16:37	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 16:37	1
Acetone	<10.0		10.0	3.10	ug/L			07/01/24 16:37	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 16:37	1
Benzene	<0.500		0.500	0.220	ug/L			07/01/24 16:37	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 16:37	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 16:37	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 16:37	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 16:37	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 16:37	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 16:37	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/01/24 16:37	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 16:37	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 16:37	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 16:37	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 16:37	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/01/24 16:37	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 16:37	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 16:37	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 16:37	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 16:37	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 16:37	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 16:37	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 16:37	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 16:37	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 16:37	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 16:37	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 16:37	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 16:37	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 16:37	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 16:37	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 16:37	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 16:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*73 - 130*		*07/01/24 16:37*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-36
Lab Sample ID: 310-284531-16
Date Collected: 06/25/24 13:17
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/01/24 16:37*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*07/01/24 16:37*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/01/24 09:00	07/11/24 20:29	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:29	1
Barium	**0.218**		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 20:29	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/01/24 09:00	07/11/24 20:29	1
Cadmium	**0.000107**	**J**	0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:29	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:29	1
Cobalt	**0.000332**	**J**	0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:29	1
Copper	**0.00502**		0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:29	1
Lead	**0.000421**	**J**	0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:29	1
Nickel	**0.00584**		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 18:38	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/01/24 09:00	07/11/24 20:29	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/01/24 09:00	07/11/24 20:29	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/01/24 09:00	07/11/24 20:29	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		07/01/24 09:00	07/11/24 20:29	1
Zinc	**0.0143**	**J**	0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**4.62**		1.88	1.39	mg/L			07/01/24 11:43	1

Client: SCS Engineers
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Job ID: 310-284531-1

Client Sample ID: MW-37
Date Collected: 06/25/24 18:33
Date Received: 06/27/24 15:40

Lab Sample ID: 310-284531-17
Matrix: Groundwater

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 17:00	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 17:00	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 17:00	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 17:00	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 17:00	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 17:00	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 17:00	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 17:00	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 17:00	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 17:00	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 17:00	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 17:00	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 17:00	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 17:00	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 17:00	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 17:00	1
Acetone	**19.4**		10.0	3.10	ug/L			07/01/24 17:00	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 17:00	1
Benzene	<0.500		0.500	0.220	ug/L			07/01/24 17:00	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 17:00	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 17:00	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 17:00	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 17:00	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 17:00	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 17:00	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/01/24 17:00	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 17:00	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 17:00	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 17:00	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 17:00	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/01/24 17:00	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 17:00	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 17:00	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 17:00	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 17:00	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 17:00	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 17:00	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 17:00	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 17:00	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 17:00	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 17:00	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 17:00	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 17:00	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 17:00	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 17:00	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 17:00	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*115*		*73 - 130*		*07/01/24 17:00*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-37
Lab Sample ID: 310-284531-17
Date Collected: 06/25/24 18:33
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/01/24 17:00*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*07/01/24 17:00*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/01/24 09:00	07/11/24 20:31	1
Arsenic	**0.00271**		0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:31	1
Barium	**0.214**		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 20:31	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/01/24 09:00	07/11/24 20:31	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:31	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:31	1
Cobalt	**0.000391**	**J**	0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:31	1
Copper	**0.00308**	**J**	0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:31	1
Lead	**0.000292**	**J**	0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:31	1
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 18:41	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/01/24 09:00	07/11/24 20:31	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/01/24 09:00	07/11/24 20:31	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/01/24 09:00	07/11/24 20:31	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		07/01/24 09:00	07/11/24 20:31	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**279**		7.50	5.55	mg/L			07/01/24 11:43	1

Client: SCS Engineers
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Job ID: 310-284531-1

Client Sample ID: MW-38
Date Collected: 06/26/24 10:31
Date Received: 06/27/24 15:40

Lab Sample ID: 310-284531-18
Matrix: Groundwater

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 20:25	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 20:25	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 20:25	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 20:25	1
1,1-Dichloroethane	**0.765**	**J**	1.00	0.220	ug/L			07/01/24 20:25	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 20:25	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 20:25	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 20:25	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 20:25	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 20:25	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 20:25	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 20:25	1
1,4-Dichlorobenzene	**1.50**		1.00	0.230	ug/L			07/01/24 20:25	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 20:25	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 20:25	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 20:25	1
Acetone	**8.75**	**J**	10.0	3.10	ug/L			07/01/24 20:25	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 20:25	1
Benzene	**3.88**		0.500	0.220	ug/L			07/01/24 20:25	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 20:25	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 20:25	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 20:25	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 20:25	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 20:25	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 20:25	1
Chlorobenzene	**14.2**		1.00	0.400	ug/L			07/01/24 20:25	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 20:25	1
Chloroethane	**1.65**	**J**	4.00	0.790	ug/L			07/01/24 20:25	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 20:25	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 20:25	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/01/24 20:25	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 20:25	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 20:25	1
Ethylbenzene	**0.571**	**J**	1.00	0.310	ug/L			07/01/24 20:25	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 20:25	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 20:25	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 20:25	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 20:25	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 20:25	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 20:25	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 20:25	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 20:25	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 20:25	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 20:25	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 20:25	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 20:25	1
Xylenes, Total	**0.977**	**J**	3.00	0.400	ug/L			07/01/24 20:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*109*		*73 - 130*		*07/01/24 20:25*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-38
Lab Sample ID: 310-284531-18
Date Collected: 06/26/24 10:31
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/01/24 20:25*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*07/01/24 20:25*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	<0.0900		0.0900	0.0252	ug/L		07/01/24 13:13	07/05/24 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*72*		*10 - 136*	*07/01/24 13:13*	*07/05/24 16:05*	*1*
Tetrachloro-m-xylene (Surr)	*82*		*10 - 130*	*07/01/24 13:13*	*07/05/24 16:05*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0621**		0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:34	1
Barium	**13.0**		0.0200	0.00660	mg/L		07/01/24 09:00	07/12/24 18:45	10
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:34	1
Chromium	**0.00183**	**J**	0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:34	1
Cobalt	**0.0365**		0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:34	1
Copper	<0.00500		0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:34	1
Lead	**0.000308**	**J**	0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:34	1
Nickel	**0.0584**		0.0500	0.0210	mg/L		07/01/24 09:00	07/12/24 18:45	10
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**72.0**		15.0	11.1	mg/L			07/02/24 07:19	1

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-39
Lab Sample ID: 310-284531-19
Date Collected: 06/25/24 15:34
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 17:23	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 17:23	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 17:23	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 17:23	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 17:23	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 17:23	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 17:23	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 17:23	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 17:23	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 17:23	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 17:23	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 17:23	1
1,4-Dichlorobenzene	**0.284**	**J**	1.00	0.230	ug/L			07/01/24 17:23	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 17:23	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 17:23	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 17:23	1
Acetone	<10.0		10.0	3.10	ug/L			07/01/24 17:23	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 17:23	1
Benzene	<0.500		0.500	0.220	ug/L			07/01/24 17:23	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 17:23	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 17:23	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 17:23	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 17:23	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 17:23	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 17:23	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/01/24 17:23	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 17:23	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 17:23	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 17:23	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 17:23	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/01/24 17:23	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 17:23	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 17:23	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 17:23	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 17:23	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 17:23	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 17:23	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 17:23	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 17:23	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 17:23	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 17:23	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 17:23	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 17:23	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 17:23	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 17:23	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 17:23	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*113*		*73 - 130*		*07/01/24 17:23*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-39
Lab Sample ID: 310-284531-19
Date Collected: 06/25/24 15:34
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/01/24 17:23*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*07/01/24 17:23*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	<0.0923		0.0923	0.0259	ug/L		07/01/24 13:13	07/10/24 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*77*		*10 - 136*	*07/01/24 13:13*	*07/10/24 16:42*	*1*
Tetrachloro-m-xylene (Surr)	*85*		*10 - 130*	*07/01/24 13:13*	*07/10/24 16:42*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00517**		0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:36	1
Barium	**0.181**		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 20:36	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:36	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:36	1
Cobalt	**0.00293**		0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:36	1
Copper	**0.00215**	**J**	0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:36	1
Lead	**0.000514**		0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:36	1
Nickel	**0.00848**		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 18:49	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**4.00**		1.88	1.39	mg/L			07/01/24 11:43	1

Client: SCS Engineers
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Job ID: 310-284531-1

Client Sample ID: MW-D1
Date Collected: 06/24/24 09:26
Date Received: 06/27/24 15:40

Lab Sample ID: 310-284531-21
Matrix: Groundwater

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 17:46	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 17:46	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 17:46	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 17:46	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 17:46	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 17:46	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 17:46	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 17:46	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 17:46	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 17:46	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 17:46	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 17:46	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 17:46	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 17:46	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 17:46	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 17:46	1
Acetone	<10.0		10.0	3.10	ug/L			07/01/24 17:46	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 17:46	1
Benzene	<0.500		0.500	0.220	ug/L			07/01/24 17:46	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 17:46	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 17:46	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 17:46	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 17:46	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 17:46	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 17:46	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/01/24 17:46	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 17:46	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 17:46	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 17:46	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 17:46	1
cis-1,2-Dichloroethene	**0.495**	**J**	1.00	0.210	ug/L			07/01/24 17:46	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 17:46	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 17:46	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 17:46	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 17:46	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 17:46	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 17:46	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 17:46	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 17:46	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 17:46	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 17:46	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 17:46	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 17:46	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 17:46	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 17:46	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 17:46	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*115*		*73 - 130*		*07/01/24 17:46*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-D1
Lab Sample ID: 310-284531-21
Date Collected: 06/24/24 09:26
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/01/24 17:46*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*07/01/24 17:46*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:38	1
Barium	**0.103**		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 20:38	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:38	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:38	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:38	1
Copper	**0.00294**	**J**	0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:38	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:38	1
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 18:52	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	<1.88		1.88	1.39	mg/L			06/28/24 15:44	1

Client Sample ID: Trip Blank
Lab Sample ID: 310-284531-22
Date Collected: 06/24/24 00:00
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 13:35	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 13:35	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 13:35	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 13:35	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 13:35	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 13:35	1
1,1-Dichloropropene	<1.00		1.00	0.430	ug/L			07/01/24 13:35	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 13:35	1
1,2,4-Trichlorobenzene	<5.00		5.00	0.750	ug/L			07/01/24 13:35	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 13:35	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 13:35	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 13:35	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 13:35	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 13:35	1
1,3-Dichlorobenzene	<1.00		1.00	0.300	ug/L			07/01/24 13:35	1
1,3-Dichloropropane	<1.00		1.00	0.400	ug/L			07/01/24 13:35	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 13:35	1
2,2-Dichloropropane	<4.00		4.00	0.690	ug/L			07/01/24 13:35	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 13:35	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 13:35	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 13:35	1
Acetone	<10.0		10.0	3.10	ug/L			07/01/24 13:35	1
Acrolein	<10.0		10.0	3.60	ug/L			07/01/24 13:35	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 13:35	1
Allyl chloride	<2.00		2.00	0.700	ug/L			07/01/24 13:35	1
Benzene	<0.500		0.500	0.220	ug/L			07/01/24 13:35	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 13:35	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 13:35	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 13:35	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 13:35	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 13:35	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 13:35	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/01/24 13:35	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 13:35	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 13:35	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 13:35	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 13:35	1
Chloroprene	<1.00		1.00	0.230	ug/L			07/01/24 13:35	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/01/24 13:35	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 13:35	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 13:35	1
Dichlorodifluoromethane	<3.00		3.00	0.250	ug/L			07/01/24 13:35	1
Ethyl methacrylate	<2.00		2.00	0.680	ug/L			07/01/24 13:35	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 13:35	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 13:35	1
Methacrylonitrile	<10.0		10.0	3.30	ug/L			07/01/24 13:35	1
Methyl methacrylate	<2.00		2.00	0.760	ug/L			07/01/24 13:35	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 13:35	1
Naphthalene	<5.00		5.00	3.00	ug/L			07/01/24 13:35	1

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: Trip Blank
Lab Sample ID: 310-284531-22
Date Collected: 06/24/24 00:00
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	<10.0		10.0	3.40	ug/L			07/01/24 13:35	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 13:35	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 13:35	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 13:35	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 13:35	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 13:35	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 13:35	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 13:35	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 13:35	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 13:35	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 13:35	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 13:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*73 - 130*		*07/01/24 13:35*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/01/24 13:35*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*07/01/24 13:35*	*1*

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-4
Lab Sample ID: 310-284531-23
Date Collected: 06/24/24 14:30
Matrix: Groundwater
Date Received: 06/27/24 15:40

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/01/24 09:00	07/11/24 20:40	1
Arsenic	**0.0278**		0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 20:40	1
Barium	**0.542**		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 20:40	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/01/24 09:00	07/11/24 20:40	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 20:40	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 20:40	1
Cobalt	**0.000582**		0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 20:40	1
Copper	**0.00198**	**J**	0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 20:40	1
Lead	**0.000357**	**J**	0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 20:40	1
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 18:56	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/01/24 09:00	07/11/24 20:40	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/01/24 09:00	07/11/24 20:40	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/01/24 09:00	07/11/24 20:40	1
Vanadium	**0.00112**	**J**	0.00500	0.00110	mg/L		07/01/24 09:00	07/11/24 20:40	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 20:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**38.0**		7.50	5.55	mg/L			06/28/24 15:44	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F3	Duplicate RPD exceeds the control limit
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Groundwater — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)
310-284531-5	MW-9	108	98	102
310-284531-5 MS	MW-9	101	100	98
310-284531-5 MSD	MW-9	101	101	99
310-284531-7	MW-11	112	98	104
310-284531-8	MW-12R	110	98	103
310-284531-9	MW-13	112	98	104
310-284531-9	MW-13	104	96	103
310-284531-11	MW-22	112	99	105
310-284531-12	MW-23	112	99	104
310-284531-15	MW-26	114	99	104
310-284531-16	MW-36	112	98	104
310-284531-17	MW-37	115	97	104
310-284531-18	MW-38	109	99	102
310-284531-19	MW-39	113	99	103
310-284531-21	MW-D1	115	98	103
310-284531-22	Trip Blank	112	99	103

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)
LCS 310-426115/6	Lab Control Sample	99	102	99
LCS 310-426115/7	Lab Control Sample	115	100	102
LCS 310-426359/6	Lab Control Sample	101	98	99
LCS 310-426359/7	Lab Control Sample	102	97	101
MB 310-426115/5	Method Blank	112	97	105
MB 310-426359/5	Method Blank	99	96	99

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Groundwater — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	PHL	NBZ	FBP	TBP	TPHL
Lab Sample ID	Client Sample ID	(25-110)	(21-110)	(45-129)	(39-118)	(27-136)	(12-144)
310-284531-15	MW-26	61	62	96	77	87	110

Surrogate Legend

2FP = 2-Fluorophenol (Surr)

PHL = Phenol-d5 (Surr)

NBZ = Nitrobenzene-d5 (Surr)

FBP = 2-Fluorobiphenyl (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	PHL	NBZ	FBP	TBP	TPHL
Lab Sample ID	Client Sample ID	(25-110)	(21-110)	(45-129)	(39-118)	(27-136)	(12-144)
LCS 310-426155/2-A	Lab Control Sample	69	66	96	77	103	108
LCSD 310-426155/3-A	Lab Control Sample Dup	65	63	89	70	100	106
MB 310-426155/1-A	Method Blank	60	58	89	70	84	102

Surrogate Legend

2FP = 2-Fluorophenol (Surr)
PHL = Phenol-d5 (Surr)
NBZ = Nitrobenzene-d5 (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Groundwater **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		DCB1	TCX1	TCX1
Lab Sample ID	Client Sample ID	(10-136)	(10-130)	(10-130)
310-284531-15	MW-26	32	79	79
310-284531-15 MS	MW-26	84	77	77
310-284531-15 MSD	MW-26	93	95	95
310-284531-18	MW-38	72	82	82
310-284531-18 MS	MW-38	67	86	86
310-284531-18 MSD	MW-38	60	77	77
310-284531-19	MW-39	77	85	85

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB1	TCX1
Lab Sample ID	Client Sample ID	(10-136)	(10-130)
LCS 310-426145/18-A	Lab Control Sample	74	47
MB 310-426145/1-A	Method Blank	21	105

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene (Surr)

Surrogate Summary

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Groundwater **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		DCB1	TCX1										
Lab Sample ID	Client Sample ID	(10-136)	(10-130)										
310-284531-15	MW-26	32	79										
310-284531-15 MS	MW-26	84	77										
310-284531-15 MSD	MW-26	93	95										

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		DCB1	TCX1										
Lab Sample ID	Client Sample ID	(10-136)	(10-130)										
LCS 310-426145/19-A	Lab Control Sample	29	61										
MB 310-426145/1-A	Method Blank	21	106										

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Method: 8151A - Herbicides (GC)

Matrix: Groundwater **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		DCPAA1	DCPAA2										
Lab Sample ID	Client Sample ID	(34-142)	(34-142)										
310-284531-15	MW-26	57	51										

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

Method: 8151A - Herbicides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		DCPAA1	DCPAA2										
Lab Sample ID	Client Sample ID	(34-142)	(34-142)										
LCS 410-524027/2-A	Lab Control Sample	69	68										
MB 410-524027/1-A	Method Blank	71	61										

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-426115/5
Matrix: Water
Analysis Batch: 426115

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/01/24 12:26	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/01/24 12:26	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/01/24 12:26	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/01/24 12:26	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/01/24 12:26	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/01/24 12:26	1
1,1-Dichloropropene	<1.00		1.00	0.430	ug/L			07/01/24 12:26	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/01/24 12:26	1
1,2,4-Trichlorobenzene	<5.00		5.00	0.750	ug/L			07/01/24 12:26	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/01/24 12:26	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/01/24 12:26	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/01/24 12:26	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/01/24 12:26	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/01/24 12:26	1
1,3-Dichlorobenzene	<1.00		1.00	0.300	ug/L			07/01/24 12:26	1
1,3-Dichloropropane	<1.00		1.00	0.400	ug/L			07/01/24 12:26	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/01/24 12:26	1
2,2-Dichloropropane	<4.00		4.00	0.690	ug/L			07/01/24 12:26	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/01/24 12:26	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/01/24 12:26	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/01/24 12:26	1
Acetone	<10.0		10.0	3.10	ug/L			07/01/24 12:26	1
Acrolein	<10.0		10.0	3.60	ug/L			07/01/24 12:26	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/01/24 12:26	1
Allyl chloride	<2.00		2.00	0.700	ug/L			07/01/24 12:26	1
Benzene	<0.500		0.500	0.220	ug/L			07/01/24 12:26	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/01/24 12:26	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/01/24 12:26	1
Bromoform	<5.00		5.00	0.780	ug/L			07/01/24 12:26	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/01/24 12:26	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/01/24 12:26	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/01/24 12:26	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/01/24 12:26	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/01/24 12:26	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/01/24 12:26	1
Chloroform	<3.00		3.00	1.30	ug/L			07/01/24 12:26	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/01/24 12:26	1
Chloroprene	<1.00		1.00	0.230	ug/L			07/01/24 12:26	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/01/24 12:26	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/01/24 12:26	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/01/24 12:26	1
Dichlorodifluoromethane	<3.00		3.00	0.250	ug/L			07/01/24 12:26	1
Ethyl methacrylate	<2.00		2.00	0.680	ug/L			07/01/24 12:26	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/01/24 12:26	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/01/24 12:26	1
Methacrylonitrile	<10.0		10.0	3.30	ug/L			07/01/24 12:26	1
Methyl methacrylate	<2.00		2.00	0.760	ug/L			07/01/24 12:26	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/01/24 12:26	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-426115/5
Matrix: Water
Analysis Batch: 426115

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	<5.00		5.00	3.00	ug/L			07/01/24 12:26	1
Propionitrile	<10.0		10.0	3.40	ug/L			07/01/24 12:26	1
Styrene	<1.00		1.00	0.370	ug/L			07/01/24 12:26	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/01/24 12:26	1
Toluene	<1.00		1.00	0.430	ug/L			07/01/24 12:26	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/01/24 12:26	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/01/24 12:26	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/01/24 12:26	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/01/24 12:26	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/01/24 12:26	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/01/24 12:26	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/01/24 12:26	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/01/24 12:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*73 - 130*		*07/01/24 12:26*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/01/24 12:26*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*07/01/24 12:26*	*1*

Lab Sample ID: LCS 310-426115/6
Matrix: Water
Analysis Batch: 426115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	18.80		ug/L		94	71 - 120
1,1,1-Trichloroethane	20.0	19.95		ug/L		100	73 - 129
1,1,2,2-Tetrachloroethane	20.0	18.43		ug/L		92	68 - 124
1,1,2-Trichloroethane	20.0	19.24		ug/L		96	73 - 123
1,1-Dichloroethane	20.0	21.51		ug/L		108	70 - 127
1,1-Dichloroethene	20.0	20.76		ug/L		104	63 - 132
1,1-Dichloropropene	20.0	21.23		ug/L		106	69 - 132
1,2,3-Trichloropropane	20.0	18.85		ug/L		94	65 - 127
1,2,4-Trichlorobenzene	20.0	17.79		ug/L		89	68 - 124
1,2-Dibromo-3-chloropropane	20.0	17.04		ug/L		85	50 - 150
1,2-Dibromoethane (EDB)	20.0	19.44		ug/L		97	75 - 125
1,2-Dichlorobenzene	20.0	18.52		ug/L		93	74 - 120
1,2-Dichloroethane	20.0	21.26		ug/L		106	71 - 125
1,2-Dichloropropane	20.0	20.70		ug/L		103	73 - 124
1,3-Dichlorobenzene	20.0	18.83		ug/L		94	72 - 120
1,3-Dichloropropane	20.0	19.26		ug/L		96	72 - 125
1,4-Dichlorobenzene	20.0	18.50		ug/L		92	72 - 120
2,2-Dichloropropane	20.0	21.38		ug/L		107	50 - 150
2-Butanone (MEK)	40.0	44.10		ug/L		110	50 - 150
2-Hexanone	40.0	40.23		ug/L		101	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	43.44		ug/L		109	60 - 139
Acetone	40.0	42.21		ug/L		106	50 - 150
Acrolein	94.8	110.0		ug/L		116	49 - 150
Acrylonitrile	200	225.8		ug/L		113	50 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-426115/6
Matrix: Water
Analysis Batch: 426115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Allyl chloride	20.0	20.70		ug/L		103	49 - 150
Benzene	20.0	19.87		ug/L		99	72 - 124
Bromochloromethane	20.0	19.19		ug/L		96	73 - 130
Bromodichloromethane	20.0	18.62		ug/L		93	74 - 122
Bromoform	20.0	16.19		ug/L		81	61 - 122
Carbon disulfide	20.0	21.13		ug/L		106	59 - 135
Carbon tetrachloride	20.0	20.58		ug/L		103	67 - 132
Chlorobenzene	20.0	18.84		ug/L		94	76 - 120
Chlorodibromomethane	20.0	18.22		ug/L		91	71 - 121
Chloroform	20.0	19.58		ug/L		98	72 - 125
Chloroprene	20.0	23.70		ug/L		119	69 - 133
cis-1,2-Dichloroethene	20.0	19.06		ug/L		95	74 - 123
cis-1,3-Dichloropropene	20.0	19.82		ug/L		99	71 - 125
Dibromomethane	20.0	18.86		ug/L		94	74 - 125
Ethyl methacrylate	20.0	17.38		ug/L		87	70 - 129
Ethylbenzene	20.0	19.79		ug/L		99	74 - 122
Iodomethane	20.0	10.42		ug/L		52	10 - 150
Methacrylonitrile	200	193.2		ug/L		97	69 - 129
Methyl methacrylate	40.0	36.39		ug/L		91	68 - 131
Methylene chloride	20.0	20.62		ug/L		103	50 - 150
Naphthalene	20.0	17.44		ug/L		87	50 - 150
Propionitrile	200	220.2		ug/L		110	63 - 135
Styrene	20.0	18.85		ug/L		94	74 - 121
Tetrachloroethene	20.0	20.53		ug/L		103	71 - 130
Toluene	20.0	19.59		ug/L		98	74 - 123
trans-1,2-Dichloroethene	20.0	19.58		ug/L		98	70 - 126
trans-1,3-Dichloropropene	20.0	18.44		ug/L		92	69 - 123
trans-1,4-Dichloro-2-butene	20.0	19.55		ug/L		98	50 - 150
Trichloroethene	20.0	19.99		ug/L		100	72 - 126
Vinyl acetate	40.0	37.13		ug/L		93	50 - 150
Xylenes, Total	40.0	39.60		ug/L		99	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*99*		*73 - 130*
Toluene-d8 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

Lab Sample ID: LCS 310-426115/7
Matrix: Water
Analysis Batch: 426115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	20.0	20.08		ug/L		100	23 - 150
Chloroethane	20.0	23.45		ug/L		117	54 - 136
Chloromethane	20.0	27.07		ug/L		135	38 - 150
Dichlorodifluoromethane	20.0	28.92		ug/L		145	39 - 150
Trichlorofluoromethane	20.0	27.70		ug/L		139	54 - 149
Vinyl chloride	20.0	25.66		ug/L		128	56 - 140

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-426115/7
Matrix: Water
Analysis Batch: 426115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	*115*		*73 - 130*
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*

Lab Sample ID: 310-284531-5 MS
Matrix: Groundwater
Analysis Batch: 426115

Client Sample ID: MW-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	<1.00		20.0	15.94		ug/L		80	55 - 130
1,1,1-Trichloroethane	<1.00		20.0	15.73		ug/L		79	52 - 130
1,1,2,2-Tetrachloroethane	<1.00		20.0	16.53		ug/L		83	54 - 130
1,1,2-Trichloroethane	<1.00		20.0	16.95		ug/L		85	58 - 130
1,1-Dichloroethane	<1.00		20.0	17.92		ug/L		90	49 - 130
1,1-Dichloroethene	<2.00		20.0	14.76		ug/L		74	37 - 132
1,1-Dichloropropene	<1.00		20.0	16.24		ug/L		81	50 - 132
1,2,3-Trichloropropane	<1.00		20.0	17.30		ug/L		86	49 - 130
1,2,4-Trichlorobenzene	<5.00		20.0	15.08		ug/L		75	55 - 130
1,2-Dibromo-3-chloropropane	<5.00		20.0	14.82		ug/L		74	38 - 150
1,2-Dibromoethane (EDB)	<1.00		20.0	17.01		ug/L		85	60 - 130
1,2-Dichlorobenzene	<1.00		20.0	16.42		ug/L		82	59 - 130
1,2-Dichloroethane	<1.00		20.0	18.55		ug/L		93	51 - 130
1,2-Dichloropropane	<1.00		20.0	18.37		ug/L		92	57 - 130
1,3-Dichlorobenzene	<1.00		20.0	16.05		ug/L		80	57 - 130
1,3-Dichloropropane	<1.00		20.0	17.05		ug/L		85	56 - 130
1,4-Dichlorobenzene	<1.00		20.0	16.02		ug/L		80	57 - 130
2,2-Dichloropropane	<4.00		20.0	15.23		ug/L		76	25 - 150
2-Butanone (MEK)	<10.0		40.0	39.51		ug/L		99	38 - 150
2-Hexanone	<10.0		40.0	35.08		ug/L		88	46 - 140
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	38.75		ug/L		97	47 - 139
Acetone	<10.0		40.0	40.17		ug/L		100	31 - 150
Acrolein	<10.0		94.8	71.29		ug/L		75	25 - 150
Acrylonitrile	<5.00		200	204.1		ug/L		102	40 - 150
Allyl chloride	<2.00		20.0	16.13		ug/L		81	28 - 150
Benzene	0.392	J	20.0	16.72		ug/L		82	46 - 130
Bromochloromethane	<5.00		20.0	16.95		ug/L		85	57 - 130
Bromodichloromethane	<1.00		20.0	16.37		ug/L		82	57 - 130
Bromoform	<5.00		20.0	14.07		ug/L		70	44 - 130
Carbon disulfide	<1.00		20.0	15.11		ug/L		76	38 - 135
Carbon tetrachloride	<2.00		20.0	15.29		ug/L		76	45 - 132
Chlorobenzene	14.0		20.0	29.42		ug/L		77	59 - 130
Chlorodibromomethane	<5.00		20.0	15.67		ug/L		78	54 - 130
Chloroform	<3.00		20.0	17.09		ug/L		85	51 - 130
Chloroprene	<1.00		20.0	18.03		ug/L		90	43 - 133
cis-1,2-Dichloroethene	0.865	J	20.0	16.96		ug/L		80	45 - 130
cis-1,3-Dichloropropene	<5.00		20.0	16.84		ug/L		84	53 - 130
Dibromomethane	<1.00		20.0	16.93		ug/L		85	59 - 130
Ethyl methacrylate	<2.00		20.0	15.12		ug/L		76	54 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-284531-5 MS
Matrix: Groundwater
Analysis Batch: 426115

Client Sample ID: MW-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<1.00		20.0	16.76		ug/L		84	45 - 130
Iodomethane	<10.0		20.0	7.822	J	ug/L		39	10 - 150
Methacrylonitrile	<10.0		200	172.3		ug/L		86	55 - 130
Methyl methacrylate	<2.00		40.0	32.03		ug/L		80	44 - 139
Methylene chloride	<5.00		20.0	17.12		ug/L		86	37 - 150
Naphthalene	<5.00		20.0	15.22		ug/L		76	40 - 150
Propionitrile	<10.0		200	196.4		ug/L		98	49 - 135
Styrene	<1.00		20.0	16.38		ug/L		82	47 - 130
Tetrachloroethene	<1.00		20.0	16.97		ug/L		85	47 - 130
Toluene	<1.00		20.0	16.63		ug/L		83	51 - 130
trans-1,2-Dichloroethene	<1.00		20.0	15.58		ug/L		78	48 - 130
trans-1,3-Dichloropropene	<5.00		20.0	15.61		ug/L		78	50 - 130
trans-1,4-Dichloro-2-butene	<10.0		20.0	16.44		ug/L		82	26 - 150
Trichloroethene	<1.00		20.0	16.47		ug/L		82	51 - 130
Vinyl acetate	<10.0		40.0	30.81		ug/L		77	29 - 150
Xylenes, Total	<3.00		40.0	33.40		ug/L		84	43 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*101*		*73 - 130*
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*

Lab Sample ID: 310-284531-5 MSD
Matrix: Groundwater
Analysis Batch: 426115

Client Sample ID: MW-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	<1.00		20.0	16.26		ug/L		81	55 - 130	2	20
1,1,1-Trichloroethane	<1.00		20.0	15.79		ug/L		79	52 - 130	0	20
1,1,2,2-Tetrachloroethane	<1.00		20.0	16.39		ug/L		82	54 - 130	1	20
1,1,2-Trichloroethane	<1.00		20.0	16.98		ug/L		85	58 - 130	0	20
1,1-Dichloroethane	<1.00		20.0	17.95		ug/L		90	49 - 130	0	20
1,1-Dichloroethene	<2.00		20.0	14.83		ug/L		74	37 - 132	1	26
1,1-Dichloropropene	<1.00		20.0	15.87		ug/L		79	50 - 132	2	20
1,2,3-Trichloropropane	<1.00		20.0	16.69		ug/L		83	49 - 130	4	26
1,2,4-Trichlorobenzene	<5.00		20.0	16.74		ug/L		84	55 - 130	10	20
1,2-Dibromo-3-chloropropane	<5.00		20.0	15.09		ug/L		75	38 - 150	2	20
1,2-Dibromoethane (EDB)	<1.00		20.0	16.98		ug/L		85	60 - 130	0	20
1,2-Dichlorobenzene	<1.00		20.0	16.84		ug/L		84	59 - 130	3	20
1,2-Dichloroethane	<1.00		20.0	18.51		ug/L		93	51 - 130	0	20
1,2-Dichloropropane	<1.00		20.0	18.16		ug/L		91	57 - 130	1	20
1,3-Dichlorobenzene	<1.00		20.0	16.68		ug/L		83	57 - 130	4	20
1,3-Dichloropropane	<1.00		20.0	17.06		ug/L		85	56 - 130	0	20
1,4-Dichlorobenzene	<1.00		20.0	16.50		ug/L		83	57 - 130	3	20
2,2-Dichloropropane	<4.00		20.0	15.41		ug/L		77	25 - 150	1	25
2-Butanone (MEK)	<10.0		40.0	38.88		ug/L		97	38 - 150	2	20
2-Hexanone	<10.0		40.0	34.11		ug/L		85	46 - 140	3	20
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	37.94		ug/L		95	47 - 139	2	20

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-284531-5 MSD
Matrix: Groundwater
Analysis Batch: 426115

Client Sample ID: MW-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	<10.0		40.0	38.90		ug/L		97	31 - 150	3	29
Acrolein	<10.0		94.8	72.10		ug/L		76	25 - 150	1	31
Acrylonitrile	<5.00		200	202.1		ug/L		101	40 - 150	1	20
Allyl chloride	<2.00		20.0	15.96		ug/L		80	28 - 150	1	35
Benzene	0.392	J	20.0	16.59		ug/L		81	46 - 130	1	20
Bromochloromethane	<5.00		20.0	16.27		ug/L		81	57 - 130	4	20
Bromodichloromethane	<1.00		20.0	16.28		ug/L		81	57 - 130	1	20
Bromoform	<5.00		20.0	14.07		ug/L		70	44 - 130	0	20
Carbon disulfide	<1.00		20.0	14.23		ug/L		71	38 - 135	6	30
Carbon tetrachloride	<2.00		20.0	15.27		ug/L		76	45 - 132	0	20
Chlorobenzene	14.0		20.0	29.33		ug/L		77	59 - 130	0	20
Chlorodibromomethane	<5.00		20.0	16.05		ug/L		80	54 - 130	2	20
Chloroform	<3.00		20.0	17.03		ug/L		85	51 - 130	0	20
Chloroprene	<1.00		20.0	17.81		ug/L		89	43 - 133	1	20
cis-1,2-Dichloroethene	0.865	J	20.0	16.82		ug/L		80	45 - 130	1	20
cis-1,3-Dichloropropene	<5.00		20.0	16.54		ug/L		83	53 - 130	2	20
Dibromomethane	<1.00		20.0	16.84		ug/L		84	59 - 130	1	20
Ethyl methacrylate	<2.00		20.0	15.15		ug/L		76	54 - 130	0	20
Ethylbenzene	<1.00		20.0	16.87		ug/L		84	45 - 130	1	20
Iodomethane	<10.0		20.0	8.902	J	ug/L		45	10 - 150	13	35
Methacrylonitrile	<10.0		200	169.6		ug/L		85	55 - 130	2	20
Methyl methacrylate	<2.00		40.0	31.80		ug/L		80	44 - 139	1	20
Methylene chloride	<5.00		20.0	17.21		ug/L		86	37 - 150	1	24
Naphthalene	<5.00		20.0	16.39		ug/L		82	40 - 150	7	30
Propionitrile	<10.0		200	195.5		ug/L		98	49 - 135	0	20
Styrene	<1.00		20.0	16.45		ug/L		82	47 - 130	0	20
Tetrachloroethene	<1.00		20.0	16.52		ug/L		83	47 - 130	3	20
Toluene	<1.00		20.0	16.45		ug/L		82	51 - 130	1	20
trans-1,2-Dichloroethene	<1.00		20.0	15.23		ug/L		76	48 - 130	2	22
trans-1,3-Dichloropropene	<5.00		20.0	15.54		ug/L		78	50 - 130	0	20
trans-1,4-Dichloro-2-butene	<10.0		20.0	15.94		ug/L		80	26 - 150	3	23
Trichloroethene	<1.00		20.0	15.95		ug/L		80	51 - 130	3	20
Vinyl acetate	<10.0		40.0	30.03		ug/L		75	29 - 150	3	23
Xylenes, Total	<3.00		40.0	33.66		ug/L		84	43 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*101*		*73 - 130*
Toluene-d8 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 310-426359/5
Matrix: Water
Analysis Batch: 426359

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/03/24 13:54	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/03/24 13:54	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/03/24 13:54	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-426359/5
Matrix: Water
Analysis Batch: 426359

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/03/24 13:54	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/03/24 13:54	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/03/24 13:54	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/03/24 13:54	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/03/24 13:54	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/03/24 13:54	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/03/24 13:54	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/03/24 13:54	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/03/24 13:54	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/03/24 13:54	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/03/24 13:54	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/03/24 13:54	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/03/24 13:54	1
Acetone	<10.0		10.0	3.10	ug/L			07/03/24 13:54	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/03/24 13:54	1
Benzene	0.2235	J	0.500	0.220	ug/L			07/03/24 13:54	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/03/24 13:54	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/03/24 13:54	1
Bromoform	<5.00		5.00	0.780	ug/L			07/03/24 13:54	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/03/24 13:54	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/03/24 13:54	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/03/24 13:54	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/03/24 13:54	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/03/24 13:54	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/03/24 13:54	1
Chloroform	<3.00		3.00	1.30	ug/L			07/03/24 13:54	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/03/24 13:54	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/03/24 13:54	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/03/24 13:54	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/03/24 13:54	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/03/24 13:54	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/03/24 13:54	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/03/24 13:54	1
Styrene	<1.00		1.00	0.370	ug/L			07/03/24 13:54	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/03/24 13:54	1
Toluene	<1.00		1.00	0.430	ug/L			07/03/24 13:54	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/03/24 13:54	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/03/24 13:54	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/03/24 13:54	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/03/24 13:54	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/03/24 13:54	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/03/24 13:54	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/03/24 13:54	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/03/24 13:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*99*		*73 - 130*		*07/03/24 13:54*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/03/24 13:54*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-426359/5
Matrix: Water
Analysis Batch: 426359

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*07/03/24 13:54*	*1*

Lab Sample ID: LCS 310-426359/6
Matrix: Water
Analysis Batch: 426359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	19.61		ug/L		98	71 - 120
1,1,1-Trichloroethane	20.0	17.95		ug/L		90	73 - 129
1,1,2,2-Tetrachloroethane	20.0	20.25		ug/L		101	68 - 124
1,1,2-Trichloroethane	20.0	19.55		ug/L		98	73 - 123
1,1-Dichloroethane	20.0	18.42		ug/L		92	70 - 127
1,1-Dichloroethene	20.0	18.05		ug/L		90	63 - 132
1,2,3-Trichloropropane	20.0	19.42		ug/L		97	65 - 127
1,2-Dibromo-3-chloropropane	20.0	16.45		ug/L		82	50 - 150
1,2-Dibromoethane (EDB)	20.0	19.84		ug/L		99	75 - 125
1,2-Dichlorobenzene	20.0	19.14		ug/L		96	74 - 120
1,2-Dichloroethane	20.0	18.03		ug/L		90	71 - 125
1,2-Dichloropropane	20.0	19.36		ug/L		97	73 - 124
1,4-Dichlorobenzene	20.0	18.27		ug/L		91	72 - 120
2-Butanone (MEK)	40.0	34.10		ug/L		85	50 - 150
2-Hexanone	40.0	41.93		ug/L		105	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	38.87		ug/L		97	60 - 139
Acetone	40.0	34.58		ug/L		86	50 - 150
Acrylonitrile	200	182.8		ug/L		91	50 - 150
Benzene	20.0	18.10		ug/L		90	72 - 124
Bromochloromethane	20.0	19.99		ug/L		100	73 - 130
Bromodichloromethane	20.0	19.16		ug/L		96	74 - 122
Bromoform	20.0	16.55		ug/L		83	61 - 122
Carbon disulfide	20.0	15.94		ug/L		80	59 - 135
Carbon tetrachloride	20.0	17.41		ug/L		87	67 - 132
Chlorobenzene	20.0	18.44		ug/L		92	76 - 120
Chlorodibromomethane	20.0	19.54		ug/L		98	71 - 121
Chloroform	20.0	17.84		ug/L		89	72 - 125
cis-1,2-Dichloroethene	20.0	17.00		ug/L		85	74 - 123
cis-1,3-Dichloropropene	20.0	19.58		ug/L		98	71 - 125
Dibromomethane	20.0	17.77		ug/L		89	74 - 125
Ethylbenzene	20.0	18.66		ug/L		93	74 - 122
Iodomethane	20.0	15.98		ug/L		80	10 - 150
Methylene chloride	20.0	18.54		ug/L		93	50 - 150
Styrene	20.0	19.75		ug/L		99	74 - 121
Tetrachloroethene	20.0	19.70		ug/L		98	71 - 130
Toluene	20.0	18.22		ug/L		91	74 - 123
trans-1,2-Dichloroethene	20.0	17.79		ug/L		89	70 - 126
trans-1,3-Dichloropropene	20.0	19.16		ug/L		96	69 - 123
trans-1,4-Dichloro-2-butene	20.0	17.61		ug/L		88	50 - 150
Trichloroethene	20.0	18.67		ug/L		93	72 - 126
Vinyl acetate	40.0	38.12		ug/L		95	50 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-426359/6
Matrix: Water
Analysis Batch: 426359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			40.0	38.40		ug/L		96	73 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*101*		*73 - 130*
Toluene-d8 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

Lab Sample ID: LCS 310-426359/7
Matrix: Water
Analysis Batch: 426359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Bromomethane			20.0	17.36		ug/L		87	23 - 150		
Chloroethane			20.0	16.82		ug/L		84	54 - 136		
Chloromethane			20.0	17.89		ug/L		89	38 - 150		
Trichlorofluoromethane			20.0	17.44		ug/L		87	54 - 149		
Vinyl chloride			20.0	17.48		ug/L		87	56 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*102*		*73 - 130*
Toluene-d8 (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 310-426155/1-A
Matrix: Water
Analysis Batch: 426950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426155

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	<10.0		10.0	0.540	ug/L		07/02/24 08:00	07/11/24 11:00	1
1,3,5-Trinitrobenzene	<10.0		10.0	2.30	ug/L		07/02/24 08:00	07/11/24 11:00	1
1,3-Dinitrobenzene	<10.0		10.0	3.20	ug/L		07/02/24 08:00	07/11/24 11:00	1
1,4-Naphthoquinone	<10.0		10.0	3.60	ug/L		07/02/24 08:00	07/11/24 11:00	1
1,4-phenylenediamine	<10.0		10.0	1.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
1-Naphthylamine	<10.0		10.0	2.50	ug/L		07/02/24 08:00	07/11/24 11:00	1
2,3,4,6-Tetrachlorophenol	<10.0		10.0	5.30	ug/L		07/02/24 08:00	07/11/24 11:00	1
2,4,5-Trichlorophenol	<10.0		10.0	5.30	ug/L		07/02/24 08:00	07/11/24 11:00	1
2,4,6-Trichlorophenol	<10.0		10.0	5.00	ug/L		07/02/24 08:00	07/11/24 11:00	1
2,4-Dichlorophenol	<10.0		10.0	0.850	ug/L		07/02/24 08:00	07/11/24 11:00	1
2,4-Dimethylphenol	<10.0		10.0	0.580	ug/L		07/02/24 08:00	07/11/24 11:00	1
2,4-Dinitrophenol	<20.0		20.0	13.0	ug/L		07/02/24 08:00	07/11/24 11:00	1
2,4-Dinitrotoluene	<10.0		10.0	6.40	ug/L		07/02/24 08:00	07/11/24 11:00	1
2,6-Dichlorophenol	<10.0		10.0	0.690	ug/L		07/02/24 08:00	07/11/24 11:00	1
2,6-Dinitrotoluene	<10.0		10.0	0.520	ug/L		07/02/24 08:00	07/11/24 11:00	1
2-Acetylaminofluorene	<10.0		10.0	2.70	ug/L		07/02/24 08:00	07/11/24 11:00	1
2-Chloronaphthalene	<10.0		10.0	0.640	ug/L		07/02/24 08:00	07/11/24 11:00	1
2-Chlorophenol	<10.0		10.0	0.540	ug/L		07/02/24 08:00	07/11/24 11:00	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-426155/1-A
Matrix: Water
Analysis Batch: 426950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426155

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	<10.0		10.0	0.590	ug/L		07/02/24 08:00	07/11/24 11:00	1
2-Methylphenol	<10.0		10.0	0.650	ug/L		07/02/24 08:00	07/11/24 11:00	1
2-Naphthylamine	<10.0		10.0	2.10	ug/L		07/02/24 08:00	07/11/24 11:00	1
2-Nitroaniline	<10.0		10.0	5.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
2-Nitrophenol	<10.0		10.0	6.80	ug/L		07/02/24 08:00	07/11/24 11:00	1
3,3'-Dichlorobenzidine	<10.0		10.0	1.40	ug/L		07/02/24 08:00	07/11/24 11:00	1
3,3'-Dimethylbenzidine	<10.0		10.0	1.50	ug/L		07/02/24 08:00	07/11/24 11:00	1
3-Methylcholanthrene	<10.0		10.0	0.320	ug/L		07/02/24 08:00	07/11/24 11:00	1
3-Nitroaniline	<10.0		10.0	2.70	ug/L		07/02/24 08:00	07/11/24 11:00	1
4,6-Dinitro-2-methylphenol	<10.0		10.0	6.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
4-Aminobiphenyl	<10.0		10.0	2.20	ug/L		07/02/24 08:00	07/11/24 11:00	1
4-Bromophenyl phenyl ether	<10.0		10.0	0.700	ug/L		07/02/24 08:00	07/11/24 11:00	1
4-Chloro-3-methylphenol	<10.0		10.0	0.840	ug/L		07/02/24 08:00	07/11/24 11:00	1
4-Chloroaniline	<10.0		10.0	0.620	ug/L		07/02/24 08:00	07/11/24 11:00	1
4-Chlorophenyl phenyl ether	<10.0		10.0	0.690	ug/L		07/02/24 08:00	07/11/24 11:00	1
Methylphenol, 3 & 4	<10.0		10.0	0.700	ug/L		07/02/24 08:00	07/11/24 11:00	1
4-Nitroaniline	<10.0		10.0	1.30	ug/L		07/02/24 08:00	07/11/24 11:00	1
4-Nitrophenol	<10.0		10.0	7.60	ug/L		07/02/24 08:00	07/11/24 11:00	1
5-Nitro-o-toluidine	<10.0		10.0	2.80	ug/L		07/02/24 08:00	07/11/24 11:00	1
7,12-Dimethylbenz(a)anthracene	<10.0		10.0	1.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
Acenaphthene	<10.0		10.0	0.640	ug/L		07/02/24 08:00	07/11/24 11:00	1
Acenaphthylene	<10.0		10.0	0.720	ug/L		07/02/24 08:00	07/11/24 11:00	1
Acetophenone	<10.0		10.0	0.690	ug/L		07/02/24 08:00	07/11/24 11:00	1
Anthracene	<10.0		10.0	0.870	ug/L		07/02/24 08:00	07/11/24 11:00	1
Benzo[a]anthracene	<10.0		10.0	0.850	ug/L		07/02/24 08:00	07/11/24 11:00	1
Benzo[a]pyrene	<10.0		10.0	8.10	ug/L		07/02/24 08:00	07/11/24 11:00	1
Benzo[b]fluoranthene	<10.0		10.0	4.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
Benzo[g,h,i]perylene	<10.0		10.0	6.30	ug/L		07/02/24 08:00	07/11/24 11:00	1
Benzo[k]fluoranthene	<10.0		10.0	2.20	ug/L		07/02/24 08:00	07/11/24 11:00	1
Benzyl alcohol	<10.0		10.0	1.30	ug/L		07/02/24 08:00	07/11/24 11:00	1
Bis(2-chloroethoxy)methane	<10.0		10.0	0.760	ug/L		07/02/24 08:00	07/11/24 11:00	1
Bis(2-chloroethyl)ether	<10.0		10.0	0.820	ug/L		07/02/24 08:00	07/11/24 11:00	1
bis (2-chloroisopropyl) ether	<10.0		10.0	0.540	ug/L		07/02/24 08:00	07/11/24 11:00	1
Bis(2-ethylhexyl) phthalate	<10.0		10.0	5.50	ug/L		07/02/24 08:00	07/11/24 11:00	1
Butyl benzyl phthalate	<10.0		10.0	5.40	ug/L		07/02/24 08:00	07/11/24 11:00	1
Chlorobenzilate	<10.0		10.0	3.60	ug/L		07/02/24 08:00	07/11/24 11:00	1
Chrysene	<10.0		10.0	0.870	ug/L		07/02/24 08:00	07/11/24 11:00	1
Diallate	<10.0		10.0	4.00	ug/L		07/02/24 08:00	07/11/24 11:00	1
Dibenzo(a,h)anthracene	<10.0		10.0	3.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
Dibenzofuran	<10.0		10.0	0.740	ug/L		07/02/24 08:00	07/11/24 11:00	1
Diethyl phthalate	<10.0		10.0	1.70	ug/L		07/02/24 08:00	07/11/24 11:00	1
Dimethoate	<10.0		10.0	3.60	ug/L		07/02/24 08:00	07/11/24 11:00	1
Dimethyl phthalate	<10.0		10.0	1.00	ug/L		07/02/24 08:00	07/11/24 11:00	1
Di-n-butyl phthalate	<10.0		10.0	5.60	ug/L		07/02/24 08:00	07/11/24 11:00	1
Di-n-octyl phthalate	<20.0		20.0	7.00	ug/L		07/02/24 08:00	07/11/24 11:00	1
Dinoseb	<10.0		10.0	2.40	ug/L		07/02/24 08:00	07/11/24 11:00	1
Diphenylamine	<10.0		10.0	6.00	ug/L		07/02/24 08:00	07/11/24 11:00	1
Disulfoton	<10.0		10.0	2.40	ug/L		07/02/24 08:00	07/11/24 11:00	1
Ethyl methanesulfonate	<10.0		10.0	3.60	ug/L		07/02/24 08:00	07/11/24 11:00	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-426155/1-A
Matrix: Water
Analysis Batch: 426950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426155

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl Parathion	<10.0		10.0	2.20	ug/L		07/02/24 08:00	07/11/24 11:00	1
Famphur	<10.0		10.0	3.80	ug/L		07/02/24 08:00	07/11/24 11:00	1
Fluoranthene	<10.0		10.0	1.70	ug/L		07/02/24 08:00	07/11/24 11:00	1
Fluorene	<10.0		10.0	0.790	ug/L		07/02/24 08:00	07/11/24 11:00	1
Hexachlorobenzene	<10.0		10.0	0.700	ug/L		07/02/24 08:00	07/11/24 11:00	1
Hexachlorobutadiene	<10.0		10.0	0.860	ug/L		07/02/24 08:00	07/11/24 11:00	1
Hexachlorocyclopentadiene	<10.0		10.0	5.10	ug/L		07/02/24 08:00	07/11/24 11:00	1
Hexachloroethane	<10.0		10.0	0.970	ug/L		07/02/24 08:00	07/11/24 11:00	1
Hexachloropropene	<10.0		10.0	2.60	ug/L		07/02/24 08:00	07/11/24 11:00	1
Indeno[1,2,3-cd]pyrene	<10.0		10.0	4.20	ug/L		07/02/24 08:00	07/11/24 11:00	1
Isodrin	<10.0		10.0	4.70	ug/L		07/02/24 08:00	07/11/24 11:00	1
Isophorone	<10.0		10.0	0.930	ug/L		07/02/24 08:00	07/11/24 11:00	1
Isosafrole	<10.0		10.0	2.30	ug/L		07/02/24 08:00	07/11/24 11:00	1
Kepone	<10.0		10.0	1.00	ug/L		07/02/24 08:00	07/11/24 11:00	1
Methapyrilene	<10.0		10.0	0.760	ug/L		07/02/24 08:00	07/11/24 11:00	1
Methyl methanesulfonate	<10.0		10.0	3.30	ug/L		07/02/24 08:00	07/11/24 11:00	1
Methyl parathion	<10.0		10.0	2.30	ug/L		07/02/24 08:00	07/11/24 11:00	1
Nitrobenzene	<10.0		10.0	0.800	ug/L		07/02/24 08:00	07/11/24 11:00	1
N-Nitrosodiethylamine	<10.0		10.0	3.40	ug/L		07/02/24 08:00	07/11/24 11:00	1
N-Nitrosodimethylamine	<10.0		10.0	0.720	ug/L		07/02/24 08:00	07/11/24 11:00	1
N-Nitrosodi-n-butylamine	<10.0		10.0	3.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
N-Nitrosodi-n-propylamine	<10.0		10.0	0.920	ug/L		07/02/24 08:00	07/11/24 11:00	1
N-Nitrosodiphenylamine	<10.0		10.0	0.750	ug/L		07/02/24 08:00	07/11/24 11:00	1
N-Nitrosomethylethylamine	<10.0		10.0	4.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
N-Nitrosopiperidine	<10.0		10.0	2.70	ug/L		07/02/24 08:00	07/11/24 11:00	1
N-Nitrosopyrrolidine	<10.0		10.0	3.60	ug/L		07/02/24 08:00	07/11/24 11:00	1
o,o',o''-Triethylphosphorothioate	<10.0		10.0	3.20	ug/L		07/02/24 08:00	07/11/24 11:00	1
o-Toluidine	<10.0		10.0	2.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
p-Dimethylamino azobenzene	<10.0		10.0	2.20	ug/L		07/02/24 08:00	07/11/24 11:00	1
Pentachlorobenzene	<10.0		10.0	2.80	ug/L		07/02/24 08:00	07/11/24 11:00	1
Pentachloronitrobenzene	<10.0		10.0	5.80	ug/L		07/02/24 08:00	07/11/24 11:00	1
Pentachlorophenol	<10.0		10.0	9.60	ug/L		07/02/24 08:00	07/11/24 11:00	1
Phenacetin	<10.0		10.0	1.90	ug/L		07/02/24 08:00	07/11/24 11:00	1
Phenanthrene	<10.0		10.0	0.790	ug/L		07/02/24 08:00	07/11/24 11:00	1
Phenol	<10.0		10.0	1.10	ug/L		07/02/24 08:00	07/11/24 11:00	1
Phorate	<10.0		10.0	3.20	ug/L		07/02/24 08:00	07/11/24 11:00	1
Pronamide	<10.0		10.0	2.70	ug/L		07/02/24 08:00	07/11/24 11:00	1
Pyrene	<10.0		10.0	0.790	ug/L		07/02/24 08:00	07/11/24 11:00	1
Safrole	<10.0		10.0	2.80	ug/L		07/02/24 08:00	07/11/24 11:00	1
Thionazin	<10.0		10.0	3.50	ug/L		07/02/24 08:00	07/11/24 11:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*60*		*25 - 110*	*07/02/24 08:00*	*07/11/24 11:00*	*1*
Phenol-d5 (Surr)	*58*		*21 - 110*	*07/02/24 08:00*	*07/11/24 11:00*	*1*
Nitrobenzene-d5 (Surr)	*89*		*45 - 129*	*07/02/24 08:00*	*07/11/24 11:00*	*1*
2-Fluorobiphenyl (Surr)	*70*		*39 - 118*	*07/02/24 08:00*	*07/11/24 11:00*	*1*
2,4,6-Tribromophenol (Surr)	*84*		*27 - 136*	*07/02/24 08:00*	*07/11/24 11:00*	*1*
Terphenyl-d14 (Surr)	*102*		*12 - 144*	*07/02/24 08:00*	*07/11/24 11:00*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-426155/2-A
Matrix: Water
Analysis Batch: 426950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426155

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,4,5-Tetrachlorobenzene	100	68.12		ug/L		68	36 - 110
1,3,5-Trinitrobenzene	64.0	51.32		ug/L		80	39 - 144
1,3-Dinitrobenzene	100	96.78		ug/L		97	45 - 138
1,4-Naphthoquinone	64.0	49.27		ug/L		77	37 - 149
1,4-phenylenediamine	64.0	<10.0	*-	ug/L		-1	20 - 120
1-Naphthylamine	64.0	26.80		ug/L		42	19 - 110
2,3,4,6-Tetrachlorophenol	100	64.35		ug/L		64	33 - 134
2,4,5-Trichlorophenol	100	88.88		ug/L		89	35 - 133
2,4,6-Trichlorophenol	100	99.17		ug/L		99	28 - 139
2,4-Dichlorophenol	100	88.44		ug/L		88	41 - 124
2,4-Dimethylphenol	100	83.53		ug/L		84	31 - 142
2,4-Dinitrophenol	200	170.5		ug/L		85	10 - 138
2,4-Dinitrotoluene	100	84.30		ug/L		84	47 - 137
2,6-Dichlorophenol	100	87.28		ug/L		87	30 - 130
2,6-Dinitrotoluene	100	86.10		ug/L		86	51 - 130
2-Acetylaminofluorene	64.0	43.63		ug/L		68	35 - 150
2-Chloronaphthalene	100	67.71		ug/L		68	37 - 110
2-Chlorophenol	100	91.27		ug/L		91	44 - 117
2-Methylnaphthalene	100	68.66		ug/L		69	33 - 110
2-Methylphenol	100	82.17		ug/L		82	47 - 118
2-Naphthylamine	64.0	41.09		ug/L		64	18 - 127
2-Nitroaniline	100	96.44		ug/L		96	50 - 135
2-Nitrophenol	100	84.27		ug/L		84	41 - 129
3,3'-Dimethylbenzidine	64.0	10.54		ug/L		16	10 - 150
3-Methylcholanthrene	64.0	43.32		ug/L		68	43 - 150
3-Nitroaniline	100	91.80		ug/L		92	42 - 139
4,6-Dinitro-2-methylphenol	200	192.6		ug/L		96	22 - 143
4-Aminobiphenyl	64.0	47.49		ug/L		74	24 - 138
4-Bromophenyl phenyl ether	100	84.12		ug/L		84	45 - 119
4-Chloro-3-methylphenol	100	85.23		ug/L		85	49 - 130
4-Chloroaniline	100	76.30		ug/L		76	21 - 139
4-Chlorophenyl phenyl ether	100	73.95		ug/L		74	44 - 116
Methylphenol, 3 & 4	100	83.66		ug/L		84	46 - 117
4-Nitroaniline	100	82.02		ug/L		82	31 - 145
4-Nitrophenol	200	103.6		ug/L		52	18 - 110
5-Nitro-o-toluidine	64.0	54.31		ug/L		85	47 - 145
7,12-Dimethylbenz(a)anthracene	64.0	56.73		ug/L		89	51 - 129
Acenaphthene	100	80.42		ug/L		80	43 - 110
Acenaphthylene	100	74.90		ug/L		75	40 - 110
Acetophenone	100	86.92		ug/L		87	48 - 119
Anthracene	100	87.57		ug/L		88	51 - 120
Benzo[a]anthracene	100	81.68		ug/L		82	51 - 123
Benzo[a]pyrene	100	88.20		ug/L		88	48 - 125
Benzo[b]fluoranthene	100	85.34		ug/L		85	49 - 129
Benzo[g,h,i]perylene	100	88.62		ug/L		89	43 - 139
Benzo[k]fluoranthene	100	91.73		ug/L		92	47 - 130
Benzyl alcohol	100	86.19		ug/L		86	39 - 128
Bis(2-chloroethoxy)methane	100	84.50		ug/L		85	48 - 121

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-426155/2-A
Matrix: Water
Analysis Batch: 426950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426155

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bis(2-chloroethyl)ether	100	87.78		ug/L		88	43 - 123
bis (2-chloroisopropyl) ether	100	73.15		ug/L		73	34 - 123
Bis(2-ethylhexyl) phthalate	100	92.13		ug/L		92	43 - 143
Butyl benzyl phthalate	100	87.47		ug/L		87	46 - 135
Chlorobenzilate	64.0	56.85		ug/L		89	52 - 138
Chrysene	100	86.52		ug/L		87	51 - 125
Diallate	64.0	54.23		ug/L		85	42 - 141
Dibenzo(a,h)anthracene	100	78.97		ug/L		79	38 - 149
Dibenzofuran	100	78.81		ug/L		79	45 - 112
Diethyl phthalate	100	104.7		ug/L		105	43 - 135
Dimethoate	64.0	63.90		ug/L		100	51 - 150
Dimethyl phthalate	100	97.65		ug/L		98	43 - 129
Di-n-butyl phthalate	100	95.39		ug/L		95	50 - 133
Di-n-octyl phthalate	100	73.97		ug/L		74	34 - 150
Dinoseb	64.0	64.01		ug/L		100	25 - 146
Diphenylamine	85.0	73.12		ug/L		86	48 - 122
Disulfoton	64.0	44.72		ug/L		70	54 - 131
Ethyl methanesulfonate	64.0	48.58		ug/L		76	48 - 120
Ethyl Parathion	64.0	55.94		ug/L		87	52 - 149
Famphur	64.0	114.0	E *+	ug/L		178	44 - 150
Fluoranthene	100	84.01		ug/L		84	47 - 128
Fluorene	100	83.30		ug/L		83	45 - 119
Hexachlorobenzene	100	87.00		ug/L		87	48 - 119
Hexachlorobutadiene	100	64.62		ug/L		65	32 - 110
Hexachlorocyclopentadiene	100	39.62		ug/L		40	10 - 110
Hexachloroethane	100	51.11		ug/L		51	31 - 110
Hexachloropropene	64.0	10.02		ug/L		16	10 - 110
Indeno[1,2,3-cd]pyrene	100	84.05		ug/L		84	37 - 150
Isodrin	64.0	53.75		ug/L		84	52 - 125
Isophorone	100	80.93		ug/L		81	50 - 125
Isosafrole	64.0	46.20		ug/L		72	31 - 123
Kepone	64.0	113.0	*+	ug/L		177	10 - 150
Methapyrilene	64.0	15.86		ug/L		25	10 - 110
Methyl methanesulfonate	64.0	29.92		ug/L		47	36 - 110
Methyl parathion	64.0	63.66		ug/L		99	50 - 150
Nitrobenzene	100	78.91		ug/L		79	47 - 116
N-Nitrosodiethylamine	64.0	51.50		ug/L		80	47 - 138
N-Nitrosodimethylamine	100	67.95		ug/L		68	37 - 110
N-Nitrosodi-n-butylamine	64.0	54.91		ug/L		86	52 - 142
N-Nitrosodi-n-propylamine	100	89.54		ug/L		90	45 - 130
N-Nitrosodiphenylamine	100	86.54		ug/L		87	49 - 121
N-Nitrosomethylethylamine	64.0	55.34		ug/L		86	54 - 123
N-Nitrosopiperidine	64.0	55.48		ug/L		87	60 - 127
N-Nitrosopyrrolidine	64.0	53.52		ug/L		84	56 - 143
o,o',o''-Triethylphosphorothioate	64.0	51.36		ug/L		80	45 - 113
o-Toluidine	64.0	48.17		ug/L		75	24 - 142
p-Dimethylamino azobenzene	64.0	56.12		ug/L		88	42 - 138
Pentachlorobenzene	64.0	33.08		ug/L		52	33 - 110
Pentachloronitrobenzene	64.0	59.59		ug/L		93	65 - 127

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-426155/2-A
Matrix: Water
Analysis Batch: 426950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426155

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Pentachlorophenol			200	179.0		ug/L		90	26 - 133		
Phenacetin			64.0	57.60		ug/L		90	56 - 146		
Phenanthrene			100	88.45		ug/L		88	51 - 117		
Phenol			100	58.71		ug/L		59	29 - 110		
Phorate			64.0	51.00		ug/L		80	57 - 135		
Pronamide			64.0	55.82		ug/L		87	61 - 144		
Pyrene			100	90.12		ug/L		90	48 - 127		
Safrole			64.0	43.90		ug/L		69	34 - 110		
Thionazin			64.0	54.64		ug/L		85	52 - 147		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*69*		*25 - 110*
Phenol-d5 (Surr)	*66*		*21 - 110*
Nitrobenzene-d5 (Surr)	*96*		*45 - 129*
2-Fluorobiphenyl (Surr)	*77*		*39 - 118*
2,4,6-Tribromophenol (Surr)	*103*		*27 - 136*
Terphenyl-d14 (Surr)	*108*		*12 - 144*

Lab Sample ID: LCSD 310-426155/3-A
Matrix: Water
Analysis Batch: 426950

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 426155

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene			100	71.18		ug/L		71	36 - 110	4	35
1,3,5-Trinitrobenzene			64.0	47.89		ug/L		75	39 - 144	7	35
1,3-Dinitrobenzene			100	90.63		ug/L		91	45 - 138	7	35
1,4-Naphthoquinone			64.0	46.61		ug/L		73	37 - 149	6	29
1,4-phenylenediamine			64.0	<10.0	*-	ug/L		-2	20 - 120	25	35
1-Naphthylamine			64.0	25.84		ug/L		40	19 - 110	4	35
2,3,4,6-Tetrachlorophenol			100	62.66		ug/L		63	33 - 134	3	35
2,4,5-Trichlorophenol			100	87.46		ug/L		87	35 - 133	2	35
2,4,6-Trichlorophenol			100	92.00		ug/L		92	28 - 139	7	35
2,4-Dichlorophenol			100	85.78		ug/L		86	41 - 124	3	35
2,4-Dimethylphenol			100	84.12		ug/L		84	31 - 142	1	35
2,4-Dinitrophenol			200	159.3		ug/L		80	10 - 138	7	35
2,4-Dinitrotoluene			100	79.19		ug/L		79	47 - 137	6	35
2,6-Dichlorophenol			100	81.60		ug/L		82	30 - 130	7	35
2,6-Dinitrotoluene			100	80.76		ug/L		81	51 - 130	6	35
2-Acetylaminofluorene			64.0	46.68		ug/L		73	35 - 150	7	28
2-Chloronaphthalene			100	66.47		ug/L		66	37 - 110	2	35
2-Chlorophenol			100	85.26		ug/L		85	44 - 117	7	35
2-Methylnaphthalene			100	65.34		ug/L		65	33 - 110	5	35
2-Methylphenol			100	77.76		ug/L		78	47 - 118	6	35
2-Naphthylamine			64.0	37.70		ug/L		59	18 - 127	9	35
2-Nitroaniline			100	88.02		ug/L		88	50 - 135	9	35
2-Nitrophenol			100	79.84		ug/L		80	41 - 129	5	35
3,3'-Dimethylbenzidine			64.0	31.04	*1	ug/L		48	10 - 150	99	35
3-Methylcholanthrene			64.0	46.52		ug/L		73	43 - 150	7	32

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-426155/3-A
Matrix: Water
Analysis Batch: 426950

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 426155

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3-Nitroaniline	100	86.35		ug/L		86	42 - 139	6	35
4,6-Dinitro-2-methylphenol	200	171.2		ug/L		86	22 - 143	12	35
4-Aminobiphenyl	64.0	46.33		ug/L		72	24 - 138	2	35
4-Bromophenyl phenyl ether	100	84.02		ug/L		84	45 - 119	0	35
4-Chloro-3-methylphenol	100	80.84		ug/L		81	49 - 130	5	35
4-Chloroaniline	100	73.16		ug/L		73	21 - 139	4	35
4-Chlorophenyl phenyl ether	100	71.40		ug/L		71	44 - 116	4	35
Methylphenol, 3 & 4	100	78.97		ug/L		79	46 - 117	6	35
4-Nitroaniline	100	77.03		ug/L		77	31 - 145	6	35
4-Nitrophenol	200	97.98		ug/L		49	18 - 110	6	35
5-Nitro-o-toluidine	64.0	50.23		ug/L		78	47 - 145	8	31
7,12-Dimethylbenz(a)anthracene	64.0	53.68		ug/L		84	51 - 129	6	28
Acenaphthene	100	74.31		ug/L		74	43 - 110	8	35
Acenaphthylene	100	69.46		ug/L		69	40 - 110	8	35
Acetophenone	100	78.17		ug/L		78	48 - 119	11	35
Anthracene	100	83.33		ug/L		83	51 - 120	5	35
Benzo[a]anthracene	100	82.46		ug/L		82	51 - 123	1	35
Benzo[a]pyrene	100	86.63		ug/L		87	48 - 125	2	35
Benzo[b]fluoranthene	100	83.46		ug/L		83	49 - 129	2	35
Benzo[g,h,i]perylene	100	92.81		ug/L		93	43 - 139	5	35
Benzo[k]fluoranthene	100	96.31		ug/L		96	47 - 130	5	35
Benzyl alcohol	100	83.23		ug/L		83	39 - 128	3	35
Bis(2-chloroethoxy)methane	100	80.48		ug/L		80	48 - 121	5	35
Bis(2-chloroethyl)ether	100	82.75		ug/L		83	43 - 123	6	35
bis (2-chloroisopropyl) ether	100	65.11		ug/L		65	34 - 123	12	35
Bis(2-ethylhexyl) phthalate	100	92.67		ug/L		93	43 - 143	1	35
Butyl benzyl phthalate	100	87.60		ug/L		88	46 - 135	0	35
Chlorobenzilate	64.0	55.81		ug/L		87	52 - 138	2	28
Chrysene	100	89.28		ug/L		89	51 - 125	3	35
Diallate	64.0	56.84		ug/L		89	42 - 141	5	35
Dibenzo(a,h)anthracene	100	82.77		ug/L		83	38 - 149	5	35
Dibenzofuran	100	72.86		ug/L		73	45 - 112	8	35
Diethyl phthalate	100	91.34		ug/L		91	43 - 135	14	35
Dimethoate	64.0	61.18		ug/L		96	51 - 150	4	26
Dimethyl phthalate	100	91.04		ug/L		91	43 - 129	7	35
Di-n-butyl phthalate	100	92.26		ug/L		92	50 - 133	3	35
Di-n-octyl phthalate	100	75.33		ug/L		75	34 - 150	2	35
Dinoseb	64.0	60.83		ug/L		95	25 - 146	5	35
Diphenylamine	85.0	67.53		ug/L		79	48 - 122	8	35
Disulfoton	64.0	44.65		ug/L		70	54 - 131	0	24
Ethyl methanesulfonate	64.0	45.49		ug/L		71	48 - 120	7	27
Ethyl Parathion	64.0	55.25		ug/L		86	52 - 149	1	26
Famphur	64.0	112.1	E *+	ug/L		175	44 - 150	2	35
Fluoranthene	100	80.15		ug/L		80	47 - 128	5	35
Fluorene	100	77.39		ug/L		77	45 - 119	7	35
Hexachlorobenzene	100	87.50		ug/L		87	48 - 119	1	35
Hexachlorobutadiene	100	71.84		ug/L		72	32 - 110	11	35
Hexachlorocyclopentadiene	100	41.51		ug/L		42	10 - 110	5	35
Hexachloroethane	100	52.73		ug/L		53	31 - 110	3	35

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-426155/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 426950
Prep Batch: 426155

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexachloropropene			64.0	17.36	*1	ug/L		27	10 - 110	54	35
Indeno[1,2,3-cd]pyrene			100	86.61		ug/L		87	37 - 150	3	35
Isodrin			64.0	51.69		ug/L		81	52 - 125	4	26
Isophorone			100	76.66		ug/L		77	50 - 125	5	35
Isosafrole			64.0	45.94		ug/L		72	31 - 123	1	35
Kepone			64.0	125.2	*+	ug/L		196	10 - 150	10	35
Methapyrilene			64.0	11.22		ug/L		18	10 - 110	34	35
Methyl methanesulfonate			64.0	29.65		ug/L		46	36 - 110	1	26
Methyl parathion			64.0	59.11		ug/L		92	50 - 150	7	25
Nitrobenzene			100	73.66		ug/L		74	47 - 116	7	35
N-Nitrosodiethylamine			64.0	49.82		ug/L		78	47 - 138	3	26
N-Nitrosodimethylamine			100	68.48		ug/L		68	37 - 110	1	35
N-Nitrosodi-n-butylamine			64.0	54.05		ug/L		84	52 - 142	2	27
N-Nitrosodi-n-propylamine			100	80.37		ug/L		80	45 - 130	11	35
N-Nitrosodiphenylamine			100	80.46		ug/L		80	49 - 121	7	35
N-Nitrosomethylethylamine			64.0	53.33		ug/L		83	54 - 123	4	26
N-Nitrosopiperidine			64.0	52.47		ug/L		82	60 - 127	6	26
N-Nitrosopyrrolidine			64.0	50.82		ug/L		79	56 - 143	5	25
o,o',o''-Triethylphosphorothioate			64.0	46.23		ug/L		72	45 - 113	11	33
o-Toluidine			64.0	46.02		ug/L		72	24 - 142	5	35
p-Dimethylamino azobenzene			64.0	52.82		ug/L		83	42 - 138	6	29
Pentachlorobenzene			64.0	36.56		ug/L		57	33 - 110	10	35
Pentachloronitrobenzene			64.0	57.43		ug/L		90	65 - 127	4	29
Pentachlorophenol			200	177.6		ug/L		89	26 - 133	1	35
Phenacetin			64.0	53.33		ug/L		83	56 - 146	8	25
Phenanthrene			100	85.10		ug/L		85	51 - 117	4	35
Phenol			100	55.63		ug/L		56	29 - 110	5	35
Phorate			64.0	51.04		ug/L		80	57 - 135	0	26
Pronamide			64.0	54.71		ug/L		85	61 - 144	2	27
Pyrene			100	87.25		ug/L		87	48 - 127	3	35
Safrole			64.0	41.21		ug/L		64	34 - 110	6	35
Thionazin			64.0	50.03		ug/L		78	52 - 147	9	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*65*		*25 - 110*
Phenol-d5 (Surr)	*63*		*21 - 110*
Nitrobenzene-d5 (Surr)	*89*		*45 - 129*
2-Fluorobiphenyl (Surr)	*70*		*39 - 118*
2,4,6-Tribromophenol (Surr)	*100*		*27 - 136*
Terphenyl-d14 (Surr)	*106*		*12 - 144*

Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Lab Sample ID: MB 310-426054/4
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 426054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	<10.0		10.0	2.60	mg/L			07/01/24 09:02	1

Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection) (Continued)

Lab Sample ID: MB 310-426054/4
Matrix: Water
Analysis Batch: 426054

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutanol	<10.0		10.0	2.40	mg/L			07/01/24 09:02	1

Lab Sample ID: LCS 310-426054/5
Matrix: Water
Analysis Batch: 426054

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Acetonitrile			113	110.7		mg/L		98	67 - 132		
Isobutanol			104	96.35		mg/L		92	80 - 121		

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 310-426145/1-A
Matrix: Water
Analysis Batch: 426479

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	<0.0897		0.0897	0.0251	ug/L		07/01/24 13:13	07/05/24 14:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*21*		*10 - 136*	*07/01/24 13:13*	*07/05/24 14:27*	*1*
Tetrachloro-m-xylene (Surr)	*105*		*10 - 130*	*07/01/24 13:13*	*07/05/24 14:27*	*1*

Lab Sample ID: LCS 310-426145/18-A
Matrix: Water
Analysis Batch: 426479

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426145

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Endosulfan I			2.56	2.127		ug/L		83	10 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*74*		*10 - 136*
Tetrachloro-m-xylene (Surr)	*47*		*10 - 130*

Lab Sample ID: 310-284531-15 MS
Matrix: Groundwater
Analysis Batch: 426825

Client Sample ID: MW-26
Prep Type: Total/NA
Prep Batch: 426145

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*84*		*10 - 136*
Tetrachloro-m-xylene	*77*		*10 - 130*
Tetrachloro-m-xylene (Surr)	*77*		*10 - 130*

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 310-284531-15 MSD
Matrix: Groundwater
Analysis Batch: 426825

Client Sample ID: MW-26
Prep Type: Total/NA
Prep Batch: 426145

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	93		10 - 136
Tetrachloro-m-xylene	95		10 - 130
Tetrachloro-m-xylene (Surr)	95		10 - 130

Lab Sample ID: 310-284531-18 MS
Matrix: Groundwater
Analysis Batch: 426479

Client Sample ID: MW-38
Prep Type: Total/NA
Prep Batch: 426145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Endosulfan I	<0.0900		2.56	2.547		ug/L		99	10 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	67		10 - 136
Tetrachloro-m-xylene (Surr)	86		10 - 130

Lab Sample ID: 310-284531-18 MSD
Matrix: Groundwater
Analysis Batch: 426479

Client Sample ID: MW-38
Prep Type: Total/NA
Prep Batch: 426145

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Endosulfan I	<0.0900		2.57	2.327		ug/L		91	10 - 120	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	60		10 - 136
Tetrachloro-m-xylene (Surr)	77		10 - 130

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 310-426145/1-A
Matrix: Water
Analysis Batch: 426478

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1.79		1.79	0.736	ug/L		07/01/24 13:13	07/05/24 14:27	1
PCB-1221	<1.79		1.79	0.736	ug/L		07/01/24 13:13	07/05/24 14:27	1
PCB-1232	<1.79		1.79	0.736	ug/L		07/01/24 13:13	07/05/24 14:27	1
PCB-1242	<1.79		1.79	0.736	ug/L		07/01/24 13:13	07/05/24 14:27	1
PCB-1248	<1.79		1.79	0.619	ug/L		07/01/24 13:13	07/05/24 14:27	1
PCB-1254	<1.79		1.79	0.619	ug/L		07/01/24 13:13	07/05/24 14:27	1
PCB-1260	<1.79		1.79	0.619	ug/L		07/01/24 13:13	07/05/24 14:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	21		10 - 136	07/01/24 13:13	07/05/24 14:27	1
Tetrachloro-m-xylene	106		10 - 130	07/01/24 13:13	07/05/24 14:27	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 310-426145/19-A
Matrix: Water
Analysis Batch: 426826

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426145

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
PCB-1016			26.2	19.83		ug/L		76	30 - 133		
PCB-1260			26.2	17.85		ug/L		68	31 - 133		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*29*		*10 - 136*
Tetrachloro-m-xylene	*61*		*10 - 130*

Lab Sample ID: 310-284531-15 MS
Matrix: Groundwater
Analysis Batch: 426826

Client Sample ID: MW-26
Prep Type: Total/NA
Prep Batch: 426145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
PCB-1016	<1.77		26.3	22.15		ug/L		84	30 - 133		
PCB-1260	<1.77		26.3	21.08		ug/L		80	31 - 133		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*84*		*10 - 136*
Tetrachloro-m-xylene	*77*		*10 - 130*

Lab Sample ID: 310-284531-15 MSD
Matrix: Groundwater
Analysis Batch: 426826

Client Sample ID: MW-26
Prep Type: Total/NA
Prep Batch: 426145

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
PCB-1016	<1.77		26.8	26.27		ug/L		98	30 - 133	17	35
PCB-1260	<1.77		26.8	22.93		ug/L		86	31 - 133	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*93*		*10 - 136*
Tetrachloro-m-xylene	*95*		*10 - 130*

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 410-524027/1-A
Matrix: Water
Analysis Batch: 524207

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524027

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	<0.150		0.150	0.0650	ug/L		07/02/24 15:15	07/03/24 09:31	1
Silvex (2,4,5-TP)	<0.0500		0.0500	0.0220	ug/L		07/02/24 15:15	07/03/24 09:31	1
2,4-D	<0.600		0.600	0.250	ug/L		07/02/24 15:15	07/03/24 09:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid (Surr)	*71*		*34 - 142*	*07/02/24 15:15*	*07/03/24 09:31*	*1*
2,4-Dichlorophenylacetic acid (Surr)	*61*		*34 - 142*	*07/02/24 15:15*	*07/03/24 09:31*	*1*

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 410-524027/2-A
Matrix: Water
Analysis Batch: 524207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524027

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,4,5-T			0.250	0.2607		ug/L		104	57 - 171		
Silvex (2,4,5-TP)			0.250	0.2268		ug/L		91	62 - 170		
2,4-D			2.51	2.133		ug/L		85	53 - 159		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid (Surr)	*69*		*34 - 142*
2,4-Dichlorophenylacetic acid (Surr)	*68*		*34 - 142*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-426022/1-A
Matrix: Water
Analysis Batch: 426541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426022

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/05/24 20:12	1
Barium	<0.00200		0.00200	0.000660	mg/L		07/01/24 09:00	07/05/24 20:12	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/05/24 20:12	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/05/24 20:12	1
Copper	0.002243	J	0.00500	0.00180	mg/L		07/01/24 09:00	07/05/24 20:12	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/05/24 20:12	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/01/24 09:00	07/05/24 20:12	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/01/24 09:00	07/05/24 20:12	1

Lab Sample ID: MB 310-426022/1-A
Matrix: Water
Analysis Batch: 426684

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426022

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/01/24 09:00	07/08/24 14:28	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		07/01/24 09:00	07/08/24 14:28	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/01/24 09:00	07/08/24 14:28	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		07/01/24 09:00	07/08/24 14:28	1

Lab Sample ID: MB 310-426022/1-A
Matrix: Water
Analysis Batch: 426818

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426022

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/01/24 09:00	07/09/24 17:23	1
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/09/24 17:23	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/09/24 17:23	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 310-426022/2-A
Matrix: Water
Analysis Batch: 426541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426022

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.1987		mg/L		99	80 - 120
Barium	0.100	0.09751		mg/L		98	80 - 120
Cadmium	0.100	0.09333		mg/L		93	80 - 120
Chromium	0.100	0.1048		mg/L		105	80 - 120
Copper	0.200	0.2061		mg/L		103	80 - 120
Lead	0.200	0.2169		mg/L		108	80 - 120
Selenium	0.400	0.3901		mg/L		98	80 - 120
Silver	0.100	0.08003		mg/L		80	80 - 120

Lab Sample ID: LCS 310-426022/2-A
Matrix: Water
Analysis Batch: 426684

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426022

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2167		mg/L		108	80 - 120
Cobalt	0.100	0.1057		mg/L		106	80 - 120
Thallium	0.100	0.1012		mg/L		101	80 - 120
Vanadium	0.100	0.09950		mg/L		100	80 - 120

Lab Sample ID: LCS 310-426022/2-A
Matrix: Water
Analysis Batch: 426818

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426022

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	0.100	0.09770		mg/L		98	80 - 120
Nickel	0.200	0.2043		mg/L		102	80 - 120
Zinc	0.200	0.1801		mg/L		90	80 - 120

Lab Sample ID: 310-284531-3 DU
Matrix: Groundwater
Analysis Batch: 426541

Client Sample ID: MW-50BG
Prep Type: Total/NA
Prep Batch: 426022

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.00226		<0.00200		mg/L		NC	20
Barium	2.80	E	0.1685	F3	mg/L		177	20
Cadmium	<0.000200		<0.000200		mg/L		NC	20
Chromium	<0.00500		<0.00500		mg/L		NC	20
Copper	<0.00500		0.002529	J	mg/L		NC	20
Lead	<0.000500		<0.000500		mg/L		NC	20
Selenium	<0.00500		<0.00500		mg/L		NC	20
Silver	<0.00100		<0.00100		mg/L		NC	20

Lab Sample ID: 310-284531-3 DU
Matrix: Groundwater
Analysis Batch: 426684

Client Sample ID: MW-50BG
Prep Type: Total/NA
Prep Batch: 426022

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.00800		<0.00800		mg/L		NC	20
Barium	0.184		0.1945		mg/L		5	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 310-284531-3 DU
Matrix: Groundwater
Analysis Batch: 426684

Client Sample ID: MW-50BG
Prep Type: Total/NA
Prep Batch: 426022

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cobalt	0.00192	J	0.002128		mg/L		10	20
Selenium	<0.0200		<0.0200		mg/L		NC	20
Thallium	<0.00400		<0.00400		mg/L		NC	20
Vanadium	<0.0200		<0.0200		mg/L		NC	20

Lab Sample ID: 310-284531-3 DU
Matrix: Groundwater
Analysis Batch: 426818

Client Sample ID: MW-50BG
Prep Type: Total/NA
Prep Batch: 426022

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Barium	0.193		0.1690		mg/L		13	20
Beryllium	<0.00400		<0.00400		mg/L		NC	20
Nickel	0.0119	J	0.01291	J	mg/L		8	20
Selenium	<0.0200		<0.0200		mg/L		NC	20
Silver	<0.00400		<0.00400		mg/L		NC	20
Thallium	<0.00400		<0.00400		mg/L		NC	20
Vanadium	<0.0200		<0.0200		mg/L		NC	20

Lab Sample ID: 310-284531-3 DU
Matrix: Groundwater
Analysis Batch: 427313

Client Sample ID: MW-50BG
Prep Type: Total/NA
Prep Batch: 426022

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Zinc	<0.0800		<0.0800		mg/L		NC	20

Lab Sample ID: MB 310-426024/1-A
Matrix: Water
Analysis Batch: 427085

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426024

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/01/24 09:00	07/11/24 19:58	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		07/01/24 09:00	07/11/24 19:58	1
Barium	<0.00200		0.00200	0.000660	mg/L		07/01/24 09:00	07/11/24 19:58	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		07/01/24 09:00	07/11/24 19:58	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/01/24 09:00	07/11/24 19:58	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/01/24 09:00	07/11/24 19:58	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		07/01/24 09:00	07/11/24 19:58	1
Copper	<0.00500		0.00500	0.00180	mg/L		07/01/24 09:00	07/11/24 19:58	1
Lead	<0.000500		0.000500	0.000260	mg/L		07/01/24 09:00	07/11/24 19:58	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/01/24 09:00	07/11/24 19:58	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/01/24 09:00	07/11/24 19:58	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/01/24 09:00	07/11/24 19:58	1
Tin	<0.00500		0.00500	0.00230	mg/L		07/01/24 09:00	07/11/24 19:58	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		07/01/24 09:00	07/11/24 19:58	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/01/24 09:00	07/11/24 19:58	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 310-426024/1-A
Matrix: Water
Analysis Batch: 427204

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426024

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	<0.00500		0.00500	0.00210	mg/L		07/01/24 09:00	07/12/24 17:54	1

Lab Sample ID: LCS 310-426024/2-A
Matrix: Water
Analysis Batch: 427085

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426024

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2214		mg/L		111	80 - 120
Arsenic	0.200	0.2063		mg/L		103	80 - 120
Barium	0.100	0.1067		mg/L		107	80 - 120
Beryllium	0.100	0.09720		mg/L		97	80 - 120
Cadmium	0.100	0.1009		mg/L		101	80 - 120
Chromium	0.100	0.1008		mg/L		101	80 - 120
Cobalt	0.100	0.1044		mg/L		104	80 - 120
Copper	0.200	0.2060		mg/L		103	80 - 120
Lead	0.200	0.2148		mg/L		107	80 - 120
Selenium	0.400	0.3928		mg/L		98	80 - 120
Silver	0.100	0.1022		mg/L		102	80 - 120
Thallium	0.100	0.1006		mg/L		101	80 - 120
Tin	0.200	0.1961		mg/L		98	80 - 120
Vanadium	0.100	0.09956		mg/L		100	80 - 120
Zinc	0.200	0.1891		mg/L		95	80 - 120

Lab Sample ID: LCS 310-426024/2-A
Matrix: Water
Analysis Batch: 427204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426024

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nickel	0.200	0.2013		mg/L		101	80 - 120

Lab Sample ID: 310-284531-13 MS
Matrix: Groundwater
Analysis Batch: 427085

Client Sample ID: MW-24
Prep Type: Total/NA
Prep Batch: 426024

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.00200		0.200	0.2238		mg/L		112	75 - 125
Arsenic	<0.00200		0.200	0.2122		mg/L		106	75 - 125
Barium	0.248		0.100	0.3614		mg/L		114	75 - 125
Beryllium	<0.00100		0.100	0.1098		mg/L		110	75 - 125
Cadmium	<0.000200		0.100	0.09909		mg/L		99	75 - 125
Chromium	<0.00500		0.100	0.1018		mg/L		102	75 - 125
Cobalt	<0.000500		0.100	0.1029		mg/L		103	75 - 125
Copper	0.00597		0.200	0.2063		mg/L		100	75 - 125
Lead	<0.000500		0.200	0.2123		mg/L		106	75 - 125
Selenium	0.00140	J	0.400	0.4139		mg/L		103	75 - 125
Silver	<0.00100		0.100	0.1058		mg/L		106	75 - 125
Thallium	<0.00100		0.100	0.1027		mg/L		103	75 - 125
Tin	<0.00500		0.200	0.1984		mg/L		99	75 - 125
Vanadium	<0.00500		0.100	0.1012		mg/L		101	75 - 125

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 310-284531-13 MS
Matrix: Groundwater
Analysis Batch: 427085

Client Sample ID: MW-24
Prep Type: Total/NA
Prep Batch: 426024

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Zinc	<0.0200		0.200	0.1949		mg/L		97	75 - 125

Lab Sample ID: 310-284531-13 MS
Matrix: Groundwater
Analysis Batch: 427204

Client Sample ID: MW-24
Prep Type: Total/NA
Prep Batch: 426024

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nickel	<0.00500		0.200	0.1886		mg/L		94	75 - 125

Lab Sample ID: 310-284531-13 MSD
Matrix: Groundwater
Analysis Batch: 427085

Client Sample ID: MW-24
Prep Type: Total/NA
Prep Batch: 426024

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.00200		0.200	0.2225		mg/L		111	75 - 125	1	20
Arsenic	<0.00200		0.200	0.2128		mg/L		106	75 - 125	0	20
Barium	0.248		0.100	0.3613		mg/L		114	75 - 125	0	20
Beryllium	<0.00100		0.100	0.1046		mg/L		105	75 - 125	5	20
Cadmium	<0.000200		0.100	0.09957		mg/L		100	75 - 125	0	20
Chromium	<0.00500		0.100	0.1012		mg/L		101	75 - 125	1	20
Cobalt	<0.000500		0.100	0.1021		mg/L		102	75 - 125	1	20
Copper	0.00597		0.200	0.2059		mg/L		100	75 - 125	0	20
Lead	<0.000500		0.200	0.2119		mg/L		106	75 - 125	0	20
Selenium	0.00140	J	0.400	0.4099		mg/L		102	75 - 125	1	20
Silver	<0.00100		0.100	0.1042		mg/L		104	75 - 125	2	20
Thallium	<0.00100		0.100	0.1009		mg/L		101	75 - 125	2	20
Tin	<0.00500		0.200	0.1960		mg/L		98	75 - 125	1	20
Vanadium	<0.00500		0.100	0.1004		mg/L		100	75 - 125	1	20
Zinc	<0.0200		0.200	0.1933		mg/L		97	75 - 125	1	20

Lab Sample ID: 310-284531-13 MSD
Matrix: Groundwater
Analysis Batch: 427204

Client Sample ID: MW-24
Prep Type: Total/NA
Prep Batch: 426024

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nickel	<0.00500		0.200	0.1875		mg/L		94	75 - 125	1	20

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 310-426366/1-A
Matrix: Water
Analysis Batch: 426438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426366

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.004427	J	0.0100	0.00350	mg/L		07/03/24 09:55	07/03/24 16:37	1

Method: 9012B - Cyanide, Total andor Amenable (Continued)

Lab Sample ID: LCS 310-426366/2-A
Matrix: Water
Analysis Batch: 426438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426366

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cyanide, Total			0.200	0.1828		mg/L		91	90 - 110		

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 500-775028/1-A
Matrix: Water
Analysis Batch: 775029

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 775028

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00	0.231	mg/L		07/01/24 18:00	07/01/24 20:18	1

Lab Sample ID: LCS 500-775028/2-A
Matrix: Water
Analysis Batch: 775029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 775028

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfide			3.64	3.634		mg/L		100	80 - 120		

Lab Sample ID: 310-284531-15 MS
Matrix: Groundwater
Analysis Batch: 775029

Client Sample ID: MW-26
Prep Type: Total/NA
Prep Batch: 775028

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfide	1.14		9.09	10.12		mg/L		99	75 - 125		

Lab Sample ID: 310-284531-15 MSD
Matrix: Groundwater
Analysis Batch: 775029

Client Sample ID: MW-26
Prep Type: Total/NA
Prep Batch: 775028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	1.14		9.09	9.799		mg/L		95	75 - 125	3	20

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-426013/1
Matrix: Water
Analysis Batch: 426013

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			06/28/24 15:44	1

Lab Sample ID: LCS 310-426013/2
Matrix: Water
Analysis Batch: 426013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			33.3	31.33		mg/L		94	81 - 116		

Method: I-3765-85 - Residue, Non-filterable (TSS) (Continued)

Lab Sample ID: 310-284531-4 DU
Matrix: Groundwater
Analysis Batch: 426013

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	10.8		14.00		mg/L		26	35

Lab Sample ID: MB 310-426119/1
Matrix: Water
Analysis Batch: 426119

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			07/01/24 11:43	1

Lab Sample ID: LCS 310-426119/2
Matrix: Water
Analysis Batch: 426119

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	100.0		mg/L		100	81 - 116

Lab Sample ID: 310-284531-12 DU
Matrix: Groundwater
Analysis Batch: 426119

Client Sample ID: MW-23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	147		141.0		mg/L		4	35

Lab Sample ID: MB 310-426187/1
Matrix: Water
Analysis Batch: 426187

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			07/02/24 07:19	1

Lab Sample ID: LCS 310-426187/2
Matrix: Water
Analysis Batch: 426187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	100.0		mg/L		100	81 - 116

GC/MS VOA

Analysis Batch: 426115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-5	MW-9	Total/NA	Groundwater	8260D	
310-284531-7	MW-11	Total/NA	Groundwater	8260D	
310-284531-8	MW-12R	Total/NA	Groundwater	8260D	
310-284531-9	MW-13	Total/NA	Groundwater	8260D	
310-284531-11	MW-22	Total/NA	Groundwater	8260D	
310-284531-12	MW-23	Total/NA	Groundwater	8260D	
310-284531-15	MW-26	Total/NA	Groundwater	8260D	
310-284531-16	MW-36	Total/NA	Groundwater	8260D	
310-284531-17	MW-37	Total/NA	Groundwater	8260D	
310-284531-18	MW-38	Total/NA	Groundwater	8260D	
310-284531-19	MW-39	Total/NA	Groundwater	8260D	
310-284531-21	MW-D1	Total/NA	Groundwater	8260D	
310-284531-22	Trip Blank	Total/NA	Groundwater	8260D	
MB 310-426115/5	Method Blank	Total/NA	Water	8260D	
LCS 310-426115/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-426115/7	Lab Control Sample	Total/NA	Water	8260D	
310-284531-5 MS	MW-9	Total/NA	Groundwater	8260D	
310-284531-5 MSD	MW-9	Total/NA	Groundwater	8260D	

Analysis Batch: 426359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-9	MW-13	Total/NA	Groundwater	8260D	
MB 310-426359/5	Method Blank	Total/NA	Water	8260D	
LCS 310-426359/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-426359/7	Lab Control Sample	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 426155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	3510C	
MB 310-426155/1-A	Method Blank	Total/NA	Water	3510C	
LCS 310-426155/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-426155/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 426950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	8270E	426155
MB 310-426155/1-A	Method Blank	Total/NA	Water	8270E	426155
LCS 310-426155/2-A	Lab Control Sample	Total/NA	Water	8270E	426155
LCSD 310-426155/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	426155

GC Semi VOA

Analysis Batch: 426054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	8015C	
MB 310-426054/4	Method Blank	Total/NA	Water	8015C	
LCS 310-426054/5	Lab Control Sample	Total/NA	Water	8015C	

GC Semi VOA

Prep Batch: 426145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	3511	
310-284531-18	MW-38	Total/NA	Groundwater	3511	
310-284531-19	MW-39	Total/NA	Groundwater	3511	
MB 310-426145/1-A	Method Blank	Total/NA	Water	3511	
LCS 310-426145/18-A	Lab Control Sample	Total/NA	Water	3511	
LCS 310-426145/19-A	Lab Control Sample	Total/NA	Water	3511	
310-284531-15 MS	MW-26	Total/NA	Groundwater	3511	
310-284531-15 MSD	MW-26	Total/NA	Groundwater	3511	
310-284531-18 MS	MW-38	Total/NA	Groundwater	3511	
310-284531-18 MSD	MW-38	Total/NA	Groundwater	3511	

Analysis Batch: 426478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-426145/1-A	Method Blank	Total/NA	Water	8082A	426145

Analysis Batch: 426479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-18	MW-38	Total/NA	Groundwater	8081B	426145
MB 310-426145/1-A	Method Blank	Total/NA	Water	8081B	426145
LCS 310-426145/18-A	Lab Control Sample	Total/NA	Water	8081B	426145
310-284531-18 MS	MW-38	Total/NA	Groundwater	8081B	426145
310-284531-18 MSD	MW-38	Total/NA	Groundwater	8081B	426145

Analysis Batch: 426825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	8081B	426145
310-284531-19	MW-39	Total/NA	Groundwater	8081B	426145
310-284531-15 MS	MW-26	Total/NA	Groundwater	8081B	426145
310-284531-15 MSD	MW-26	Total/NA	Groundwater	8081B	426145

Analysis Batch: 426826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	8082A	426145
LCS 310-426145/19-A	Lab Control Sample	Total/NA	Water	8082A	426145
310-284531-15 MS	MW-26	Total/NA	Groundwater	8082A	426145
310-284531-15 MSD	MW-26	Total/NA	Groundwater	8082A	426145

Prep Batch: 524027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-8	MW-12R	Total/NA	Groundwater	8151A	
310-284531-15	MW-26	Total/NA	Groundwater	8151A	
MB 410-524027/1-A	Method Blank	Total/NA	Water	8151A	
LCS 410-524027/2-A	Lab Control Sample	Total/NA	Water	8151A	

Analysis Batch: 524207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-8	MW-12R	Total/NA	Groundwater	8151A	524027
310-284531-15	MW-26	Total/NA	Groundwater	8151A	524027
MB 410-524027/1-A	Method Blank	Total/NA	Water	8151A	524027
LCS 410-524027/2-A	Lab Control Sample	Total/NA	Water	8151A	524027

Metals

Prep Batch: 426022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-1	MW-29	Total/NA	Groundwater	3005A	
310-284531-2	MW-49BG	Total/NA	Groundwater	3005A	
310-284531-3	MW-50BG	Total/NA	Groundwater	3005A	
310-284531-4	MW-2	Total/NA	Groundwater	3005A	
310-284531-5	MW-9	Total/NA	Groundwater	3005A	
310-284531-6	MW-10A	Total/NA	Groundwater	3005A	
310-284531-7	MW-11	Total/NA	Groundwater	3005A	
310-284531-8	MW-12R	Total/NA	Groundwater	3005A	
310-284531-9	MW-13	Total/NA	Groundwater	3005A	
310-284531-10	MW-21	Total/NA	Groundwater	3005A	
310-284531-11	MW-22	Total/NA	Groundwater	3005A	
MB 310-426022/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-426022/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-284531-3 DU	MW-50BG	Total/NA	Groundwater	3005A	

Prep Batch: 426024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-12	MW-23	Total/NA	Groundwater	3005A	
310-284531-13	MW-24	Total/NA	Groundwater	3005A	
310-284531-14	MW-25	Total/NA	Groundwater	3005A	
310-284531-15	MW-26	Total/NA	Groundwater	3005A	
310-284531-16	MW-36	Total/NA	Groundwater	3005A	
310-284531-17	MW-37	Total/NA	Groundwater	3005A	
310-284531-18	MW-38	Total/NA	Groundwater	3005A	
310-284531-19	MW-39	Total/NA	Groundwater	3005A	
310-284531-21	MW-D1	Total/NA	Groundwater	3005A	
310-284531-23	MW-4	Total/NA	Groundwater	3005A	
MB 310-426024/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-426024/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-284531-13 MS	MW-24	Total/NA	Groundwater	3005A	
310-284531-13 MSD	MW-24	Total/NA	Groundwater	3005A	

Prep Batch: 426245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	7470A	

Analysis Batch: 426436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	7470A	426245

Analysis Batch: 426541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-1	MW-29	Total/NA	Groundwater	6020B	426022
310-284531-2	MW-49BG	Total/NA	Groundwater	6020B	426022
310-284531-3	MW-50BG	Total/NA	Groundwater	6020B	426022
310-284531-4	MW-2	Total/NA	Groundwater	6020B	426022
310-284531-5	MW-9	Total/NA	Groundwater	6020B	426022
310-284531-6	MW-10A	Total/NA	Groundwater	6020B	426022
310-284531-7	MW-11	Total/NA	Groundwater	6020B	426022
310-284531-8	MW-12R	Total/NA	Groundwater	6020B	426022
310-284531-9	MW-13	Total/NA	Groundwater	6020B	426022

Metals (Continued)

Analysis Batch: 426541 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-10	MW-21	Total/NA	Groundwater	6020B	426022
310-284531-11	MW-22	Total/NA	Groundwater	6020B	426022
MB 310-426022/1-A	Method Blank	Total/NA	Water	6020B	426022
LCS 310-426022/2-A	Lab Control Sample	Total/NA	Water	6020B	426022
310-284531-3 DU	MW-50BG	Total/NA	Groundwater	6020B	426022

Analysis Batch: 426684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-1	MW-29	Total/NA	Groundwater	6020B	426022
310-284531-2	MW-49BG	Total/NA	Groundwater	6020B	426022
310-284531-3	MW-50BG	Total/NA	Groundwater	6020B	426022
310-284531-4	MW-2	Total/NA	Groundwater	6020B	426022
310-284531-5	MW-9	Total/NA	Groundwater	6020B	426022
310-284531-6	MW-10A	Total/NA	Groundwater	6020B	426022
310-284531-7	MW-11	Total/NA	Groundwater	6020B	426022
310-284531-8	MW-12R	Total/NA	Groundwater	6020B	426022
310-284531-9	MW-13	Total/NA	Groundwater	6020B	426022
310-284531-10	MW-21	Total/NA	Groundwater	6020B	426022
310-284531-11	MW-22	Total/NA	Groundwater	6020B	426022
MB 310-426022/1-A	Method Blank	Total/NA	Water	6020B	426022
LCS 310-426022/2-A	Lab Control Sample	Total/NA	Water	6020B	426022
310-284531-3 DU	MW-50BG	Total/NA	Groundwater	6020B	426022

Analysis Batch: 426818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-1	MW-29	Total/NA	Groundwater	6020B	426022
310-284531-2	MW-49BG	Total/NA	Groundwater	6020B	426022
310-284531-3	MW-50BG	Total/NA	Groundwater	6020B	426022
310-284531-4	MW-2	Total/NA	Groundwater	6020B	426022
310-284531-5	MW-9	Total/NA	Groundwater	6020B	426022
310-284531-6	MW-10A	Total/NA	Groundwater	6020B	426022
310-284531-7	MW-11	Total/NA	Groundwater	6020B	426022
310-284531-8	MW-12R	Total/NA	Groundwater	6020B	426022
310-284531-9	MW-13	Total/NA	Groundwater	6020B	426022
MB 310-426022/1-A	Method Blank	Total/NA	Water	6020B	426022
LCS 310-426022/2-A	Lab Control Sample	Total/NA	Water	6020B	426022
310-284531-3 DU	MW-50BG	Total/NA	Groundwater	6020B	426022

Analysis Batch: 426959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-1	MW-29	Total/NA	Groundwater	6020B	426022

Analysis Batch: 427085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-12	MW-23	Total/NA	Groundwater	6020B	426024
310-284531-13	MW-24	Total/NA	Groundwater	6020B	426024
310-284531-14	MW-25	Total/NA	Groundwater	6020B	426024
310-284531-15	MW-26	Total/NA	Groundwater	6020B	426024
310-284531-16	MW-36	Total/NA	Groundwater	6020B	426024
310-284531-17	MW-37	Total/NA	Groundwater	6020B	426024
310-284531-18	MW-38	Total/NA	Groundwater	6020B	426024

Metals (Continued)

Analysis Batch: 427085 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-19	MW-39	Total/NA	Groundwater	6020B	426024
310-284531-21	MW-D1	Total/NA	Groundwater	6020B	426024
310-284531-23	MW-4	Total/NA	Groundwater	6020B	426024
MB 310-426024/1-A	Method Blank	Total/NA	Water	6020B	426024
LCS 310-426024/2-A	Lab Control Sample	Total/NA	Water	6020B	426024
310-284531-13 MS	MW-24	Total/NA	Groundwater	6020B	426024
310-284531-13 MSD	MW-24	Total/NA	Groundwater	6020B	426024

Analysis Batch: 427204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-12	MW-23	Total/NA	Groundwater	6020B	426024
310-284531-13	MW-24	Total/NA	Groundwater	6020B	426024
310-284531-14	MW-25	Total/NA	Groundwater	6020B	426024
310-284531-15	MW-26	Total/NA	Groundwater	6020B	426024
310-284531-16	MW-36	Total/NA	Groundwater	6020B	426024
310-284531-17	MW-37	Total/NA	Groundwater	6020B	426024
310-284531-18	MW-38	Total/NA	Groundwater	6020B	426024
310-284531-19	MW-39	Total/NA	Groundwater	6020B	426024
310-284531-21	MW-D1	Total/NA	Groundwater	6020B	426024
310-284531-23	MW-4	Total/NA	Groundwater	6020B	426024
MB 310-426024/1-A	Method Blank	Total/NA	Water	6020B	426024
LCS 310-426024/2-A	Lab Control Sample	Total/NA	Water	6020B	426024
310-284531-13 MS	MW-24	Total/NA	Groundwater	6020B	426024
310-284531-13 MSD	MW-24	Total/NA	Groundwater	6020B	426024

Analysis Batch: 427313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-2	MW-49BG	Total/NA	Groundwater	6020B	426022
310-284531-3	MW-50BG	Total/NA	Groundwater	6020B	426022
310-284531-4	MW-2	Total/NA	Groundwater	6020B	426022
310-284531-5	MW-9	Total/NA	Groundwater	6020B	426022
310-284531-6	MW-10A	Total/NA	Groundwater	6020B	426022
310-284531-7	MW-11	Total/NA	Groundwater	6020B	426022
310-284531-8	MW-12R	Total/NA	Groundwater	6020B	426022
310-284531-9	MW-13	Total/NA	Groundwater	6020B	426022
310-284531-10	MW-21	Total/NA	Groundwater	6020B	426022
310-284531-11	MW-22	Total/NA	Groundwater	6020B	426022
310-284531-3 DU	MW-50BG	Total/NA	Groundwater	6020B	426022

General Chemistry

Analysis Batch: 426013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-1	MW-29	Total/NA	Groundwater	I-3765-85	
310-284531-2	MW-49BG	Total/NA	Groundwater	I-3765-85	
310-284531-3	MW-50BG	Total/NA	Groundwater	I-3765-85	
310-284531-4	MW-2	Total/NA	Groundwater	I-3765-85	
310-284531-5	MW-9	Total/NA	Groundwater	I-3765-85	
310-284531-7	MW-11	Total/NA	Groundwater	I-3765-85	
310-284531-8	MW-12R	Total/NA	Groundwater	I-3765-85	
310-284531-9	MW-13	Total/NA	Groundwater	I-3765-85	

General Chemistry (Continued)

Analysis Batch: 426013 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-10	MW-21	Total/NA	Groundwater	I-3765-85	
310-284531-13	MW-24	Total/NA	Groundwater	I-3765-85	
310-284531-14	MW-25	Total/NA	Groundwater	I-3765-85	
310-284531-21	MW-D1	Total/NA	Groundwater	I-3765-85	
310-284531-23	MW-4	Total/NA	Groundwater	I-3765-85	
MB 310-426013/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-426013/2	Lab Control Sample	Total/NA	Water	I-3765-85	
310-284531-4 DU	MW-2	Total/NA	Groundwater	I-3765-85	

Analysis Batch: 426119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-6	MW-10A	Total/NA	Groundwater	I-3765-85	
310-284531-11	MW-22	Total/NA	Groundwater	I-3765-85	
310-284531-12	MW-23	Total/NA	Groundwater	I-3765-85	
310-284531-15	MW-26	Total/NA	Groundwater	I-3765-85	
310-284531-16	MW-36	Total/NA	Groundwater	I-3765-85	
310-284531-17	MW-37	Total/NA	Groundwater	I-3765-85	
310-284531-19	MW-39	Total/NA	Groundwater	I-3765-85	
MB 310-426119/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-426119/2	Lab Control Sample	Total/NA	Water	I-3765-85	
310-284531-12 DU	MW-23	Total/NA	Groundwater	I-3765-85	

Analysis Batch: 426187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-18	MW-38	Total/NA	Groundwater	I-3765-85	
MB 310-426187/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-426187/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Prep Batch: 426366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	9012B	
MB 310-426366/1-A	Method Blank	Total/NA	Water	9012B	
LCS 310-426366/2-A	Lab Control Sample	Total/NA	Water	9012B	

Analysis Batch: 426438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	9012B	426366
MB 310-426366/1-A	Method Blank	Total/NA	Water	9012B	426366
LCS 310-426366/2-A	Lab Control Sample	Total/NA	Water	9012B	426366

Prep Batch: 775028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	9030B	
MB 500-775028/1-A	Method Blank	Total/NA	Water	9030B	
LCS 500-775028/2-A	Lab Control Sample	Total/NA	Water	9030B	
310-284531-15 MS	MW-26	Total/NA	Groundwater	9030B	
310-284531-15 MSD	MW-26	Total/NA	Groundwater	9030B	

Analysis Batch: 775029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-284531-15	MW-26	Total/NA	Groundwater	9034	775028

General Chemistry (Continued)

Analysis Batch: 775029 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-775028/1-A	Method Blank	Total/NA	Water	9034	775028
LCS 500-775028/2-A	Lab Control Sample	Total/NA	Water	9034	775028
310-284531-15 MS	MW-26	Total/NA	Groundwater	9034	775028
310-284531-15 MSD	MW-26	Total/NA	Groundwater	9034	775028

Lab Chronicle

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-29
Lab Sample ID: 310-284531-1
Date Collected: 06/25/24 09:31
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426818	NFT2	EET CF	07/09/24 18:12
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 20:50
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 15:00
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426959	NFT2	EET CF	07/10/24 18:55
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-49BG
Lab Sample ID: 310-284531-2
Date Collected: 06/26/24 15:15
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426818	NFT2	EET CF	07/09/24 18:16
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427313	NFT2	EET CF	07/15/24 14:13
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 20:52
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 15:02
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-50BG
Lab Sample ID: 310-284531-3
Date Collected: 06/25/24 17:25
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		4	426818	NFT2	EET CF	07/09/24 18:20
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		4	427313	NFT2	EET CF	07/15/24 14:32
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 21:04
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		4	426684	NFT2	EET CF	07/08/24 15:04
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Lab Chronicle

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-2
Lab Sample ID: 310-284531-4
Date Collected: 06/24/24 15:02
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426818	NFT2	EET CF	07/09/24 18:27
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427313	NFT2	EET CF	07/15/24 14:39
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 21:08
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 15:09
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-9
Lab Sample ID: 310-284531-5
Date Collected: 06/24/24 16:08
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 13:58
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426818	NFT2	EET CF	07/09/24 18:31
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427313	NFT2	EET CF	07/15/24 14:42
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 21:10
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 15:11
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-10A
Lab Sample ID: 310-284531-6
Date Collected: 06/25/24 12:22
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426818	NFT2	EET CF	07/09/24 18:34
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427313	NFT2	EET CF	07/15/24 14:46
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 21:12
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 15:13
Total/NA	Analysis	I-3765-85		1	426119	DGU1	EET CF	07/01/24 11:43

Lab Chronicle

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-11
Lab Sample ID: 310-284531-7
Date Collected: 06/24/24 09:26
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 14:21
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426818	NFT2	EET CF	07/09/24 18:38
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427313	NFT2	EET CF	07/15/24 14:50
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 21:14
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 15:15
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-12R
Lab Sample ID: 310-284531-8
Date Collected: 06/25/24 13:43
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 14:43
Total/NA	Prep	8151A			524027	QJZ6	ELLE	07/02/24 15:15
Total/NA	Analysis	8151A		1	524207	UAMZ	ELLE	07/03/24 11:52
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426818	NFT2	EET CF	07/09/24 18:56
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427313	NFT2	EET CF	07/15/24 14:53
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 21:17
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 15:17
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-13
Lab Sample ID: 310-284531-9
Date Collected: 06/24/24 18:07
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 15:06
Total/NA	Analysis	8260D		1	426359	WSE8	EET CF	07/03/24 15:31
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		4	426818	NFT2	EET CF	07/09/24 18:59
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		4	427313	NFT2	EET CF	07/15/24 14:57
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 21:19
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		4	426684	NFT2	EET CF	07/08/24 15:29

Lab Chronicle

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-13
Lab Sample ID: 310-284531-9
Date Collected: 06/24/24 18:07
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-21
Lab Sample ID: 310-284531-10
Date Collected: 06/24/24 16:49
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427313	NFT2	EET CF	07/15/24 15:01
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 21:21
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 15:31
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-22
Lab Sample ID: 310-284531-11
Date Collected: 06/25/24 10:35
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 15:29
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427313	NFT2	EET CF	07/15/24 15:04
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426541	NFT2	EET CF	07/05/24 21:23
Total/NA	Prep	3005A			426022	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	426684	NFT2	EET CF	07/08/24 15:33
Total/NA	Analysis	I-3765-85		1	426119	DGU1	EET CF	07/01/24 11:43

Client Sample ID: MW-23
Lab Sample ID: 310-284531-12
Date Collected: 06/26/24 13:08
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 15:51
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427204	A6US	EET CF	07/12/24 18:01
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:02
Total/NA	Analysis	I-3765-85		1	426119	DGU1	EET CF	07/01/24 11:43

Client Sample ID: MW-24
Lab Sample ID: 310-284531-13

Date Collected: 06/25/24 16:53
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427204	A6US	EET CF	07/12/24 18:05
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:04
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-25
Lab Sample ID: 310-284531-14

Date Collected: 06/25/24 12:51
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427204	A6US	EET CF	07/12/24 18:16
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:25
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: MW-26
Lab Sample ID: 310-284531-15

Date Collected: 06/25/24 14:11
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 16:14
Total/NA	Prep	3510C			426155	C3AA	EET CF	07/02/24 08:00
Total/NA	Analysis	8270E		1	426950	L0FS	EET CF	07/11/24 12:39
Total/NA	Analysis	8015C		1	426054	V7YZ	EET CF	07/01/24 11:34
Total/NA	Prep	3511			426145	D2YP	EET CF	07/01/24 13:13
Total/NA	Analysis	8081B		1	426825	BW2O	EET CF	07/10/24 16:24
Total/NA	Prep	3511			426145	D2YP	EET CF	07/01/24 13:13
Total/NA	Analysis	8082A		1	426826	BW2O	EET CF	07/10/24 16:24
Total/NA	Prep	8151A			524027	QJZ6	ELLE	07/02/24 15:15
Total/NA	Analysis	8151A		1	524207	UAMZ	ELLE	07/03/24 12:20
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427204	A6US	EET CF	07/12/24 18:20
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:27
Total/NA	Prep	7470A			426245	A6US	EET CF	07/02/24 11:14
Total/NA	Analysis	7470A		1	426436	A6US	EET CF	07/03/24 16:07
Total/NA	Prep	9012B			426366	WZC8	EET CF	07/03/24 09:55
Total/NA	Analysis	9012B		1	426438	ZJX4	EET CF	07/03/24 17:41
Total/NA	Prep	9030B			775028	CLB	EET CHI	07/01/24 18:12 - 07/01/24 18:18 [1]
Total/NA	Analysis	9034		1	775029	CLB	EET CHI	07/01/24 20:56 - 07/01/24 21:16 [1]
Total/NA	Analysis	I-3765-85		1	426119	DGU1	EET CF	07/01/24 11:43

Client Sample ID: MW-36
Lab Sample ID: 310-284531-16

Date Collected: 06/25/24 13:17
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 16:37
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427204	A6US	EET CF	07/12/24 18:38
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:29
Total/NA	Analysis	I-3765-85		1	426119	DGU1	EET CF	07/01/24 11:43

Client Sample ID: MW-37
Lab Sample ID: 310-284531-17

Date Collected: 06/25/24 18:33
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 17:00
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427204	A6US	EET CF	07/12/24 18:41
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:31
Total/NA	Analysis	I-3765-85		1	426119	DGU1	EET CF	07/01/24 11:43

Client Sample ID: MW-38
Lab Sample ID: 310-284531-18

Date Collected: 06/26/24 10:31
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 20:25
Total/NA	Prep	3511			426145	D2YP	EET CF	07/01/24 13:13
Total/NA	Analysis	8081B		1	426479	BW2O	EET CF	07/05/24 16:05
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		10	427204	A6US	EET CF	07/12/24 18:45
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:34
Total/NA	Analysis	I-3765-85		1	426187	DGU1	EET CF	07/02/24 07:19

Client Sample ID: MW-39
Lab Sample ID: 310-284531-19

Date Collected: 06/25/24 15:34
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 17:23
Total/NA	Prep	3511			426145	D2YP	EET CF	07/01/24 13:13
Total/NA	Analysis	8081B		1	426825	BW2O	EET CF	07/10/24 16:42
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427204	A6US	EET CF	07/12/24 18:49
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:36

Lab Chronicle

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Client Sample ID: MW-39
Lab Sample ID: 310-284531-19
Date Collected: 06/25/24 15:34
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	I-3765-85		1	426119	DGU1	EET CF	07/01/24 11:43

Client Sample ID: MW-D1
Lab Sample ID: 310-284531-21
Date Collected: 06/24/24 09:26
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 17:46
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427204	A6US	EET CF	07/12/24 18:52
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:38
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

Client Sample ID: Trip Blank
Lab Sample ID: 310-284531-22
Date Collected: 06/24/24 00:00
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	426115	WSE8	EET CF	07/01/24 13:35

Client Sample ID: MW-4
Lab Sample ID: 310-284531-23
Date Collected: 06/24/24 14:30
Matrix: Groundwater
Date Received: 06/27/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427204	A6US	EET CF	07/12/24 18:56
Total/NA	Prep	3005A			426024	QTZ5	EET CF	07/01/24 09:00
Total/NA	Analysis	6020B		1	427085	NFT2	EET CF	07/11/24 20:40
Total/NA	Analysis	I-3765-85		1	426013	WZC8	EET CF	06/28/24 15:44

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Groundwater	1,2,4-Trichlorobenzene
8260D		Groundwater	Allyl chloride
8260D		Groundwater	Ethyl methacrylate

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	082	05-01-26

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	361	03-01-26

Method Summary

Client: SCS Engineers
Job ID: 310-284531-1
Project/Site: Muscatine Co. Landfill 1st 2024 HMSP

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CF
8015C	Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)	SW846	EET CF
8081B	Organochlorine Pesticides (GC)	SW846	EET CF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	EET CF
8151A	Herbicides (GC)	SW846	ELLE
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
9012B	Cyanide, Total andor Amenable	SW846	EET CF
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	EET CHI
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CF
3511	Microextraction of Organic Compounds	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
8151A	Extraction (Herbicides)	SW846	ELLE
9012B	Cyanide, Total and/or Amenable, Distillation	SW846	EET CF
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	EET CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

eurofins | Environment Testing America

310-284531 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS			
City/State: CITY DSM ~~Omaha~~ NY	STATE	Project:	
Receipt Information			
Date/Time Received:	DATE 6-27-24	TIME 1540	Received By NY

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 1 of 4
Cooler Custody Seals Present?	☐ Yes	☒ No	*If yes.* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: P	Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 3.6	Corrected Temp (°C): 3.6

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding If no, proceed with login

Additional Comments

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY DSM | STATE | Project:

Receipt Information

Date/Time Received: DATE 6-27-24 | TIME 1540 | Received By: MY

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 2 of 4

Cooler Custody Seals Present? ☐ Yes ☒ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☒ Yes ☐ No *If yes:* Which VOA samples are in cooler? ↓

MW-13; MW-22, MW-23; MW-36; MW-37

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: P | Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.1 | Corrected Temp (°C): 2.1

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding If no, proceed with login

Additional Comments

MW-23 bottles rcvd empty: 250 mL nitric & voa vials poured off from 1L unpreserved 6-27-24 1610

~~No MW-26 sample rcvd~~ (in cooler 4)

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY DSM | STATE | Project:

Receipt Information

Date/Time Received: DATE 6-27-24 | TIME 1540 | Received By: MY

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 3 of 4

Cooler Custody Seals Present? ☐ Yes ☒ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: P | Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.9 | Corrected Temp (°C): 2.9

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding If no, proceed with login

Additional Comments

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY DSM | STATE | Project:

Receipt Information

Date/Time Received: DATE 6-27-24 | TIME 1540 | Received By: MY

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 4 of 4

Cooler Custody Seals Present? ☐ Yes ☒ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ~~☒ Wet ice~~ ☐ Blue ice ☐ Dry ice ☒ Other: melted ice ☐ NONE

Thermometer ID: P | Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): | Corrected Temp (°C):

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:	plastic 250 Nitric	plastic 250 NaOH
Uncorrected Temp (°C):	7.8	7.9
Corrected Temp (°C):	7.8	7.9

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding If no, proceed with login

Additional Comments

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Cole Tesar	Lab PM: Yang, Mary E	Carrier Tracking No(s):	COC No: 310-94336-25887 1
Client Contact: Nathan Ohrt	Phone:	E-Mail: Mary Yang@ET EurofinsUS com	State of Origin:	Page: Page 1 of 3
Company: SCS Engineers	PWSID:			Job #:
Address: 1690 All State Court Suite 100	Due Date Requested:			
City: West Des Moines	TAT Requested (days):			
State, Zip: IA, 50265	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 27223255 24			
Email: nohrt@scsengineers.com	WO #:			
Project Name: Muscatine Co Landfill/ Event Desc: 1st 2024 HMSP	Project #: 31006335			
Site: Iowa	SSOW#:			

Analysis Requested

Preservation Codes
A - HCL
D - HNO3
N - None
B - NaOH
CB - ZnAcetate/NaOH

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D - Volatile Appendix II Sublist	6020B - (MOD) Metals List	8260D - Volatile Appendix I Sublist	I_3765_65 - Total Suspended Solids	8081B - (MOD) Endosulfan I	6020B - Appendix I	8151A - (MOD) 2,4,5-TP Silvex	8081B, 8082A, 8270E	6020B, 7470A - Appendix II	9012B - Cyanide, Total	8015C_DAI - Nonhalogenated Organic Compounds - Direo	8151A - (MOD) 8151A App II	9034_Calc - Sulfide	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	D	A	N	N	D	N	N	D	B	N	N	CB		
MW-29	6/25/24	9:31	G	Water				X		X											Login with Sites and Events
MW-49BG	6/26/24	15:15	G	Water				X		X											Sub Sulfide to Chicago and Herbicides to Lancaster
MW-50BG	6/25/24	17:25	G	Water				X		X											
MW-2	6/24/24	15:52	G	Water				X		X											
~~MW-49BG~~				Water					X	X		X									
MW-9	6/24/24	16:08	G	Water				X	X	X											
MW-10A	6/25/24	12:22	G	Water				X		X											
MW-11	6/24/24	9:26	G	Water				X	X	X											
MW-12R	6/25/24	13:43	G	Water					X	X		X	X								
MW-13	6/24/24	18:07	G	Water					X	X		X									
MW-20				Water				X		X											

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Homer Roth	6-27-24 / 14:00	SCS	Grimm	6/27/24 14:00	Eurofins
2				Mc	6-27-24 15:10	
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No

Cooler Temperature(s) °C and Other Remarks:

Ver 04/02/2024

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins | Environment Testing

Client Information	Sampler: Cole Tesar	Lab PM: Yang, Mary E	Carrier Tracking No(s):	COC No: 310-94336-25887 2
Client Contact: Nathan Ohrt	Phone:	E-Mail: Mary Yang@ET EurofinsUS com	State of Origin:	Page: Page 2 of 3
Company: SCS Engineers	PWSID:			Job #:
Address: 1690 All State Court Suite 100	Due Date Requested:			
City: West Des Moines	TAT Requested (days):			
State Zip: IA, 50265	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 27223255 24			
Email: nohrt@scsengineers.com	WO #:			
Project Name: Muscatine Co. Landfill/ Event Desc: 1st 2024 HMSP	Project #: 31006335			
Site: Iowa	SSOW#:			

Analysis Requested

Preservation Codes.
A - HCL
D - HNO3
N - None
B - NaOH
CB - ZnAcetate/NaOH

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D - Volatile Appendix II Sublist	6020B - (MOD) Metals List	8260D - Volatile Appendix I Sublist	I_3765_85 - Total Suspended Solids	8081B - (MOD) Endosulfan I	6020B - Appendix I	8151A - (MOD) 2,4,5-TP Silvex	8081B, 8082A, 8270E	6020B, 7470A - Appendix II	9012B - Cyanide, Total	8015C_DAI - Nonhalogenated Organic Compounds - Direc	8151A - (MOD) 8151A App II	9034_Calc - Sulfide	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	D	A	N	N	D	N	N	D	B	N	N	CB		
MW-21	6/24/24	16:49	G	Water				X		X											
MW-22	6/25/24	10:35	G	Water				X	X	X											
MW-23	6/26/24	13:08	G	Water					X	X		X									
MW-24	6/25/24	16:53	G	Water				X		X											
MW-25	6/25/24	12:51	G	Water				X		X											
MW-26	6/25/24	14:11	G	Water			X			X				X	X	X	X	X	X		
MW-36	6/25/24	13:17	G	Water					X	X		X									
MW-37	6/25/24	18:33	G	Water					X	X		X									
MW-38	6/26/24	10:31	G	Water				X	X	X	X										
MW-39	6/25/24	15:34	G	Water				X	X	X	X										
MW-D1	6/24/24	9:26	G	Water				X	X	X											

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Homer Roth	Date/Time: 6/27/24 - 14:00	Company: SCS	Received by: [signature]	Date/Time: 6/27/24 14:00	Company: Eurofins
Relinquished by:	Date/Time:	Company:	Received by: [signature]	Date/Time: 6-27-24 1540	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 04/02/2024

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins

Client Information	Sampler: Cole Tesar	Lab PM: Yang, Mary E	Carrier Tracking No(s):	COC No: 310-94336-25887 3
Client Contact: Nathan Ohrt	Phone:	E-Mail: Mary Yang@ET EurofinsUS com	State of Origin:	Page: Page 3 of 3
Company: SCS Engineers	PWSID:			Job #:
Address: 1690 All State Court Suite 100	Due Date Requested:			
City: West Des Moines	TAT Requested (days):			
State, Zip: IA, 50265	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 27223255 24			
Email: nohrt@scsengineers.com	WO #:			
Project Name: Muscatine Co. Landfill/ Event Desc: 1st 2024 HMSP	Project #: 31006335			
Site: Iowa	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
D - HNO3
N - None
B - NaOH
CB - ZnAcetate/NaOH

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D - Volatile Appendix II Sublist	6020B - (MOD) Metals List	8260D - Volatile Appendix I Sublist	I_3765_85 - Total Suspended Solids	8081B - (MOD) Endosulfan I	6020B - Appendix I	8151A - (MOD) 2,4,5-TP Silvex	8081B, 8082A, 8270E	6020B, 7470A - Appendix II	9012B - Cyanide, Total	8015C_DAI - Nonhalogenated Organic Compounds - Direc	8151A - (MOD) 8151A App II	9034_Calc - Sulfide	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	D	A	N	N	D	N	N	D	B	N	N	CB		
MW-D2	6/28/24	13:08	G	Water					X	X		X									
Trip Blank				Water			X														
MW-4	6/24/24	14:30	G	Water				X		X		X									

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Homer Roth	6-27-24 / 14:00	SCS	Erinl	6/27/24 14 00	Eurofins
			Mc	6-27-24 1540	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 04/02/2024

7/15/2024

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Yang, Mary E	Carrier Tracking No(s):	COC No: 310-73907.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Mary.Yang@ET.EurofinsUS.com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Iowa; State Program - Iowa		Job #: 310-284531-1
Address: 2425 New Holland Pike,	Due Date Requested: 7/11/2024	Analysis Requested		Preservation Codes: -
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: Muscatine Co. Landfill 1st 2024 HMSP	Project #: 31006335			
Site: 310-SCS Muscatine Co SLF 1st 2024	SSOW#:			Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/8151A_AP (MOD) 2,4,5-TP Silvex	8151A/8151A_AP (MOD) 8151A APIX	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-12R (310-284531-8)	6/25/24	13:43 Central		Water			X		2	
MW-26 (310-284531-15)	6/25/24	14:11 Central		Water				X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/25/24 1605				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 6/26/24 9:45	Company ECLET

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: R:3.8 C:3.9

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone 319-277-2401 Fax 319-277-2425

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Yang, Mary E	Carrier Tracking No(s).	COC No: 310-73903 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Mary Yang@ET EurofinsUS com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): State - Iowa, State Program - Iowa		Job #: 310-284531-1
Address: 2417 Bond Street, ,	Due Date Requested: 7/11/2024			Preservation Codes: -
City: University Park	TAT Requested (days):			
State Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email:	WO #:			
Project Name: Muscatine Co Landfill 1st 2024 HMSP	Project #: 31006335			
Site: 310-SCS Muscatine Co SLF 1st 2024	SSOW#:			Other:

Analysis Requested

310-284531 COC

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9034_Calc/9030B	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-26 (310-284531-15)	6/25/24	14 11 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing North Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing North Central LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
1		6/28/24 1515		Stephanie Hernandez	6/29/24 1005	EEIA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks. 3.8+3.4

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-284531-1
SDG Number:

Login Number: 284531
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	MW-23 bottles rcvd empty, no MW-D2 bottles
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-284531-1
SDG Number:

Login Number: 284531
List Number: 2
Creator: Hernandez, Stephanie

List Source: Eurofins Chicago
List Creation: 06/29/24 12:02 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-284531-1
SDG Number:

Login Number: 284531
List Number: 3
Creator: Santiago, Nathaniel

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC
List Creation: 06/29/24 02:29 PM

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Nathan Ohrt
SCS Engineers
1690 All State Court
Suite 100
West Des Moines, Iowa 50265

Generated 11/6/2024 11:34:19 AM

JOB DESCRIPTION

2nd 2024 Semi-Annual Sampling
Muscatine County Sanitary Landfill

JOB NUMBER

310-293510-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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Authorized for release by
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Table of Contents

Cover Page 1
Table of Contents 3
Case Narrative 4
Sample Summary 5
Detection Summary 6
Client Sample Results 10
Definitions 42
Surrogate Summary 43
QC Sample Results 45
QC Association 62
Chronicle 66
Certification Summary 71
Method Summary 72
Chain of Custody 73
Receipt Checklists 80

Job ID: 310-293510-1 — Eurofins Cedar Falls

Job Narrative
310-293510-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/23/2024 4:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.9°C, 2.5°C and 4.1°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 310-437389 recovered above the upper control limit for Carbon disulfide (24.5%D) and 1,1-Dichloroethene (22.4%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 310-437389/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 310-437389 recovered above the upper control limit for 1,2-Dichloropropane (25.4%D) and 1,1-Dichloroethane (21.6%D). . The LCS associated with this CCV passed CCV criteria for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 310-437389/3).

Method 8260D: The initial calibration verification (ICV) result for batch 310-437389 was above the upper control limit. The affected analyte is: Iodomethane. Sample results were non-detects, and have been reported as qualified data.

Method 8260D: The following sample was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: MW-38 (310-293510-15).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Herbicides
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Pesticides
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
Method 6020B: The following sample was diluted due to the nature of the sample matrix: MW-38 (310-293510-15). Elevated reporting limits (RLs) are provided.

Method 6020B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 310-437478 and analytical batch 310-438683 recovered outside control limits for the following analytes: Silver. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-293510-1	MW-2	Water	10/21/24 14:10	10/23/24 16:25
310-293510-2	MW-4	Water	10/22/24 10:39	10/23/24 16:25
310-293510-3	MW-9	Water	10/21/24 14:49	10/23/24 16:25
310-293510-4	MW-11	Water	10/21/24 16:30	10/23/24 16:25
310-293510-5	MW-12R	Water	10/22/24 08:44	10/23/24 16:25
310-293510-6	MW-13	Water	10/21/24 15:52	10/23/24 16:25
310-293510-8	MW-21	Water	10/21/24 15:22	10/23/24 16:25
310-293510-9	MW-22	Water	10/21/24 17:00	10/23/24 16:25
310-293510-10	MW-23	Water	10/22/24 15:19	10/23/24 16:25
310-293510-11	MW-25	Water	10/21/24 17:35	10/23/24 16:25
310-293510-12	MW-26	Water	10/22/24 09:55	10/23/24 16:25
310-293510-13	MW-36	Water	10/21/24 18:10	10/23/24 16:25
310-293510-14	MW-37	Water	10/22/24 13:13	10/23/24 16:25
310-293510-15	MW-38	Water	10/22/24 12:15	10/23/24 16:25
310-293510-16	MW-39	Water	10/22/24 11:12	10/23/24 16:25
310-293510-17	MW-D1	Water	10/21/24 15:52	10/23/24 16:25
310-293510-18	MW-D2	Water	10/22/24 09:55	10/23/24 16:25
310-293510-20	Trip Blank	Water	10/21/24 00:00	10/23/24 16:25

Detection Summary

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-2 — Lab Sample ID: 310-293510-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.363		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000917		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000348	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Total Suspended Solids	6.38		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-4 — Lab Sample ID: 310-293510-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0161		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.468		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00149		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.00261	J	0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	20.5		3.75	2.78	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-9 — Lab Sample ID: 310-293510-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.773		0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	29.6		1.00	0.400	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.37		1.00	0.210	ug/L	1		8260D	Total/NA
Arsenic	0.00131	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.991		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000122	J	0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.0178		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0149		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	15.5		3.75	2.78	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-11 — Lab Sample ID: 310-293510-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dichlorobenzene	0.421	J	1.00	0.230	ug/L	1		8260D	Total/NA
Chlorobenzene	0.827	J	1.00	0.400	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	3.36		1.00	0.210	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.395	J	1.00	0.270	ug/L	1		8260D	Total/NA
Vinyl chloride	0.233	J	1.00	0.180	ug/L	1		8260D	Total/NA
Arsenic	0.00106	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.178		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000154	J	0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.00340		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.00653		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	11.9		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-12R — Lab Sample ID: 310-293510-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.96		0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	5.27		1.00	0.400	ug/L	1		8260D	Total/NA
Silvex (2,4,5-TP)	0.275		0.0497	0.0218	ug/L	1		8151A	Total/NA
Arsenic	0.0223		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	4.04		0.00800	0.00264	mg/L	4		6020B	Total/NA
Cobalt	0.0119		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0649		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	71.0		15.0	11.1	mg/L	1		I-3765-85	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-13 — Lab Sample ID: 310-293510-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.24		1.00	0.220	ug/L	1		8260D	Total/NA
1,2-Dichloropropane	0.434	J	1.00	0.270	ug/L	1		8260D	Total/NA
Benzene	0.417	J	0.500	0.220	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	13.6		1.00	0.210	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.955	J	1.00	0.270	ug/L	1		8260D	Total/NA
Vinyl chloride	3.17		1.00	0.180	ug/L	1		8260D	Total/NA
Arsenic	0.00464		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.626		0.00200	0.000660	mg/L	1		6020B	Total/NA
Lead	0.000891		0.000500	0.000260	mg/L	1		6020B	Total/NA
Total Suspended Solids	18.3		3.75	2.78	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-21 — Lab Sample ID: 310-293510-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.128		0.00200	0.000660	mg/L	1		6020B	Total/NA
Chromium	0.00171	J	0.00500	0.00120	mg/L	1		6020B	Total/NA
Nickel	0.00240	J	0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	2.00		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-22 — Lab Sample ID: 310-293510-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.623		0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	0.465	J	1.00	0.400	ug/L	1		8260D	Total/NA
Arsenic	0.000638	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.732		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000219		0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.00212		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0182		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	4.75		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-23 — Lab Sample ID: 310-293510-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.262	J	1.00	0.220	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	0.719	J	1.00	0.230	ug/L	1		8260D	Total/NA
Benzene	2.36		0.500	0.220	ug/L	1		8260D	Total/NA
Carbon disulfide	0.964	J	1.00	0.450	ug/L	1		8260D	Total/NA
Chlorobenzene	13.8		1.00	0.400	ug/L	1		8260D	Total/NA
Chloroethane	2.39	J	4.00	0.790	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.892	J	1.00	0.210	ug/L	1		8260D	Total/NA
Arsenic	0.00438		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.380		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00323		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0111		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	121		15.0	11.1	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-25 — Lab Sample ID: 310-293510-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.300		0.00200	0.000660	mg/L	1		6020B	Total/NA
Copper	0.00270	J	0.00500	0.00180	mg/L	1		6020B	Total/NA
Total Suspended Solids	1.50	J	1.88	1.39	mg/L	1		I-3765-85	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-26 — Lab Sample ID: 310-293510-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.000959	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.132		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00152		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000318	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Sulfide	1.10	F1	1.00	0.231	mg/L	1		9034	Total/NA
Total Suspended Solids	10.0		2.50	1.85	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-36 — Lab Sample ID: 310-293510-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.398		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cadmium	0.000103	J	0.000200	0.000100	mg/L	1		6020B	Total/NA
Cobalt	0.000173	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.00830		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	5.75		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-37 — Lab Sample ID: 310-293510-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.52	J	10.0	3.10	ug/L	1		8260D	Total/NA
Arsenic	0.00438		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.224		0.00200	0.000660	mg/L	1		6020B	Total/NA
Chromium	0.00134	J	0.00500	0.00120	mg/L	1		6020B	Total/NA
Cobalt	0.000766		0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.00310	J B	0.00500	0.00180	mg/L	1		6020B	Total/NA
Lead	0.00120		0.000500	0.000260	mg/L	1		6020B	Total/NA
Vanadium	0.00374	J	0.00500	0.00110	mg/L	1		6020B	Total/NA
Total Suspended Solids	71.5		3.75	2.78	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-38 — Lab Sample ID: 310-293510-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.656	J	1.00	0.220	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	1.70		1.00	0.230	ug/L	1		8260D	Total/NA
Acetone	5.09	J	10.0	3.10	ug/L	1		8260D	Total/NA
Benzene	4.65		0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	16.2		1.00	0.400	ug/L	1		8260D	Total/NA
Chloroethane	1.57	J	4.00	0.790	ug/L	1		8260D	Total/NA
Xylenes, Total	0.901	J	3.00	0.400	ug/L	1		8260D	Total/NA
Arsenic	0.0268		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	18.4		0.0200	0.00660	mg/L	10		6020B	Total/NA
Chromium	0.00141	J	0.00500	0.00120	mg/L	1		6020B	Total/NA
Cobalt	0.0301		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000431	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Nickel	0.0599		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	40.0		15.0	11.1	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-39 — Lab Sample ID: 310-293510-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichlorobenzene	0.384	J	1.00	0.370	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	0.600	J	1.00	0.230	ug/L	1		8260D	Total/NA
Arsenic	0.00760		0.00200	0.000530	mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-39 (Continued) — Lab Sample ID: 310-293510-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.201		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00307		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0120		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	12.3		2.50	1.85	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-D1 — Lab Sample ID: 310-293510-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.915	J	1.00	0.220	ug/L	1		8260D	Total/NA
1,2-Dichloropropane	0.355	J	1.00	0.270	ug/L	1		8260D	Total/NA
Benzene	0.345	J	0.500	0.220	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	10.8		1.00	0.210	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.876	J	1.00	0.270	ug/L	1		8260D	Total/NA
Vinyl chloride	2.44		1.00	0.180	ug/L	1		8260D	Total/NA
Arsenic	0.00470		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.659		0.00200	0.000660	mg/L	1		6020B	Total/NA
Total Suspended Solids	18.3		3.75	2.78	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-D2 — Lab Sample ID: 310-293510-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00129	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.119		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00142		0.000500	0.000170	mg/L	1		6020B	Total/NA
Lead	0.000273	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Total Suspended Solids	7.62		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-293510-20

No Detections.

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-2

Date Collected: 10/21/24 14:10
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-1

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:10	1
Barium	**0.363**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:10	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:10	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:10	1
Cobalt	**0.000917**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:10	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:10	1
Lead	**0.000348**	**J**	0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:10	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:10	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**6.38**		1.88	1.39	mg/L			10/24/24 12:33	1

Client Sample ID: MW-4
Date Collected: 10/22/24 10:39
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 17:54	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 17:54	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 17:54	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 17:54	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/24/24 17:54	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 17:54	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 17:54	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 17:54	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 17:54	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 17:54	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 17:54	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/24/24 17:54	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/24/24 17:54	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 17:54	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 17:54	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 17:54	1
Acetone	<10.0		10.0	3.10	ug/L			10/24/24 17:54	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 17:54	1
Benzene	<0.500		0.500	0.220	ug/L			10/24/24 17:54	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 17:54	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 17:54	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 17:54	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 17:54	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/24/24 17:54	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 17:54	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/24/24 17:54	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 17:54	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/24/24 17:54	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 17:54	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 17:54	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/24/24 17:54	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 17:54	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 17:54	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 17:54	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 17:54	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 17:54	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 17:54	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 17:54	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 17:54	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/24/24 17:54	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 17:54	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 17:54	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 17:54	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 17:54	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 17:54	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/24/24 17:54	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*109*		*73 - 130*		*10/24/24 17:54*	*1*

Client Sample ID: MW-4
Date Collected: 10/22/24 10:39
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*10/24/24 17:54*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*10/24/24 17:54*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/04/24 22:12	1
Arsenic	**0.0161**		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:12	1
Barium	**0.468**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:12	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/04/24 22:12	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:12	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:12	1
Cobalt	**0.00149**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:12	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:12	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:12	1
Nickel	**0.00261**	**J**	0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:12	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/04/24 22:12	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/04/24 22:12	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/04/24 22:12	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/04/24 22:12	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**20.5**		3.75	2.78	mg/L			10/24/24 15:36	1

Client Sample ID: MW-9
Date Collected: 10/21/24 14:49
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 18:17	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 18:17	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 18:17	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 18:17	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/24/24 18:17	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 18:17	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 18:17	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 18:17	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 18:17	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 18:17	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 18:17	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/24/24 18:17	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/24/24 18:17	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 18:17	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 18:17	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 18:17	1
Acetone	<10.0		10.0	3.10	ug/L			10/24/24 18:17	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 18:17	1
Benzene	**0.773**		0.500	0.220	ug/L			10/24/24 18:17	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 18:17	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 18:17	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 18:17	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 18:17	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/24/24 18:17	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 18:17	1
Chlorobenzene	**29.6**		1.00	0.400	ug/L			10/24/24 18:17	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 18:17	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/24/24 18:17	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 18:17	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 18:17	1
cis-1,2-Dichloroethene	**1.37**		1.00	0.210	ug/L			10/24/24 18:17	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 18:17	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 18:17	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 18:17	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 18:17	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 18:17	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 18:17	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 18:17	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 18:17	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/24/24 18:17	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 18:17	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 18:17	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 18:17	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 18:17	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 18:17	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/24/24 18:17	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*105*		*73 - 130*		*10/24/24 18:17*	*1*

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-9

Date Collected: 10/21/24 14:49
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-3

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*10/24/24 18:17*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*10/24/24 18:17*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00131**	**J**	0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:15	1
Barium	**0.991**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:15	1
Cadmium	**0.000122**	**J**	0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:15	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:15	1
Cobalt	**0.0178**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:15	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:15	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:15	1
Nickel	**0.0149**		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:15	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**15.5**		3.75	2.78	mg/L			10/24/24 11:42	1

Client Sample ID: MW-11
Date Collected: 10/21/24 16:30
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-4
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 18:40	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 18:40	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 18:40	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 18:40	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/24/24 18:40	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 18:40	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 18:40	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 18:40	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 18:40	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 18:40	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 18:40	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/24/24 18:40	1
1,4-Dichlorobenzene	**0.421**	**J**	1.00	0.230	ug/L			10/24/24 18:40	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 18:40	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 18:40	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 18:40	1
Acetone	<10.0		10.0	3.10	ug/L			10/24/24 18:40	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 18:40	1
Benzene	<0.500		0.500	0.220	ug/L			10/24/24 18:40	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 18:40	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 18:40	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 18:40	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 18:40	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/24/24 18:40	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 18:40	1
Chlorobenzene	**0.827**	**J**	1.00	0.400	ug/L			10/24/24 18:40	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 18:40	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/24/24 18:40	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 18:40	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 18:40	1
cis-1,2-Dichloroethene	**3.36**		1.00	0.210	ug/L			10/24/24 18:40	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 18:40	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 18:40	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 18:40	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 18:40	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 18:40	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 18:40	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 18:40	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 18:40	1
trans-1,2-Dichloroethene	**0.395**	**J**	1.00	0.270	ug/L			10/24/24 18:40	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 18:40	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 18:40	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 18:40	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 18:40	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 18:40	1
Vinyl chloride	**0.233**	**J**	1.00	0.180	ug/L			10/24/24 18:40	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*104*		*73 - 130*		*10/24/24 18:40*	*1*

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-11
Date Collected: 10/21/24 16:30
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-4
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*10/24/24 18:40*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*10/24/24 18:40*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00106**	**J**	0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:21	1
Barium	**0.178**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:21	1
Cadmium	**0.000154**	**J**	0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:21	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:21	1
Cobalt	**0.00340**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:21	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:21	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:21	1
Nickel	**0.00653**		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:21	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**11.9**		1.88	1.39	mg/L			10/24/24 11:42	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-12R
Date Collected: 10/22/24 08:44
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 19:02	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 19:02	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 19:02	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 19:02	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/24/24 19:02	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 19:02	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 19:02	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 19:02	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 19:02	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 19:02	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 19:02	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/24/24 19:02	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/24/24 19:02	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 19:02	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 19:02	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 19:02	1
Acetone	<10.0		10.0	3.10	ug/L			10/24/24 19:02	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 19:02	1
Benzene	**1.96**		0.500	0.220	ug/L			10/24/24 19:02	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 19:02	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 19:02	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 19:02	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 19:02	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/24/24 19:02	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 19:02	1
Chlorobenzene	**5.27**		1.00	0.400	ug/L			10/24/24 19:02	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 19:02	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/24/24 19:02	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 19:02	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 19:02	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/24/24 19:02	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 19:02	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 19:02	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 19:02	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 19:02	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 19:02	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 19:02	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 19:02	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 19:02	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/24/24 19:02	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 19:02	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 19:02	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 19:02	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 19:02	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 19:02	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/24/24 19:02	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*104*		*73 - 130*		*10/24/24 19:02*	*1*

Client Sample ID: MW-12R
Date Collected: 10/22/24 08:44
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*10/24/24 19:02*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*10/24/24 19:02*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	**0.275**		0.0497	0.0218	ug/L		10/25/24 15:10	10/28/24 08:33	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/04/24 22:24	1
Arsenic	**0.0223**		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:24	1
Barium	**4.04**		0.00800	0.00264	mg/L		10/29/24 09:30	11/05/24 13:44	4
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/04/24 22:24	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:24	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:24	1
Cobalt	**0.0119**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:24	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:24	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:24	1
Nickel	**0.0649**		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:24	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/04/24 22:24	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/04/24 22:24	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/04/24 22:24	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/04/24 22:24	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**71.0**		15.0	11.1	mg/L			10/24/24 13:16	1

Client Sample ID: MW-13
Date Collected: 10/21/24 15:52
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 19:25	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 19:25	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 19:25	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 19:25	1
1,1-Dichloroethane	**1.24**		1.00	0.220	ug/L			10/24/24 19:25	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 19:25	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 19:25	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 19:25	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 19:25	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 19:25	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 19:25	1
1,2-Dichloropropane	**0.434**	**J**	1.00	0.270	ug/L			10/24/24 19:25	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/24/24 19:25	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 19:25	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 19:25	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 19:25	1
Acetone	<10.0		10.0	3.10	ug/L			10/24/24 19:25	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 19:25	1
Benzene	**0.417**	**J**	0.500	0.220	ug/L			10/24/24 19:25	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 19:25	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 19:25	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 19:25	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 19:25	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/24/24 19:25	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 19:25	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/24/24 19:25	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 19:25	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/24/24 19:25	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 19:25	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 19:25	1
cis-1,2-Dichloroethene	**13.6**		1.00	0.210	ug/L			10/24/24 19:25	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 19:25	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 19:25	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 19:25	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 19:25	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 19:25	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 19:25	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 19:25	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 19:25	1
trans-1,2-Dichloroethene	**0.955**	**J**	1.00	0.270	ug/L			10/24/24 19:25	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 19:25	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 19:25	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 19:25	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 19:25	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 19:25	1
Vinyl chloride	**3.17**		1.00	0.180	ug/L			10/24/24 19:25	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*73 - 130*		*10/24/24 19:25*	*1*

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-13
Date Collected: 10/21/24 15:52
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*10/24/24 19:25*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*10/24/24 19:25*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/04/24 22:27	1
Arsenic	**0.00464**		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:27	1
Barium	**0.626**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:27	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/04/24 22:27	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:27	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:27	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:27	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:27	1
Lead	**0.000891**		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:27	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:27	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/04/24 22:27	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/04/24 22:27	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/04/24 22:27	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/04/24 22:27	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**18.3**		3.75	2.78	mg/L			10/24/24 11:42	1

Client Sample Results

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-21

Date Collected: 10/21/24 15:22
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-8

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:29	1
Barium	**0.128**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:29	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:29	1
Chromium	**0.00171**	**J**	0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:29	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:29	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:29	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:29	1
Nickel	**0.00240**	**J**	0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:29	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**2.00**		1.88	1.39	mg/L			10/24/24 11:42	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-22
Date Collected: 10/21/24 17:00
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-9
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 19:47	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 19:47	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 19:47	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 19:47	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/24/24 19:47	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 19:47	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 19:47	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 19:47	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 19:47	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 19:47	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 19:47	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/24/24 19:47	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/24/24 19:47	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 19:47	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 19:47	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 19:47	1
Acetone	<10.0		10.0	3.10	ug/L			10/24/24 19:47	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 19:47	1
Benzene	**0.623**		0.500	0.220	ug/L			10/24/24 19:47	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 19:47	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 19:47	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 19:47	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 19:47	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/24/24 19:47	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 19:47	1
Chlorobenzene	**0.465**	**J**	1.00	0.400	ug/L			10/24/24 19:47	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 19:47	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/24/24 19:47	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 19:47	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 19:47	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/24/24 19:47	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 19:47	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 19:47	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 19:47	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 19:47	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 19:47	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 19:47	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 19:47	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 19:47	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/24/24 19:47	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 19:47	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 19:47	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 19:47	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 19:47	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 19:47	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/24/24 19:47	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*103*		*73 - 130*		*10/24/24 19:47*	*1*

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-22
Date Collected: 10/21/24 17:00
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-9
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*10/24/24 19:47*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*10/24/24 19:47*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.000638**	**J**	0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:44	1
Barium	**0.732**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:44	1
Cadmium	**0.000219**		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:44	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:44	1
Cobalt	**0.00212**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:44	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:44	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:44	1
Nickel	**0.0182**		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:44	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**4.75**		1.88	1.39	mg/L			10/24/24 11:42	1

Client Sample ID: MW-23
Date Collected: 10/22/24 15:19
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-10
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 20:10	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 20:10	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 20:10	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 20:10	1
1,1-Dichloroethane	**0.262**	**J**	1.00	0.220	ug/L			10/27/24 23:32	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 20:10	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 20:10	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 20:10	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 20:10	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 20:10	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 20:10	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/24/24 20:10	1
1,4-Dichlorobenzene	**0.719**	**J**	1.00	0.230	ug/L			10/24/24 20:10	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 20:10	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 20:10	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 20:10	1
Acetone	<10.0		10.0	3.10	ug/L			10/24/24 20:10	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 20:10	1
Benzene	**2.36**		0.500	0.220	ug/L			10/24/24 20:10	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 20:10	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 20:10	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 20:10	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 20:10	1
Carbon disulfide	**0.964**	**J**	1.00	0.450	ug/L			10/27/24 23:32	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 20:10	1
Chlorobenzene	**13.8**		1.00	0.400	ug/L			10/24/24 20:10	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 20:10	1
Chloroethane	**2.39**	**J**	4.00	0.790	ug/L			10/24/24 20:10	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 20:10	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 20:10	1
cis-1,2-Dichloroethene	**0.892**	**J**	1.00	0.210	ug/L			10/24/24 20:10	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 20:10	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 20:10	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 20:10	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 20:10	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 20:10	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 20:10	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 20:10	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 20:10	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/24/24 20:10	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 20:10	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 20:10	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 20:10	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 20:10	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 20:10	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/24/24 20:10	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*102*		*73 - 130*		*10/24/24 20:10*	*1*

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-23
Date Collected: 10/22/24 15:19
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-10
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*10/27/24 23:32*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*10/24/24 20:10*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*10/27/24 23:32*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*10/24/24 20:10*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*10/27/24 23:32*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/04/24 22:47	1
Arsenic	**0.00438**		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:47	1
Barium	**0.380**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:47	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/04/24 22:47	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:47	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:47	1
Cobalt	**0.00323**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:47	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:47	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:47	1
Nickel	**0.0111**		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:47	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/04/24 22:47	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/04/24 22:47	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/04/24 22:47	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/04/24 22:47	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**121**		15.0	11.1	mg/L			10/24/24 15:36	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-25

Date Collected: 10/21/24 17:35
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-11

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:49	1
Barium	**0.300**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:49	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:49	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:49	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:49	1
Copper	**0.00270**	**J**	0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:49	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:49	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:49	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**1.50**	**J**	1.88	1.39	mg/L			10/24/24 11:42	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-26

Date Collected: 10/22/24 09:55
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-12

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/04/24 22:52	1
Arsenic	**0.000959**	**J**	0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:52	1
Barium	**0.132**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:52	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/04/24 22:52	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:52	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:52	1
Cobalt	**0.00152**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:52	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:52	1
Lead	**0.000318**	**J**	0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:52	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:52	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/04/24 22:52	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/04/24 22:52	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/04/24 22:52	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/04/24 22:52	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SW846 9034)	**1.10**	**F1**	1.00	0.231	mg/L		10/27/24 10:28	10/27/24 11:51	1
Total Suspended Solids (USGS I-3765-85)	**10.0**		2.50	1.85	mg/L			10/24/24 15:36	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-36
Date Collected: 10/21/24 18:10
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-13
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 20:32	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 20:32	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 20:32	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 20:32	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/24/24 20:32	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 20:32	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 20:32	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 20:32	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 20:32	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 20:32	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 20:32	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/24/24 20:32	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/24/24 20:32	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 20:32	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 20:32	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 20:32	1
Acetone	<10.0		10.0	3.10	ug/L			10/24/24 20:32	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 20:32	1
Benzene	<0.500		0.500	0.220	ug/L			10/24/24 20:32	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 20:32	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 20:32	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 20:32	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 20:32	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/24/24 20:32	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 20:32	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/24/24 20:32	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 20:32	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/24/24 20:32	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 20:32	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 20:32	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/24/24 20:32	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 20:32	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 20:32	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 20:32	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 20:32	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 20:32	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 20:32	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 20:32	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 20:32	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/24/24 20:32	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 20:32	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 20:32	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 20:32	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 20:32	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 20:32	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/24/24 20:32	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*104*		*73 - 130*		*10/24/24 20:32*	*1*

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-36
Date Collected: 10/21/24 18:10
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-13
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*80 - 120*		*10/24/24 20:32*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*10/24/24 20:32*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/01/24 15:06	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		10/29/24 09:30	10/29/24 22:09	1
Barium	**0.398**		0.00200	0.000660	mg/L		10/29/24 09:30	11/01/24 15:06	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	10/29/24 22:09	1
Cadmium	**0.000103**	**J**	0.000200	0.000100	mg/L		10/29/24 09:30	11/01/24 15:06	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	10/29/24 22:09	1
Cobalt	**0.000173**	**J**	0.000500	0.000170	mg/L		10/29/24 09:30	10/29/24 22:09	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/01/24 15:06	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	10/29/24 22:09	1
Nickel	**0.00830**		0.00500	0.00210	mg/L		10/29/24 09:30	10/29/24 22:09	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	10/29/24 22:09	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/01/24 15:06	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/01/24 15:06	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	10/29/24 22:09	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	10/29/24 22:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**5.75**		1.88	1.39	mg/L			10/24/24 12:33	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-37
Date Collected: 10/22/24 13:13
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-14
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 20:55	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 20:55	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 20:55	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 20:55	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/24/24 20:55	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 20:55	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 20:55	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 20:55	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 20:55	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 20:55	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 20:55	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/24/24 20:55	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/24/24 20:55	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 20:55	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 20:55	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 20:55	1
Acetone	**6.52**	**J**	10.0	3.10	ug/L			10/24/24 20:55	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 20:55	1
Benzene	<0.500		0.500	0.220	ug/L			10/24/24 20:55	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 20:55	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 20:55	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 20:55	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 20:55	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/24/24 20:55	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 20:55	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/24/24 20:55	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 20:55	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/24/24 20:55	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 20:55	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 20:55	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/24/24 20:55	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 20:55	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 20:55	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 20:55	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 20:55	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 20:55	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 20:55	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 20:55	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 20:55	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/24/24 20:55	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 20:55	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 20:55	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 20:55	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 20:55	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 20:55	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/24/24 20:55	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 20:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*105*		*73 - 130*		*10/24/24 20:55*	*1*

Client Sample ID: MW-37
Date Collected: 10/22/24 13:13
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-14
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*80 - 120*		*10/24/24 20:55*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*10/24/24 20:55*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/01/24 15:09	1
Arsenic	**0.00438**		0.00200	0.000530	mg/L		10/29/24 09:30	10/29/24 22:13	1
Barium	**0.224**		0.00200	0.000660	mg/L		10/29/24 09:30	11/01/24 15:09	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	10/29/24 22:13	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/01/24 15:09	1
Chromium	**0.00134**	**J**	0.00500	0.00120	mg/L		10/29/24 09:30	10/29/24 22:13	1
Cobalt	**0.000766**		0.000500	0.000170	mg/L		10/29/24 09:30	10/29/24 22:13	1
Copper	**0.00310**	**J B**	0.00500	0.00180	mg/L		10/29/24 09:30	11/01/24 15:09	1
Lead	**0.00120**		0.000500	0.000260	mg/L		10/29/24 09:30	10/29/24 22:13	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	10/29/24 22:13	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	10/29/24 22:13	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/01/24 15:09	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/01/24 15:09	1
Vanadium	**0.00374**	**J**	0.00500	0.00110	mg/L		10/29/24 09:30	10/29/24 22:13	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	10/29/24 22:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**71.5**		3.75	2.78	mg/L			10/24/24 15:36	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-38
Date Collected: 10/22/24 12:15
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-15
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/26/24 17:47	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/26/24 17:47	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/26/24 17:47	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/26/24 17:47	1
1,1-Dichloroethane	**0.656**	**J**	1.00	0.220	ug/L			10/26/24 17:47	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/26/24 17:47	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/26/24 17:47	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/26/24 17:47	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/26/24 17:47	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/26/24 17:47	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/26/24 17:47	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/26/24 17:47	1
1,4-Dichlorobenzene	**1.70**		1.00	0.230	ug/L			10/26/24 17:47	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/26/24 17:47	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/26/24 17:47	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/26/24 17:47	1
Acetone	**5.09**	**J**	10.0	3.10	ug/L			10/26/24 17:47	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/26/24 17:47	1
Benzene	**4.65**		0.500	0.220	ug/L			10/26/24 17:47	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/26/24 17:47	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/26/24 17:47	1
Bromoform	<5.00		5.00	0.780	ug/L			10/26/24 17:47	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/26/24 17:47	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/26/24 17:47	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/26/24 17:47	1
Chlorobenzene	**16.2**		1.00	0.400	ug/L			10/26/24 17:47	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/26/24 17:47	1
Chloroethane	**1.57**	**J**	4.00	0.790	ug/L			10/26/24 17:47	1
Chloroform	<3.00		3.00	1.30	ug/L			10/26/24 17:47	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/26/24 17:47	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/26/24 17:47	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/26/24 17:47	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/26/24 17:47	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/26/24 17:47	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/26/24 17:47	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/26/24 17:47	1
Styrene	<1.00		1.00	0.370	ug/L			10/26/24 17:47	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/26/24 17:47	1
Toluene	<1.00		1.00	0.430	ug/L			10/26/24 17:47	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/26/24 17:47	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/26/24 17:47	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/26/24 17:47	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/26/24 17:47	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/26/24 17:47	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/26/24 17:47	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/26/24 17:47	1
Xylenes, Total	**0.901**	**J**	3.00	0.400	ug/L			10/26/24 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*100*		*73 - 130*		*10/26/24 17:47*	*1*

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-38

Date Collected: 10/22/24 12:15
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-15

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/26/24 17:47*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*10/26/24 17:47*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	<0.0938		0.0938	0.0263	ug/L		10/24/24 10:38	10/25/24 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*54*		*10 - 136*	*10/24/24 10:38*	*10/25/24 16:32*	*1*
Tetrachloro-m-xylene (Surr)	*101*		*10 - 130*	*10/24/24 10:38*	*10/25/24 16:32*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0268**		0.00200	0.000530	mg/L		10/29/24 09:30	10/29/24 22:17	1
Barium	**18.4**		0.0200	0.00660	mg/L		10/29/24 09:30	11/01/24 15:12	10
Cadmium	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/01/24 15:12	10
Chromium	**0.00141**	**J**	0.00500	0.00120	mg/L		10/29/24 09:30	10/29/24 22:17	1
Cobalt	**0.0301**		0.000500	0.000170	mg/L		10/29/24 09:30	10/29/24 22:17	1
Copper	<0.0500		0.0500	0.0180	mg/L		10/29/24 09:30	11/01/24 15:12	10
Lead	**0.000431**	**J**	0.000500	0.000260	mg/L		10/29/24 09:30	10/29/24 22:17	1
Nickel	**0.0599**		0.00500	0.00210	mg/L		10/29/24 09:30	10/29/24 22:17	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	10/29/24 22:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**40.0**		15.0	11.1	mg/L			10/24/24 13:16	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-39
Date Collected: 10/22/24 11:12
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-16
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/26/24 18:10	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/26/24 18:10	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/26/24 18:10	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/26/24 18:10	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/26/24 18:10	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/26/24 18:10	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/26/24 18:10	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/26/24 18:10	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/26/24 18:10	1
1,2-Dichlorobenzene	**0.384**	**J**	1.00	0.370	ug/L			10/26/24 18:10	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/26/24 18:10	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/26/24 18:10	1
1,4-Dichlorobenzene	**0.600**	**J**	1.00	0.230	ug/L			10/26/24 18:10	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/26/24 18:10	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/26/24 18:10	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/26/24 18:10	1
Acetone	<10.0		10.0	3.10	ug/L			10/26/24 18:10	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/26/24 18:10	1
Benzene	<0.500		0.500	0.220	ug/L			10/26/24 18:10	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/26/24 18:10	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/26/24 18:10	1
Bromoform	<5.00		5.00	0.780	ug/L			10/26/24 18:10	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/26/24 18:10	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/26/24 18:10	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/26/24 18:10	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/26/24 18:10	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/26/24 18:10	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/26/24 18:10	1
Chloroform	<3.00		3.00	1.30	ug/L			10/26/24 18:10	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/26/24 18:10	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/26/24 18:10	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/26/24 18:10	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/26/24 18:10	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/26/24 18:10	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/26/24 18:10	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/26/24 18:10	1
Styrene	<1.00		1.00	0.370	ug/L			10/26/24 18:10	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/26/24 18:10	1
Toluene	<1.00		1.00	0.430	ug/L			10/26/24 18:10	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/26/24 18:10	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/26/24 18:10	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/26/24 18:10	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/26/24 18:10	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/26/24 18:10	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/26/24 18:10	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/26/24 18:10	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/26/24 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*73 - 130*		*10/26/24 18:10*	*1*

Client Sample ID: MW-39

Date Collected: 10/22/24 11:12
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-16

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/26/24 18:10*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*10/26/24 18:10*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	<0.0911		0.0911	0.0255	ug/L		10/24/24 10:38	10/24/24 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*92*		*10 - 136*	*10/24/24 10:38*	*10/24/24 21:09*	*1*
Tetrachloro-m-xylene (Surr)	*108*		*10 - 130*	*10/24/24 10:38*	*10/24/24 21:09*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00760**		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 23:04	1
Barium	**0.201**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 23:04	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 23:04	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 23:04	1
Cobalt	**0.00307**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 23:04	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 23:04	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 23:04	1
Nickel	**0.0120**		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 23:04	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 23:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**12.3**		2.50	1.85	mg/L			10/24/24 15:36	1

Client Sample ID: MW-D1

Date Collected: 10/21/24 15:52
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-17

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/26/24 18:32	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/26/24 18:32	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/26/24 18:32	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/26/24 18:32	1
1,1-Dichloroethane	**0.915**	**J**	1.00	0.220	ug/L			10/26/24 18:32	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/26/24 18:32	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/26/24 18:32	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/26/24 18:32	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/26/24 18:32	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/26/24 18:32	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/26/24 18:32	1
1,2-Dichloropropane	**0.355**	**J**	1.00	0.270	ug/L			10/26/24 18:32	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/26/24 18:32	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/26/24 18:32	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/26/24 18:32	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/26/24 18:32	1
Acetone	<10.0		10.0	3.10	ug/L			10/26/24 18:32	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/26/24 18:32	1
Benzene	**0.345**	**J**	0.500	0.220	ug/L			10/26/24 18:32	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/26/24 18:32	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/26/24 18:32	1
Bromoform	<5.00		5.00	0.780	ug/L			10/26/24 18:32	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/26/24 18:32	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/26/24 18:32	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/26/24 18:32	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/26/24 18:32	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/26/24 18:32	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/26/24 18:32	1
Chloroform	<3.00		3.00	1.30	ug/L			10/26/24 18:32	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/26/24 18:32	1
cis-1,2-Dichloroethene	**10.8**		1.00	0.210	ug/L			10/26/24 18:32	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/26/24 18:32	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/26/24 18:32	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/26/24 18:32	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/26/24 18:32	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/26/24 18:32	1
Styrene	<1.00		1.00	0.370	ug/L			10/26/24 18:32	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/26/24 18:32	1
Toluene	<1.00		1.00	0.430	ug/L			10/26/24 18:32	1
trans-1,2-Dichloroethene	**0.876**	**J**	1.00	0.270	ug/L			10/26/24 18:32	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/26/24 18:32	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/26/24 18:32	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/26/24 18:32	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/26/24 18:32	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/26/24 18:32	1
Vinyl chloride	**2.44**		1.00	0.180	ug/L			10/26/24 18:32	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/26/24 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*73 - 130*		*10/26/24 18:32*	*1*

Client Sample ID: MW-D1
Date Collected: 10/21/24 15:52
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-17
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/26/24 18:32*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*10/26/24 18:32*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/04/24 23:29	1
Arsenic	**0.00470**		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 23:29	1
Barium	**0.659**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 23:29	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/04/24 23:29	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 23:29	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 23:29	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 23:29	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 23:29	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 23:29	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 23:29	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/04/24 23:29	1
Silver	<0.00100	*+	0.00100	0.000500	mg/L		10/29/24 09:30	11/04/24 23:29	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/04/24 23:29	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/04/24 23:29	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 23:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**18.3**		3.75	2.78	mg/L			10/24/24 11:42	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-D2
Date Collected: 10/22/24 09:55
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-18
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/26/24 18:55	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/26/24 18:55	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/26/24 18:55	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/26/24 18:55	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/26/24 18:55	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/26/24 18:55	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/26/24 18:55	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/26/24 18:55	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/26/24 18:55	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/26/24 18:55	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/26/24 18:55	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/26/24 18:55	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/26/24 18:55	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/26/24 18:55	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/26/24 18:55	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/26/24 18:55	1
Acetone	<10.0		10.0	3.10	ug/L			10/26/24 18:55	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/26/24 18:55	1
Benzene	<0.500		0.500	0.220	ug/L			10/26/24 18:55	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/26/24 18:55	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/26/24 18:55	1
Bromoform	<5.00		5.00	0.780	ug/L			10/26/24 18:55	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/26/24 18:55	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/26/24 18:55	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/26/24 18:55	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/26/24 18:55	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/26/24 18:55	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/26/24 18:55	1
Chloroform	<3.00		3.00	1.30	ug/L			10/26/24 18:55	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/26/24 18:55	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/26/24 18:55	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/26/24 18:55	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/26/24 18:55	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/26/24 18:55	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/26/24 18:55	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/26/24 18:55	1
Styrene	<1.00		1.00	0.370	ug/L			10/26/24 18:55	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/26/24 18:55	1
Toluene	<1.00		1.00	0.430	ug/L			10/26/24 18:55	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/26/24 18:55	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/26/24 18:55	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/26/24 18:55	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/26/24 18:55	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/26/24 18:55	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/26/24 18:55	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/26/24 18:55	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/26/24 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*73 - 130*		*10/26/24 18:55*	*1*

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-D2
Date Collected: 10/22/24 09:55
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-18
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/26/24 18:55*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*10/26/24 18:55*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/04/24 23:32	1
Arsenic	**0.00129**	**J**	0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 23:32	1
Barium	**0.119**		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 23:32	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/04/24 23:32	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 23:32	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 23:32	1
Cobalt	**0.00142**		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 23:32	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 23:32	1
Lead	**0.000273**	**J**	0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 23:32	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 23:32	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/04/24 23:32	1
Silver	<0.00100	*+	0.00100	0.000500	mg/L		10/29/24 09:30	11/04/24 23:32	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/04/24 23:32	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/04/24 23:32	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 23:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**7.62**		1.88	1.39	mg/L			10/24/24 15:36	1

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: Trip Blank
Date Collected: 10/21/24 00:00
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-20
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/26/24 12:27	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/26/24 12:27	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/26/24 12:27	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/26/24 12:27	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/26/24 12:27	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/26/24 12:27	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/26/24 12:27	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/26/24 12:27	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/26/24 12:27	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/26/24 12:27	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/26/24 12:27	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/26/24 12:27	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/26/24 12:27	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/26/24 12:27	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/26/24 12:27	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/26/24 12:27	1
Acetone	<10.0		10.0	3.10	ug/L			10/26/24 12:27	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/26/24 12:27	1
Benzene	<0.500		0.500	0.220	ug/L			10/26/24 12:27	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/26/24 12:27	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/26/24 12:27	1
Bromoform	<5.00		5.00	0.780	ug/L			10/26/24 12:27	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/26/24 12:27	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/26/24 12:27	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/26/24 12:27	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/26/24 12:27	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/26/24 12:27	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/26/24 12:27	1
Chloroform	<3.00		3.00	1.30	ug/L			10/26/24 12:27	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/26/24 12:27	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/26/24 12:27	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/26/24 12:27	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/26/24 12:27	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/26/24 12:27	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/26/24 12:27	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/26/24 12:27	1
Styrene	<1.00		1.00	0.370	ug/L			10/26/24 12:27	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/26/24 12:27	1
Toluene	<1.00		1.00	0.430	ug/L			10/26/24 12:27	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/26/24 12:27	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/26/24 12:27	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/26/24 12:27	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/26/24 12:27	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/26/24 12:27	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/26/24 12:27	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/26/24 12:27	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/26/24 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*73 - 130*		*10/26/24 12:27*	*1*

Client Sample ID: Trip Blank
Date Collected: 10/21/24 00:00
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-20
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		10/26/24 12:27	1
4-Bromofluorobenzene (Surr)	103		80 - 120		10/26/24 12:27	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)
310-293510-2	MW-4	109	94	98
310-293510-2 MS	MW-4	104	99	96
310-293510-2 MSD	MW-4	102	99	96
310-293510-3	MW-9	105	95	99
310-293510-4	MW-11	104	95	99
310-293510-5	MW-12R	104	94	99
310-293510-6	MW-13	101	94	99
310-293510-9	MW-22	103	94	100
310-293510-10	MW-23	102	93	98
310-293510-10	MW-23	114	96	104
310-293510-13	MW-36	104	93	99
310-293510-14	MW-37	105	93	99
310-293510-15	MW-38	100	98	100
310-293510-16	MW-39	101	98	101
310-293510-17	MW-D1	101	98	101
310-293510-18	MW-D2	101	98	101
310-293510-20	Trip Blank	101	99	103
LCS 310-437389/7	Lab Control Sample	97	100	97
LCS 310-437389/8	Lab Control Sample	101	95	98
LCS 310-437422/7	Lab Control Sample	99	101	100
LCS 310-437422/8	Lab Control Sample	100	99	101
LCS 310-437629/6	Lab Control Sample	99	99	104
LCS 310-437629/7	Lab Control Sample	109	96	103
MB 310-437389/6	Method Blank	100	95	103
MB 310-437422/6	Method Blank	101	98	101
MB 310-437629/5	Method Blank	111	96	106

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB1	TCX1
Lab Sample ID	Client Sample ID	(10-136)	(10-130)
310-293510-15	MW-38	54	101

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB2	TCX2
Lab Sample ID	Client Sample ID	(10-136)	(10-130)
310-293510-16	MW-39	92	108

Surrogate Summary

Client: SCS Engineers
Job ID: 310-293510-1
Project/Site: 2nd 2024 Semi-Annual Sampling
SDG: Muscatine County Sanitary Landfill

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		DCB2	TCX2								
Lab Sample ID	Client Sample ID	(10-136)	(10-130)								
LCS 310-437383/18-A	Lab Control Sample	87	81								
MB 310-437383/1-A	Method Blank	43	43								

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-437389/6
Matrix: Water
Analysis Batch: 437389

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/24/24 12:38	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/24/24 12:38	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/24/24 12:38	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/24/24 12:38	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/24/24 12:38	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/24/24 12:38	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/24/24 12:38	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/24/24 12:38	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/24/24 12:38	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/24/24 12:38	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/24/24 12:38	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/24/24 12:38	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/24/24 12:38	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/24/24 12:38	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/24/24 12:38	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/24/24 12:38	1
Acetone	<10.0		10.0	3.10	ug/L			10/24/24 12:38	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/24/24 12:38	1
Benzene	<0.500		0.500	0.220	ug/L			10/24/24 12:38	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/24/24 12:38	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/24/24 12:38	1
Bromoform	<5.00		5.00	0.780	ug/L			10/24/24 12:38	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/24/24 12:38	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/24/24 12:38	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/24/24 12:38	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/24/24 12:38	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/24/24 12:38	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/24/24 12:38	1
Chloroform	<3.00		3.00	1.30	ug/L			10/24/24 12:38	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/24/24 12:38	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/24/24 12:38	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/24/24 12:38	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/24/24 12:38	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/24/24 12:38	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/24/24 12:38	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/24/24 12:38	1
Styrene	<1.00		1.00	0.370	ug/L			10/24/24 12:38	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/24/24 12:38	1
Toluene	<1.00		1.00	0.430	ug/L			10/24/24 12:38	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/24/24 12:38	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/24/24 12:38	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/24/24 12:38	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/24/24 12:38	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/24/24 12:38	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/24/24 12:38	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/24/24 12:38	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/24/24 12:38	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-437389/6
Matrix: Water
Analysis Batch: 437389

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*100*		*73 - 130*		*10/24/24 12:38*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*10/24/24 12:38*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*10/24/24 12:38*	*1*

Lab Sample ID: LCS 310-437389/7
Matrix: Water
Analysis Batch: 437389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	19.28		ug/L		96	71 - 120
1,1,1-Trichloroethane	20.0	22.78		ug/L		114	73 - 129
1,1,2,2-Tetrachloroethane	20.0	20.66		ug/L		103	68 - 124
1,1,2-Trichloroethane	20.0	20.91		ug/L		105	73 - 123
1,1-Dichloroethane	20.0	23.94		ug/L		120	70 - 127
1,1-Dichloroethene	20.0	24.83		ug/L		124	63 - 132
1,2,3-Trichloropropane	20.0	20.61		ug/L		103	65 - 127
1,2-Dibromo-3-chloropropane	20.0	20.72		ug/L		104	50 - 150
1,2-Dibromoethane (EDB)	20.0	19.83		ug/L		99	75 - 125
1,2-Dichlorobenzene	20.0	18.79		ug/L		94	74 - 120
1,2-Dichloroethane	20.0	21.55		ug/L		108	71 - 125
1,2-Dichloropropane	20.0	23.74		ug/L		119	73 - 124
1,4-Dichlorobenzene	20.0	18.44		ug/L		92	72 - 120
2-Butanone (MEK)	40.0	42.26		ug/L		106	50 - 150
2-Hexanone	40.0	42.85		ug/L		107	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	42.33		ug/L		106	60 - 139
Acetone	40.0	44.95		ug/L		112	50 - 150
Acrylonitrile	200	240.1		ug/L		120	50 - 150
Benzene	20.0	23.26		ug/L		116	72 - 124
Bromochloromethane	20.0	21.19		ug/L		106	73 - 130
Bromodichloromethane	20.0	20.48		ug/L		102	74 - 122
Bromoform	20.0	17.41		ug/L		87	61 - 122
Carbon disulfide	20.0	24.90		ug/L		125	59 - 135
Carbon tetrachloride	20.0	22.35		ug/L		112	67 - 132
Chlorobenzene	20.0	19.14		ug/L		96	76 - 120
Chlorodibromomethane	20.0	19.35		ug/L		97	71 - 121
Chloroform	20.0	21.19		ug/L		106	72 - 125
cis-1,2-Dichloroethene	20.0	21.10		ug/L		106	74 - 123
cis-1,3-Dichloropropene	20.0	20.09		ug/L		100	71 - 125
Dibromomethane	20.0	20.81		ug/L		104	74 - 125
Ethylbenzene	20.0	20.76		ug/L		104	74 - 122
Iodomethane	20.0	21.51		ug/L		108	10 - 150
Methylene chloride	20.0	24.13		ug/L		121	50 - 150
Styrene	20.0	19.73		ug/L		99	74 - 121
Tetrachloroethene	20.0	19.76		ug/L		99	71 - 130
Toluene	20.0	20.61		ug/L		103	74 - 123
trans-1,2-Dichloroethene	20.0	22.46		ug/L		112	70 - 126
trans-1,3-Dichloropropene	20.0	17.95		ug/L		90	69 - 123
trans-1,4-Dichloro-2-butene	20.0	18.56		ug/L		93	50 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-437389/7
Matrix: Water
Analysis Batch: 437389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Trichloroethene			20.0	20.73		ug/L		104	72 - 126		
Vinyl acetate			40.0	39.02		ug/L		98	50 - 150		
Xylenes, Total			40.0	39.52		ug/L		99	73 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*97*		*73 - 130*
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*

Lab Sample ID: LCS 310-437389/8
Matrix: Water
Analysis Batch: 437389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Bromomethane			20.0	20.54		ug/L		103	23 - 150		
Chloroethane			20.0	21.39		ug/L		107	54 - 136		
Chloromethane			20.0	21.72		ug/L		109	38 - 150		
Trichlorofluoromethane			20.0	19.67		ug/L		98	54 - 149		
Vinyl chloride			20.0	20.86		ug/L		104	56 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*101*		*73 - 130*
Toluene-d8 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*

Lab Sample ID: 310-293510-2 MS
Matrix: Water
Analysis Batch: 437389

Client Sample ID: MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1,1,2-Tetrachloroethane	<1.00		25.0	21.88		ug/L		88	55 - 130		
1,1,1-Trichloroethane	<1.00		25.0	24.64		ug/L		99	52 - 130		
1,1,2,2-Tetrachloroethane	<1.00		25.0	25.27		ug/L		101	54 - 130		
1,1,2-Trichloroethane	<1.00		25.0	25.07		ug/L		100	58 - 130		
1,1-Dichloroethane	<1.00		25.0	27.60		ug/L		110	49 - 130		
1,1-Dichloroethene	<2.00		25.0	29.68		ug/L		119	37 - 132		
1,2,3-Trichloropropane	<1.00		25.0	24.05		ug/L		96	49 - 130		
1,2-Dibromo-3-chloropropane	<5.00		25.0	23.67		ug/L		95	38 - 150		
1,2-Dibromoethane (EDB)	<1.00		25.0	23.13		ug/L		93	60 - 130		
1,2-Dichlorobenzene	<1.00		25.0	22.80		ug/L		91	59 - 130		
1,2-Dichloroethane	<1.00		25.0	25.31		ug/L		101	51 - 130		
1,2-Dichloropropane	<1.00		25.0	27.34		ug/L		109	57 - 130		
1,4-Dichlorobenzene	<1.00		25.0	22.74		ug/L		91	57 - 130		
2-Butanone (MEK)	<10.0		50.0	45.87		ug/L		92	38 - 150		
2-Hexanone	<10.0		50.0	50.09		ug/L		100	46 - 140		
4-Methyl-2-pentanone (MIBK)	<10.0		50.0	47.93		ug/L		96	47 - 139		
Acetone	<10.0		50.0	51.50		ug/L		103	31 - 150		
Acrylonitrile	<5.00		250	285.7		ug/L		114	40 - 150		

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-293510-2 MS
Matrix: Water
Analysis Batch: 437389

Client Sample ID: MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.500		25.0	26.69		ug/L		107	46 - 130
Bromochloromethane	<5.00		25.0	26.33		ug/L		105	57 - 130
Bromodichloromethane	<1.00		25.0	24.05		ug/L		96	57 - 130
Bromoform	<5.00		25.0	20.43		ug/L		82	44 - 130
Carbon disulfide	<1.00		25.0	33.61		ug/L		134	38 - 135
Carbon tetrachloride	<2.00		25.0	26.27		ug/L		105	45 - 132
Chlorobenzene	<1.00		25.0	22.70		ug/L		91	59 - 130
Chlorodibromomethane	<5.00		25.0	23.37		ug/L		93	54 - 130
Chloroform	<3.00		25.0	24.94		ug/L		100	51 - 130
cis-1,2-Dichloroethene	<1.00		25.0	25.71		ug/L		103	45 - 130
cis-1,3-Dichloropropene	<5.00		25.0	23.91		ug/L		96	53 - 130
Dibromomethane	<1.00		25.0	25.28		ug/L		101	59 - 130
Ethylbenzene	<1.00		25.0	23.73		ug/L		95	45 - 130
Iodomethane	<10.0		25.0	30.51		ug/L		122	10 - 150
Methylene chloride	<5.00		25.0	29.59		ug/L		118	37 - 150
Styrene	<1.00		25.0	23.76		ug/L		95	47 - 130
Tetrachloroethene	<1.00		25.0	22.97		ug/L		92	47 - 130
Toluene	<1.00		25.0	23.53		ug/L		94	51 - 130
trans-1,2-Dichloroethene	<1.00		25.0	26.73		ug/L		107	48 - 130
trans-1,3-Dichloropropene	<5.00		25.0	21.50		ug/L		86	50 - 130
trans-1,4-Dichloro-2-butene	<10.0		25.0	22.36		ug/L		89	26 - 150
Trichloroethene	<1.00		25.0	23.60		ug/L		94	51 - 130
Vinyl acetate	<10.0		50.0	48.00		ug/L		96	29 - 150
Xylenes, Total	<3.00		50.0	45.58		ug/L		91	43 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*104*		*73 - 130*
Toluene-d8 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*

Lab Sample ID: 310-293510-2 MSD
Matrix: Water
Analysis Batch: 437389

Client Sample ID: MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	<1.00		25.0	21.58		ug/L		86	55 - 130	1	20
1,1,1-Trichloroethane	<1.00		25.0	24.88		ug/L		100	52 - 130	1	20
1,1,2,2-Tetrachloroethane	<1.00		25.0	24.62		ug/L		98	54 - 130	3	20
1,1,2-Trichloroethane	<1.00		25.0	24.34		ug/L		97	58 - 130	3	20
1,1-Dichloroethane	<1.00		25.0	26.61		ug/L		106	49 - 130	4	20
1,1-Dichloroethene	<2.00		25.0	27.78		ug/L		111	37 - 132	7	26
1,2,3-Trichloropropane	<1.00		25.0	23.47		ug/L		94	49 - 130	2	26
1,2-Dibromo-3-chloropropane	<5.00		25.0	24.40		ug/L		98	38 - 150	3	20
1,2-Dibromoethane (EDB)	<1.00		25.0	22.95		ug/L		92	60 - 130	1	20
1,2-Dichlorobenzene	<1.00		25.0	21.47		ug/L		86	59 - 130	6	20
1,2-Dichloroethane	<1.00		25.0	24.07		ug/L		96	51 - 130	5	20
1,2-Dichloropropane	<1.00		25.0	26.95		ug/L		108	57 - 130	1	20
1,4-Dichlorobenzene	<1.00		25.0	21.48		ug/L		86	57 - 130	6	20

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-293510-2 MSD
Matrix: Water
Analysis Batch: 437389

Client Sample ID: MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Butanone (MEK)	<10.0		50.0	54.48		ug/L		109	38 - 150	17	20
2-Hexanone	<10.0		50.0	51.56		ug/L		103	46 - 140	3	20
4-Methyl-2-pentanone (MIBK)	<10.0		50.0	48.84		ug/L		98	47 - 139	2	20
Acetone	<10.0		50.0	48.54		ug/L		97	31 - 150	6	29
Acrylonitrile	<5.00		250	277.8		ug/L		111	40 - 150	3	20
Benzene	<0.500		25.0	25.55		ug/L		102	46 - 130	4	20
Bromochloromethane	<5.00		25.0	23.66		ug/L		95	57 - 130	11	20
Bromodichloromethane	<1.00		25.0	23.22		ug/L		93	57 - 130	4	20
Bromoform	<5.00		25.0	20.25		ug/L		81	44 - 130	1	20
Carbon disulfide	<1.00		25.0	28.70		ug/L		115	38 - 135	16	30
Carbon tetrachloride	<2.00		25.0	25.56		ug/L		102	45 - 132	3	20
Chlorobenzene	<1.00		25.0	21.26		ug/L		85	59 - 130	7	20
Chlorodibromomethane	<5.00		25.0	22.30		ug/L		89	54 - 130	5	20
Chloroform	<3.00		25.0	23.40		ug/L		94	51 - 130	6	20
cis-1,2-Dichloroethene	<1.00		25.0	23.71		ug/L		95	45 - 130	8	20
cis-1,3-Dichloropropene	<5.00		25.0	23.19		ug/L		93	53 - 130	3	20
Dibromomethane	<1.00		25.0	24.30		ug/L		97	59 - 130	4	20
Ethylbenzene	<1.00		25.0	22.65		ug/L		91	45 - 130	5	20
Iodomethane	<10.0		25.0	30.71		ug/L		123	10 - 150	1	35
Methylene chloride	<5.00		25.0	27.05		ug/L		108	37 - 150	9	24
Styrene	<1.00		25.0	21.90		ug/L		88	47 - 130	8	20
Tetrachloroethene	<1.00		25.0	22.32		ug/L		89	47 - 130	3	20
Toluene	<1.00		25.0	23.05		ug/L		92	51 - 130	2	20
trans-1,2-Dichloroethene	<1.00		25.0	24.60		ug/L		98	48 - 130	8	22
trans-1,3-Dichloropropene	<5.00		25.0	20.93		ug/L		84	50 - 130	3	20
trans-1,4-Dichloro-2-butene	<10.0		25.0	22.06		ug/L		88	26 - 150	1	23
Trichloroethene	<1.00		25.0	23.29		ug/L		93	51 - 130	1	20
Vinyl acetate	<10.0		50.0	50.07		ug/L		100	29 - 150	4	23
Xylenes, Total	<3.00		50.0	43.10		ug/L		86	43 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*102*		*73 - 130*
Toluene-d8 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*

Lab Sample ID: MB 310-437422/6
Matrix: Water
Analysis Batch: 437422

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/26/24 10:33	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/26/24 10:33	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/26/24 10:33	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/26/24 10:33	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/26/24 10:33	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/26/24 10:33	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/26/24 10:33	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/26/24 10:33	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-437422/6
Matrix: Water
Analysis Batch: 437422

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/26/24 10:33	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/26/24 10:33	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/26/24 10:33	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/26/24 10:33	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/26/24 10:33	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/26/24 10:33	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/26/24 10:33	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/26/24 10:33	1
Acetone	<10.0		10.0	3.10	ug/L			10/26/24 10:33	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/26/24 10:33	1
Benzene	<0.500		0.500	0.220	ug/L			10/26/24 10:33	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/26/24 10:33	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/26/24 10:33	1
Bromoform	<5.00		5.00	0.780	ug/L			10/26/24 10:33	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/26/24 10:33	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/26/24 10:33	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/26/24 10:33	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/26/24 10:33	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/26/24 10:33	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/26/24 10:33	1
Chloroform	<3.00		3.00	1.30	ug/L			10/26/24 10:33	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/26/24 10:33	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/26/24 10:33	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/26/24 10:33	1
Dibromomethane	<1.00		1.00	0.330	ug/L			10/26/24 10:33	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/26/24 10:33	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/26/24 10:33	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/26/24 10:33	1
Styrene	<1.00		1.00	0.370	ug/L			10/26/24 10:33	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/26/24 10:33	1
Toluene	<1.00		1.00	0.430	ug/L			10/26/24 10:33	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/26/24 10:33	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			10/26/24 10:33	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/26/24 10:33	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/26/24 10:33	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/26/24 10:33	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/26/24 10:33	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/26/24 10:33	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/26/24 10:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*73 - 130*		*10/26/24 10:33*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/26/24 10:33*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*10/26/24 10:33*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-437422/7
Matrix: Water
Analysis Batch: 437422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	20.32		ug/L		102	71 - 120
1,1,1-Trichloroethane	20.0	20.40		ug/L		102	73 - 129
1,1,2,2-Tetrachloroethane	20.0	20.09		ug/L		100	68 - 124
1,1,2-Trichloroethane	20.0	20.34		ug/L		102	73 - 123
1,1-Dichloroethane	20.0	20.74		ug/L		104	70 - 127
1,1-Dichloroethene	20.0	21.29		ug/L		106	63 - 132
1,2,3-Trichloropropane	20.0	19.77		ug/L		99	65 - 127
1,2-Dibromo-3-chloropropane	20.0	19.11		ug/L		96	50 - 150
1,2-Dibromoethane (EDB)	20.0	20.40		ug/L		102	75 - 125
1,2-Dichlorobenzene	20.0	20.29		ug/L		101	74 - 120
1,2-Dichloroethane	20.0	18.54		ug/L		93	71 - 125
1,2-Dichloropropane	20.0	20.71		ug/L		104	73 - 124
1,4-Dichlorobenzene	20.0	20.17		ug/L		101	72 - 120
2-Butanone (MEK)	40.0	35.89		ug/L		90	50 - 150
2-Hexanone	40.0	37.00		ug/L		92	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	38.02		ug/L		95	60 - 139
Acetone	40.0	36.60		ug/L		92	50 - 150
Acrylonitrile	200	201.2		ug/L		101	50 - 150
Benzene	20.0	20.89		ug/L		104	72 - 124
Bromochloromethane	20.0	20.90		ug/L		105	73 - 130
Bromodichloromethane	20.0	20.03		ug/L		100	74 - 122
Bromoform	20.0	18.88		ug/L		94	61 - 122
Carbon disulfide	20.0	20.81		ug/L		104	59 - 135
Carbon tetrachloride	20.0	20.56		ug/L		103	67 - 132
Chlorobenzene	20.0	20.62		ug/L		103	76 - 120
Chlorodibromomethane	20.0	19.38		ug/L		97	71 - 121
Chloroform	20.0	22.66		ug/L		113	72 - 125
cis-1,2-Dichloroethene	20.0	20.61		ug/L		103	74 - 123
cis-1,3-Dichloropropene	20.0	18.55		ug/L		93	71 - 125
Dibromomethane	20.0	19.83		ug/L		99	74 - 125
Ethylbenzene	20.0	21.06		ug/L		105	74 - 122
Iodomethane	20.0	12.03		ug/L		60	10 - 150
Methylene chloride	20.0	20.63		ug/L		103	50 - 150
Styrene	20.0	21.16		ug/L		106	74 - 121
Tetrachloroethene	20.0	21.33		ug/L		107	71 - 130
Toluene	20.0	20.72		ug/L		104	74 - 123
trans-1,2-Dichloroethene	20.0	20.66		ug/L		103	70 - 126
trans-1,3-Dichloropropene	20.0	17.88		ug/L		89	69 - 123
trans-1,4-Dichloro-2-butene	20.0	14.87		ug/L		74	50 - 150
Trichloroethene	20.0	21.18		ug/L		106	72 - 126
Vinyl acetate	40.0	33.52		ug/L		84	50 - 150
Xylenes, Total	40.0	42.01		ug/L		105	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*99*		*73 - 130*
Toluene-d8 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-437422/8
Matrix: Water
Analysis Batch: 437422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Bromomethane			20.0	16.11		ug/L		81	23 - 150		
Chloroethane			20.0	18.62		ug/L		93	54 - 136		
Chloromethane			20.0	20.31		ug/L		102	38 - 150		
Trichlorofluoromethane			20.0	21.23		ug/L		106	54 - 149		
Vinyl chloride			20.0	20.25		ug/L		101	56 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*100*		*73 - 130*
Toluene-d8 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 310-437629/5
Matrix: Water
Analysis Batch: 437629

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			10/27/24 21:44	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			10/27/24 21:44	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			10/27/24 21:44	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			10/27/24 21:44	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			10/27/24 21:44	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			10/27/24 21:44	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			10/27/24 21:44	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			10/27/24 21:44	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			10/27/24 21:44	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			10/27/24 21:44	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			10/27/24 21:44	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			10/27/24 21:44	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			10/27/24 21:44	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			10/27/24 21:44	1
2-Hexanone	<10.0		10.0	2.00	ug/L			10/27/24 21:44	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			10/27/24 21:44	1
Acetone	<10.0		10.0	3.10	ug/L			10/27/24 21:44	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			10/27/24 21:44	1
Benzene	<0.500		0.500	0.220	ug/L			10/27/24 21:44	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			10/27/24 21:44	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			10/27/24 21:44	1
Bromoform	<5.00		5.00	0.780	ug/L			10/27/24 21:44	1
Bromomethane	<4.00		4.00	1.10	ug/L			10/27/24 21:44	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			10/27/24 21:44	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			10/27/24 21:44	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			10/27/24 21:44	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			10/27/24 21:44	1
Chloroethane	<4.00		4.00	0.790	ug/L			10/27/24 21:44	1
Chloroform	<3.00		3.00	1.30	ug/L			10/27/24 21:44	1
Chloromethane	<3.00		3.00	0.610	ug/L			10/27/24 21:44	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			10/27/24 21:44	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			10/27/24 21:44	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-437629/5
Matrix: Water
Analysis Batch: 437629

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	<1.00		1.00	0.330	ug/L			10/27/24 21:44	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			10/27/24 21:44	1
Iodomethane	<10.0		10.0	7.00	ug/L			10/27/24 21:44	1
Methylene chloride	<5.00		5.00	1.70	ug/L			10/27/24 21:44	1
Styrene	<1.00		1.00	0.370	ug/L			10/27/24 21:44	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			10/27/24 21:44	1
Toluene	<1.00		1.00	0.430	ug/L			10/27/24 21:44	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			10/27/24 21:44	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			10/27/24 21:44	1
Trichloroethene	<1.00		1.00	0.430	ug/L			10/27/24 21:44	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			10/27/24 21:44	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			10/27/24 21:44	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			10/27/24 21:44	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			10/27/24 21:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*111*		*73 - 130*		*10/27/24 21:44*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*10/27/24 21:44*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*10/27/24 21:44*	*1*

Lab Sample ID: LCS 310-437629/6
Matrix: Water
Analysis Batch: 437629

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	17.36		ug/L		87	71 - 120
1,1,1-Trichloroethane	20.0	19.79		ug/L		99	73 - 129
1,1,2,2-Tetrachloroethane	20.0	18.38		ug/L		92	68 - 124
1,1,2-Trichloroethane	20.0	19.26		ug/L		96	73 - 123
1,1-Dichloroethane	20.0	18.89		ug/L		94	70 - 127
1,1-Dichloroethene	20.0	19.70		ug/L		98	63 - 132
1,2,3-Trichloropropane	20.0	18.52		ug/L		93	65 - 127
1,2-Dibromo-3-chloropropane	20.0	19.62		ug/L		98	50 - 150
1,2-Dibromoethane (EDB)	20.0	19.16		ug/L		96	75 - 125
1,2-Dichlorobenzene	20.0	18.45		ug/L		92	74 - 120
1,2-Dichloroethane	20.0	19.51		ug/L		98	71 - 125
1,2-Dichloropropane	20.0	20.12		ug/L		101	73 - 124
1,4-Dichlorobenzene	20.0	18.19		ug/L		91	72 - 120
2-Butanone (MEK)	40.0	35.44		ug/L		89	50 - 150
2-Hexanone	40.0	38.09		ug/L		95	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	37.92		ug/L		95	60 - 139
Acetone	40.0	36.40		ug/L		91	50 - 150
Acrylonitrile	200	186.6		ug/L		93	50 - 150
Benzene	20.0	19.05		ug/L		95	72 - 124
Bromochloromethane	20.0	19.65		ug/L		98	73 - 130
Bromodichloromethane	20.0	19.52		ug/L		98	74 - 122
Bromoform	20.0	18.68		ug/L		93	61 - 122
Carbon disulfide	20.0	18.61		ug/L		93	59 - 135

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-437629/6
Matrix: Water
Analysis Batch: 437629

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon tetrachloride	20.0	19.69		ug/L		98	67 - 132
Chlorobenzene	20.0	18.36		ug/L		92	76 - 120
Chlorodibromomethane	20.0	19.65		ug/L		98	71 - 121
Chloroform	20.0	19.04		ug/L		95	72 - 125
cis-1,2-Dichloroethene	20.0	19.73		ug/L		99	74 - 123
cis-1,3-Dichloropropene	20.0	17.75		ug/L		89	71 - 125
Dibromomethane	20.0	19.88		ug/L		99	74 - 125
Ethylbenzene	20.0	18.82		ug/L		94	74 - 122
Iodomethane	20.0	12.20		ug/L		61	10 - 150
Methylene chloride	20.0	19.53		ug/L		98	50 - 150
Styrene	20.0	18.12		ug/L		91	74 - 121
Tetrachloroethene	20.0	18.92		ug/L		95	71 - 130
Toluene	20.0	18.70		ug/L		93	74 - 123
trans-1,2-Dichloroethene	20.0	20.09		ug/L		100	70 - 126
trans-1,4-Dichloro-2-butene	20.0	15.14		ug/L		76	50 - 150
Trichloroethene	20.0	19.86		ug/L		99	72 - 126
Vinyl acetate	40.0	30.60		ug/L		76	50 - 150
Xylenes, Total	40.0	35.98		ug/L		90	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*99*		*73 - 130*
Toluene-d8 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*

Lab Sample ID: LCS 310-437629/7
Matrix: Water
Analysis Batch: 437629

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	20.0	16.67		ug/L		83	23 - 150
Chloroethane	20.0	20.20		ug/L		101	54 - 136
Chloromethane	20.0	20.60		ug/L		103	38 - 150
Trichlorofluoromethane	20.0	21.64		ug/L		108	54 - 149
Vinyl chloride	20.0	21.51		ug/L		108	56 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*109*		*73 - 130*
Toluene-d8 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 310-437383/1-A
Matrix: Water
Analysis Batch: 437456

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 437383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	<0.0951		0.0951	0.0266	ug/L		10/24/24 10:38	10/24/24 18:50	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 310-437383/1-A
Matrix: Water
Analysis Batch: 437456

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 437383

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	43		10 - 136	10/24/24 10:38	10/24/24 18:50	1
Tetrachloro-m-xylene (Surr)	43		10 - 130	10/24/24 10:38	10/24/24 18:50	1

Lab Sample ID: LCS 310-437383/18-A
Matrix: Water
Analysis Batch: 437456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 437383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Endosulfan I	2.66	1.947		ug/L		73	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	87		10 - 136
Tetrachloro-m-xylene (Surr)	81		10 - 130

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 410-568020/1-A
Matrix: Water
Analysis Batch: 568404

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 568020

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	<0.0500		0.0500	0.0220	ug/L		10/25/24 15:10	10/28/24 06:46	1

Lab Sample ID: LCS 410-568020/2-A
Matrix: Water
Analysis Batch: 568404

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 568020

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silvex (2,4,5-TP)	0.250	0.2328		ug/L		93	62 - 170
Silvex (2,4,5-TP)	0.250	0.1953		ug/L		78	62 - 170

Lab Sample ID: LCSD 410-568020/3-A
Matrix: Water
Analysis Batch: 568404

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 568020

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silvex (2,4,5-TP)	0.250	0.2434		ug/L		97	62 - 170	4	30

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-437474/1-A
Matrix: Water
Analysis Batch: 438021

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 437474

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	10/29/24 20:18	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		10/29/24 09:30	10/29/24 20:18	1
Barium	<0.00200		0.00200	0.000660	mg/L		10/29/24 09:30	10/29/24 20:18	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	10/29/24 20:18	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 310-437474/1-A
Matrix: Water
Analysis Batch: 438021

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 437474

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	10/29/24 20:18	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	10/29/24 20:18	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		10/29/24 09:30	10/29/24 20:18	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	10/29/24 20:18	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	10/29/24 20:18	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	10/29/24 20:18	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	10/29/24 20:18	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	10/29/24 20:18	1

Lab Sample ID: MB 310-437474/1-A
Matrix: Water
Analysis Batch: 438523

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 437474

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/01/24 13:46	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		10/29/24 09:30	11/01/24 13:46	1
Barium	<0.00200		0.00200	0.000660	mg/L		10/29/24 09:30	11/01/24 13:46	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/01/24 13:46	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/01/24 13:46	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/01/24 13:46	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		10/29/24 09:30	11/01/24 13:46	1
Copper	0.003002	J	0.00500	0.00180	mg/L		10/29/24 09:30	11/01/24 13:46	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/01/24 13:46	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	11/01/24 13:46	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/01/24 13:46	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/01/24 13:46	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/01/24 13:46	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/01/24 13:46	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/01/24 13:46	1

Lab Sample ID: LCS 310-437474/2-A
Matrix: Water
Analysis Batch: 438021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 437474

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			0.200	0.1906		mg/L		95	80 - 120		
Arsenic			0.200	0.1937		mg/L		97	80 - 120		
Barium			0.100	0.08989		mg/L		90	80 - 120		
Beryllium			0.100	0.09561		mg/L		96	80 - 120		
Cadmium			0.100	0.08815		mg/L		88	80 - 120		
Chromium			0.100	0.09174		mg/L		92	80 - 120		
Cobalt			0.100	0.08851		mg/L		89	80 - 120		
Lead			0.200	0.1877		mg/L		94	80 - 120		
Nickel			0.200	0.1843		mg/L		92	80 - 120		
Selenium			0.400	0.3481		mg/L		87	80 - 120		
Vanadium			0.100	0.08847		mg/L		88	80 - 120		
Zinc			0.200	0.1707		mg/L		85	80 - 120		

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 310-437474/2-A
Matrix: Water
Analysis Batch: 438523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 437474

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.1960		mg/L		98	80 - 120
Arsenic	0.200	0.1940		mg/L		97	80 - 120
Barium	0.100	0.1002		mg/L		100	80 - 120
Beryllium	0.100	0.1016		mg/L		102	80 - 120
Cadmium	0.100	0.09824		mg/L		98	80 - 120
Chromium	0.100	0.09992		mg/L		100	80 - 120
Cobalt	0.100	0.09717		mg/L		97	80 - 120
Copper	0.200	0.2055		mg/L		103	80 - 120
Lead	0.200	0.1997		mg/L		100	80 - 120
Nickel	0.200	0.2012		mg/L		101	80 - 120
Selenium	0.400	0.4009		mg/L		100	80 - 120
Silver	0.100	0.1091		mg/L		109	80 - 120
Thallium	0.100	0.1063		mg/L		106	80 - 120
Vanadium	0.100	0.1004		mg/L		100	80 - 120
Zinc	0.200	0.1860		mg/L		93	80 - 120

Lab Sample ID: MB 310-437477/1-A
Matrix: Water
Analysis Batch: 438683

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 437477

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/04/24 21:07	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 21:07	1
Barium	<0.00200		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 21:07	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/04/24 21:07	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 21:07	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 21:07	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 21:07	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 21:07	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 21:07	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 21:07	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/04/24 21:07	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/04/24 21:07	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/04/24 21:07	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/04/24 21:07	1
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 21:07	1

Lab Sample ID: LCS 310-437477/2-A
Matrix: Water
Analysis Batch: 438683

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 437477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.1926		mg/L		96	80 - 120
Arsenic	0.200	0.1842		mg/L		92	80 - 120
Barium	0.100	0.09864		mg/L		99	80 - 120
Beryllium	0.100	0.1042		mg/L		104	80 - 120
Cadmium	0.100	0.09640		mg/L		96	80 - 120
Chromium	0.100	0.1021		mg/L		102	80 - 120
Cobalt	0.100	0.1010		mg/L		101	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 310-437477/2-A
Matrix: Water
Analysis Batch: 438683

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 437477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Copper	0.200	0.2150		mg/L		107	80 - 120
Lead	0.200	0.2113		mg/L		106	80 - 120
Nickel	0.200	0.1878		mg/L		94	80 - 120
Selenium	0.400	0.3811		mg/L		95	80 - 120
Silver	0.100	0.1183		mg/L		118	80 - 120
Thallium	0.100	0.1041		mg/L		104	80 - 120
Vanadium	0.100	0.1021		mg/L		102	80 - 120
Zinc	0.200	0.1790		mg/L		89	80 - 120

Lab Sample ID: 310-293510-3 DU
Matrix: Water
Analysis Batch: 438683

Client Sample ID: MW-9
Prep Type: Total/NA
Prep Batch: 437477

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.00200		<0.00200		mg/L		NC	20
Arsenic	0.00131	J	0.001410	J	mg/L		7	20
Barium	0.991		1.034		mg/L		4	20
Beryllium	<0.00100		<0.00100		mg/L		NC	20
Cadmium	0.000122	J	0.0001330	J	mg/L		9	20
Chromium	<0.00500		<0.00500		mg/L		NC	20
Cobalt	0.0178		0.01875		mg/L		5	20
Copper	<0.00500		<0.00500		mg/L		NC	20
Lead	<0.000500		<0.000500		mg/L		NC	20
Nickel	0.0149		0.01542		mg/L		4	20
Selenium	<0.00500		<0.00500		mg/L		NC	20
Silver	<0.00100		<0.00100		mg/L		NC	20
Thallium	<0.00100		<0.00100		mg/L		NC	20
Vanadium	<0.00500		<0.00500		mg/L		NC	20
Zinc	<0.0200		<0.0200		mg/L		NC	20

Lab Sample ID: MB 310-437478/1-A
Matrix: Water
Analysis Batch: 438683

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 437478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		10/29/24 09:30	11/04/24 22:58	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		10/29/24 09:30	11/04/24 22:58	1
Barium	<0.00200		0.00200	0.000660	mg/L		10/29/24 09:30	11/04/24 22:58	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		10/29/24 09:30	11/04/24 22:58	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		10/29/24 09:30	11/04/24 22:58	1
Chromium	<0.00500		0.00500	0.00120	mg/L		10/29/24 09:30	11/04/24 22:58	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		10/29/24 09:30	11/04/24 22:58	1
Copper	<0.00500		0.00500	0.00180	mg/L		10/29/24 09:30	11/04/24 22:58	1
Lead	<0.000500		0.000500	0.000260	mg/L		10/29/24 09:30	11/04/24 22:58	1
Nickel	<0.00500		0.00500	0.00210	mg/L		10/29/24 09:30	11/04/24 22:58	1
Selenium	<0.00500		0.00500	0.00140	mg/L		10/29/24 09:30	11/04/24 22:58	1
Silver	<0.00100		0.00100	0.000500	mg/L		10/29/24 09:30	11/04/24 22:58	1
Thallium	<0.00100		0.00100	0.000570	mg/L		10/29/24 09:30	11/04/24 22:58	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		10/29/24 09:30	11/04/24 22:58	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 310-437478/1-A
Matrix: Water
Analysis Batch: 438683

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 437478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	<0.0200		0.0200	0.00970	mg/L		10/29/24 09:30	11/04/24 22:58	1

Lab Sample ID: LCS 310-437478/2-A
Matrix: Water
Analysis Batch: 438683

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 437478

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.1971		mg/L		99	80 - 120
Arsenic	0.200	0.1876		mg/L		94	80 - 120
Barium	0.100	0.1010		mg/L		101	80 - 120
Beryllium	0.100	0.1069		mg/L		107	80 - 120
Cadmium	0.100	0.09694		mg/L		97	80 - 120
Chromium	0.100	0.1058		mg/L		106	80 - 120
Cobalt	0.100	0.1043		mg/L		104	80 - 120
Copper	0.200	0.2220		mg/L		111	80 - 120
Lead	0.200	0.2225		mg/L		111	80 - 120
Nickel	0.200	0.1896		mg/L		95	80 - 120
Selenium	0.400	0.3979		mg/L		99	80 - 120
Silver	0.100	0.1212	*+	mg/L		121	80 - 120
Thallium	0.100	0.1093		mg/L		109	80 - 120
Vanadium	0.100	0.1069		mg/L		107	80 - 120
Zinc	0.200	0.1827		mg/L		91	80 - 120

Lab Sample ID: 310-293510-16 MS
Matrix: Water
Analysis Batch: 438683

Client Sample ID: MW-39
Prep Type: Total/NA
Prep Batch: 437478

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.00200		0.200	0.2126		mg/L		106	75 - 125
Arsenic	0.00760		0.200	0.2125		mg/L		102	75 - 125
Barium	0.201		0.100	0.3178		mg/L		117	75 - 125
Beryllium	<0.00100		0.100	0.1079		mg/L		108	75 - 125
Cadmium	<0.000200		0.100	0.1021		mg/L		102	75 - 125
Chromium	<0.00500		0.100	0.1052		mg/L		105	75 - 125
Cobalt	0.00307		0.100	0.1038		mg/L		101	75 - 125
Copper	<0.00500		0.200	0.2147		mg/L		107	75 - 125
Lead	<0.000500		0.200	0.2153		mg/L		108	75 - 125
Nickel	0.0120		0.200	0.2069		mg/L		97	75 - 125
Selenium	<0.00500		0.400	0.3979		mg/L		99	75 - 125
Silver	<0.00100	*+	0.100	0.1170		mg/L		117	75 - 125
Thallium	<0.00100		0.100	0.1155		mg/L		116	75 - 125
Vanadium	<0.00500		0.100	0.1068		mg/L		107	75 - 125
Zinc	<0.0200		0.200	0.1915		mg/L		96	75 - 125

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 310-293510-16 MSD — **Client Sample ID: MW-39**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 438683 — **Prep Batch: 437478**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.00200		0.200	0.2017		mg/L		101	75 - 125	5	20
Arsenic	0.00760		0.200	0.2010		mg/L		97	75 - 125	6	20
Barium	0.201		0.100	0.3027		mg/L		102	75 - 125	5	20
Beryllium	<0.00100		0.100	0.1037		mg/L		104	75 - 125	4	20
Cadmium	<0.000200		0.100	0.09730		mg/L		97	75 - 125	5	20
Chromium	<0.00500		0.100	0.1017		mg/L		102	75 - 125	3	20
Cobalt	0.00307		0.100	0.09904		mg/L		96	75 - 125	5	20
Copper	<0.00500		0.200	0.2035		mg/L		102	75 - 125	5	20
Lead	<0.000500		0.200	0.2056		mg/L		103	75 - 125	5	20
Nickel	0.0120		0.200	0.1966		mg/L		92	75 - 125	5	20
Selenium	<0.00500		0.400	0.3806		mg/L		95	75 - 125	4	20
Silver	<0.00100	*+	0.100	0.1115		mg/L		112	75 - 125	5	20
Thallium	<0.00100		0.100	0.1123		mg/L		112	75 - 125	3	20
Vanadium	<0.00500		0.100	0.1027		mg/L		103	75 - 125	4	20
Zinc	<0.0200		0.200	0.1865		mg/L		93	75 - 125	3	20

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: 310-293510-12 MS — **Client Sample ID: MW-26**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 792589 — **Prep Batch: 792688**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	1.10	F1	3.76	3.649	F1	mg/L		68	75 - 125

Lab Sample ID: 310-293510-12 MSD — **Client Sample ID: MW-26**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 792589 — **Prep Batch: 792688**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	1.10	F1	3.76	3.586	F1	mg/L		66	75 - 125	2	20

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-437398/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 437398

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			10/24/24 11:42	1

Lab Sample ID: LCS 310-437398/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 437398

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	94.00		mg/L		94	81 - 116

Method: I-3765-85 - Residue, Non-filterable (TSS) (Continued)

Lab Sample ID: MB 310-437425/1
Matrix: Water
Analysis Batch: 437425

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			10/24/24 12:33	1

Lab Sample ID: LCS 310-437425/2
Matrix: Water
Analysis Batch: 437425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	89.00		mg/L		89	81 - 116

Lab Sample ID: MB 310-437438/1
Matrix: Water
Analysis Batch: 437438

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			10/24/24 13:16	1

Lab Sample ID: LCS 310-437438/2
Matrix: Water
Analysis Batch: 437438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	90.00		mg/L		90	81 - 116

Lab Sample ID: MB 310-437472/1
Matrix: Water
Analysis Batch: 437472

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			10/24/24 15:36	1

Lab Sample ID: LCS 310-437472/2
Matrix: Water
Analysis Batch: 437472

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	93.00		mg/L		93	81 - 116

Lab Sample ID: 310-293510-10 DU
Matrix: Water
Analysis Batch: 437472

Client Sample ID: MW-23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	121		167.0		mg/L		32	35

GC/MS VOA

Analysis Batch: 437389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-2	MW-4	Total/NA	Water	8260D	
310-293510-3	MW-9	Total/NA	Water	8260D	
310-293510-4	MW-11	Total/NA	Water	8260D	
310-293510-5	MW-12R	Total/NA	Water	8260D	
310-293510-6	MW-13	Total/NA	Water	8260D	
310-293510-9	MW-22	Total/NA	Water	8260D	
310-293510-10	MW-23	Total/NA	Water	8260D	
310-293510-13	MW-36	Total/NA	Water	8260D	
310-293510-14	MW-37	Total/NA	Water	8260D	
MB 310-437389/6	Method Blank	Total/NA	Water	8260D	
LCS 310-437389/7	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-437389/8	Lab Control Sample	Total/NA	Water	8260D	
310-293510-2 MS	MW-4	Total/NA	Water	8260D	
310-293510-2 MSD	MW-4	Total/NA	Water	8260D	

Analysis Batch: 437422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-15	MW-38	Total/NA	Water	8260D	
310-293510-16	MW-39	Total/NA	Water	8260D	
310-293510-17	MW-D1	Total/NA	Water	8260D	
310-293510-18	MW-D2	Total/NA	Water	8260D	
310-293510-20	Trip Blank	Total/NA	Water	8260D	
MB 310-437422/6	Method Blank	Total/NA	Water	8260D	
LCS 310-437422/7	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-437422/8	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 437629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-10	MW-23	Total/NA	Water	8260D	
MB 310-437629/5	Method Blank	Total/NA	Water	8260D	
LCS 310-437629/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-437629/7	Lab Control Sample	Total/NA	Water	8260D	

GC Semi VOA

Prep Batch: 437383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-15	MW-38	Total/NA	Water	3511	
310-293510-16	MW-39	Total/NA	Water	3511	
MB 310-437383/1-A	Method Blank	Total/NA	Water	3511	
LCS 310-437383/18-A	Lab Control Sample	Total/NA	Water	3511	

Analysis Batch: 437456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-16	MW-39	Total/NA	Water	8081B	437383
MB 310-437383/1-A	Method Blank	Total/NA	Water	8081B	437383
LCS 310-437383/18-A	Lab Control Sample	Total/NA	Water	8081B	437383

Analysis Batch: 437535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-15	MW-38	Total/NA	Water	8081B	437383

GC Semi VOA

Prep Batch: 568020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-5	MW-12R	Total/NA	Water	8151A	
MB 410-568020/1-A	Method Blank	Total/NA	Water	8151A	
LCS 410-568020/2-A	Lab Control Sample	Total/NA	Water	8151A	
LCSD 410-568020/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	

Analysis Batch: 568404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-5	MW-12R	Total/NA	Water	8151A	568020
MB 410-568020/1-A	Method Blank	Total/NA	Water	8151A	568020
LCS 410-568020/2-A	Lab Control Sample	Total/NA	Water	8151A	568020
LCSD 410-568020/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	568020

Metals

Prep Batch: 437474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-13	MW-36	Total/NA	Water	3005A	
310-293510-14	MW-37	Total/NA	Water	3005A	
310-293510-15	MW-38	Total/NA	Water	3005A	
MB 310-437474/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-437474/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 437477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-1	MW-2	Total/NA	Water	3005A	
310-293510-2	MW-4	Total/NA	Water	3005A	
310-293510-3	MW-9	Total/NA	Water	3005A	
310-293510-4	MW-11	Total/NA	Water	3005A	
310-293510-5	MW-12R	Total/NA	Water	3005A	
310-293510-6	MW-13	Total/NA	Water	3005A	
310-293510-8	MW-21	Total/NA	Water	3005A	
310-293510-9	MW-22	Total/NA	Water	3005A	
310-293510-10	MW-23	Total/NA	Water	3005A	
310-293510-11	MW-25	Total/NA	Water	3005A	
310-293510-12	MW-26	Total/NA	Water	3005A	
MB 310-437477/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-437477/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-293510-3 DU	MW-9	Total/NA	Water	3005A	

Prep Batch: 437478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-16	MW-39	Total/NA	Water	3005A	
310-293510-17	MW-D1	Total/NA	Water	3005A	
310-293510-18	MW-D2	Total/NA	Water	3005A	
MB 310-437478/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-437478/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-293510-16 MS	MW-39	Total/NA	Water	3005A	
310-293510-16 MSD	MW-39	Total/NA	Water	3005A	

Metals

Analysis Batch: 438021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-13	MW-36	Total/NA	Water	6020B	437474
310-293510-14	MW-37	Total/NA	Water	6020B	437474
310-293510-15	MW-38	Total/NA	Water	6020B	437474
MB 310-437474/1-A	Method Blank	Total/NA	Water	6020B	437474
LCS 310-437474/2-A	Lab Control Sample	Total/NA	Water	6020B	437474

Analysis Batch: 438523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-13	MW-36	Total/NA	Water	6020B	437474
310-293510-14	MW-37	Total/NA	Water	6020B	437474
310-293510-15	MW-38	Total/NA	Water	6020B	437474
MB 310-437474/1-A	Method Blank	Total/NA	Water	6020B	437474
LCS 310-437474/2-A	Lab Control Sample	Total/NA	Water	6020B	437474

Analysis Batch: 438683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-1	MW-2	Total/NA	Water	6020B	437477
310-293510-2	MW-4	Total/NA	Water	6020B	437477
310-293510-3	MW-9	Total/NA	Water	6020B	437477
310-293510-4	MW-11	Total/NA	Water	6020B	437477
310-293510-5	MW-12R	Total/NA	Water	6020B	437477
310-293510-6	MW-13	Total/NA	Water	6020B	437477
310-293510-8	MW-21	Total/NA	Water	6020B	437477
310-293510-9	MW-22	Total/NA	Water	6020B	437477
310-293510-10	MW-23	Total/NA	Water	6020B	437477
310-293510-11	MW-25	Total/NA	Water	6020B	437477
310-293510-12	MW-26	Total/NA	Water	6020B	437477
310-293510-16	MW-39	Total/NA	Water	6020B	437478
310-293510-17	MW-D1	Total/NA	Water	6020B	437478
310-293510-18	MW-D2	Total/NA	Water	6020B	437478
MB 310-437477/1-A	Method Blank	Total/NA	Water	6020B	437477
MB 310-437478/1-A	Method Blank	Total/NA	Water	6020B	437478
LCS 310-437477/2-A	Lab Control Sample	Total/NA	Water	6020B	437477
LCS 310-437478/2-A	Lab Control Sample	Total/NA	Water	6020B	437478
310-293510-16 MS	MW-39	Total/NA	Water	6020B	437478
310-293510-16 MSD	MW-39	Total/NA	Water	6020B	437478
310-293510-3 DU	MW-9	Total/NA	Water	6020B	437477

Analysis Batch: 438744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-5	MW-12R	Total/NA	Water	6020B	437477

General Chemistry

Analysis Batch: 437398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-3	MW-9	Total/NA	Water	I-3765-85	
310-293510-4	MW-11	Total/NA	Water	I-3765-85	
310-293510-6	MW-13	Total/NA	Water	I-3765-85	
310-293510-8	MW-21	Total/NA	Water	I-3765-85	
310-293510-9	MW-22	Total/NA	Water	I-3765-85	

General Chemistry (Continued)

Analysis Batch: 437398 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-11	MW-25	Total/NA	Water	I-3765-85	
310-293510-17	MW-D1	Total/NA	Water	I-3765-85	
MB 310-437398/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-437398/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 437425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-1	MW-2	Total/NA	Water	I-3765-85	
310-293510-13	MW-36	Total/NA	Water	I-3765-85	
MB 310-437425/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-437425/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 437438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-5	MW-12R	Total/NA	Water	I-3765-85	
310-293510-15	MW-38	Total/NA	Water	I-3765-85	
MB 310-437438/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-437438/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 437472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-2	MW-4	Total/NA	Water	I-3765-85	
310-293510-10	MW-23	Total/NA	Water	I-3765-85	
310-293510-12	MW-26	Total/NA	Water	I-3765-85	
310-293510-14	MW-37	Total/NA	Water	I-3765-85	
310-293510-16	MW-39	Total/NA	Water	I-3765-85	
310-293510-18	MW-D2	Total/NA	Water	I-3765-85	
MB 310-437472/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-437472/2	Lab Control Sample	Total/NA	Water	I-3765-85	
310-293510-10 DU	MW-23	Total/NA	Water	I-3765-85	

Analysis Batch: 792589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-12	MW-26	Total/NA	Water	9034	792688
310-293510-12 MS	MW-26	Total/NA	Water	9034	792688
310-293510-12 MSD	MW-26	Total/NA	Water	9034	792688

Prep Batch: 792688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293510-12	MW-26	Total/NA	Water	9030B	
310-293510-12 MS	MW-26	Total/NA	Water	9030B	
310-293510-12 MSD	MW-26	Total/NA	Water	9030B	

Lab Chronicle

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-2

Lab Sample ID: 310-293510-1
Matrix: Water
Date Collected: 10/21/24 14:10
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:10
Total/NA	Analysis	I-3765-85		1	437425	DGU1	EET CF	10/24/24 12:33

Client Sample ID: MW-4

Lab Sample ID: 310-293510-2
Matrix: Water
Date Collected: 10/22/24 10:39
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437389	WSE8	EET CF	10/24/24 17:54
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:12
Total/NA	Analysis	I-3765-85		1	437472	MDU9	EET CF	10/24/24 15:36

Client Sample ID: MW-9

Lab Sample ID: 310-293510-3
Matrix: Water
Date Collected: 10/21/24 14:49
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437389	WSE8	EET CF	10/24/24 18:17
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:15
Total/NA	Analysis	I-3765-85		1	437398	DGU1	EET CF	10/24/24 11:42

Client Sample ID: MW-11

Lab Sample ID: 310-293510-4
Matrix: Water
Date Collected: 10/21/24 16:30
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437389	WSE8	EET CF	10/24/24 18:40
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:21
Total/NA	Analysis	I-3765-85		1	437398	DGU1	EET CF	10/24/24 11:42

Client Sample ID: MW-12R

Lab Sample ID: 310-293510-5
Matrix: Water
Date Collected: 10/22/24 08:44
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437389	WSE8	EET CF	10/24/24 19:02
Total/NA	Prep	8151A			568020	QJZ6	ELLE	10/25/24 15:10
Total/NA	Analysis	8151A		1	568404	UAMZ	ELLE	10/28/24 08:33
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:24

Lab Chronicle

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-12R
Date Collected: 10/22/24 08:44
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		4	438744	A6US	EET CF	11/05/24 13:44
Total/NA	Analysis	I-3765-85		1	437438	DGU1	EET CF	10/24/24 13:16

Client Sample ID: MW-13
Date Collected: 10/21/24 15:52
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437389	WSE8	EET CF	10/24/24 19:25
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:27
Total/NA	Analysis	I-3765-85		1	437398	DGU1	EET CF	10/24/24 11:42

Client Sample ID: MW-21
Date Collected: 10/21/24 15:22
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:29
Total/NA	Analysis	I-3765-85		1	437398	DGU1	EET CF	10/24/24 11:42

Client Sample ID: MW-22
Date Collected: 10/21/24 17:00
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437389	WSE8	EET CF	10/24/24 19:47
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:44
Total/NA	Analysis	I-3765-85		1	437398	DGU1	EET CF	10/24/24 11:42

Client Sample ID: MW-23
Date Collected: 10/22/24 15:19
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437629	WSE8	EET CF	10/27/24 23:32
Total/NA	Analysis	8260D		1	437389	WSE8	EET CF	10/24/24 20:10
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:47
Total/NA	Analysis	I-3765-85		1	437472	MDU9	EET CF	10/24/24 15:36

Client Sample ID: MW-25

Lab Sample ID: 310-293510-11

Date Collected: 10/21/24 17:35
Matrix: Water
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:49
Total/NA	Analysis	I-3765-85		1	437398	DGU1	EET CF	10/24/24 11:42

Client Sample ID: MW-26

Lab Sample ID: 310-293510-12

Date Collected: 10/22/24 09:55
Matrix: Water
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			437477	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 22:52
Total/NA	Prep	9030B			792688	TR	EET CHI	10/27/24 10:28 - 10/27/24 10:43 [1]
Total/NA	Analysis	9034		1	792589	TR	EET CHI	10/27/24 11:51 - 10/27/24 11:55 [1]
Total/NA	Analysis	I-3765-85		1	437472	MDU9	EET CF	10/24/24 15:36

Client Sample ID: MW-36

Lab Sample ID: 310-293510-13

Date Collected: 10/21/24 18:10
Matrix: Water
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437389	WSE8	EET CF	10/24/24 20:32
Total/NA	Prep	3005A			437474	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438021	NFT2	EET CF	10/29/24 22:09
Total/NA	Prep	3005A			437474	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438523	A6US	EET CF	11/01/24 15:06
Total/NA	Analysis	I-3765-85		1	437425	DGU1	EET CF	10/24/24 12:33

Client Sample ID: MW-37

Lab Sample ID: 310-293510-14

Date Collected: 10/22/24 13:13
Matrix: Water
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437389	WSE8	EET CF	10/24/24 20:55
Total/NA	Prep	3005A			437474	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438021	NFT2	EET CF	10/29/24 22:13
Total/NA	Prep	3005A			437474	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438523	A6US	EET CF	11/01/24 15:09
Total/NA	Analysis	I-3765-85		1	437472	MDU9	EET CF	10/24/24 15:36

Client Sample ID: MW-38

Lab Sample ID: 310-293510-15

Date Collected: 10/22/24 12:15
Matrix: Water
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437422	FE5V	EET CF	10/26/24 17:47

Lab Chronicle

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: MW-38

Lab Sample ID: 310-293510-15

Date Collected: 10/22/24 12:15
Matrix: Water
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3511			437383	D2YP	EET CF	10/24/24 10:38
Total/NA	Analysis	8081B		1	437535	BW2O	EET CF	10/25/24 16:32
Total/NA	Prep	3005A			437474	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438021	NFT2	EET CF	10/29/24 22:17
Total/NA	Prep	3005A			437474	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		10	438523	A6US	EET CF	11/01/24 15:12
Total/NA	Analysis	I-3765-85		1	437438	DGU1	EET CF	10/24/24 13:16

Client Sample ID: MW-39

Lab Sample ID: 310-293510-16

Date Collected: 10/22/24 11:12
Matrix: Water
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437422	FE5V	EET CF	10/26/24 18:10
Total/NA	Prep	3511			437383	D2YP	EET CF	10/24/24 10:38
Total/NA	Analysis	8081B		1	437456	BW2O	EET CF	10/24/24 21:09
Total/NA	Prep	3005A			437478	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 23:04
Total/NA	Analysis	I-3765-85		1	437472	MDU9	EET CF	10/24/24 15:36

Client Sample ID: MW-D1

Lab Sample ID: 310-293510-17

Date Collected: 10/21/24 15:52
Matrix: Water
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437422	FE5V	EET CF	10/26/24 18:32
Total/NA	Prep	3005A			437478	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 23:29
Total/NA	Analysis	I-3765-85		1	437398	DGU1	EET CF	10/24/24 11:42

Client Sample ID: MW-D2

Lab Sample ID: 310-293510-18

Date Collected: 10/22/24 09:55
Matrix: Water
Date Received: 10/23/24 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437422	FE5V	EET CF	10/26/24 18:55
Total/NA	Prep	3005A			437478	F5MW	EET CF	10/29/24 09:30
Total/NA	Analysis	6020B		1	438683	A6US	EET CF	11/04/24 23:32
Total/NA	Analysis	I-3765-85		1	437472	MDU9	EET CF	10/24/24 15:36

Lab Chronicle

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Client Sample ID: Trip Blank

Date Collected: 10/21/24 00:00
Date Received: 10/23/24 16:25

Lab Sample ID: 310-293510-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	437422	FE5V	EET CF	10/26/24 12:27

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-293510-1
Project/Site: 2nd 2024 Semi-Annual Sampling
SDG: Muscatine County Sanitary Landfill

Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	082	05-01-26

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	361	03-01-26

Method Summary

Client: SCS Engineers
Project/Site: 2nd 2024 Semi-Annual Sampling

Job ID: 310-293510-1
SDG: Muscatine County Sanitary Landfill

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
8081B	Organochlorine Pesticides (GC)	SW846	EET CF
8151A	Herbicides (GC)	SW846	ELLE
6020B	Metals (ICP/MS)	SW846	EET CF
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	EET CHI
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
3511	Microextraction of Organic Compounds	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF
8151A	Extraction (Herbicides)	SW846	ELLE
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	EET CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

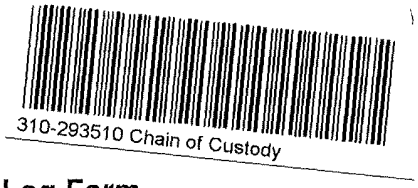
Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

eurofins | Environment Testing America



Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 10-23-24 | TIME 1625 | Received By: CGC

Delivery Type. ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☑ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☑ Yes ☐ No *If yes:* Cooler # 1 of 3

Cooler Custody Seals Present? ☐ Yes ☑ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☑ Yes ☐ No *If yes:* Which VOA samples are in cooler? ↓

MW-4, MW-9, MW-11, MW-12R, MW-13, MW-23

Temperature Record

Coolant. ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: P | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.1 | Corrected Temp (°C): 4.1

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e g , bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE. If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 10.23.24 TIME ~~1615~~ 1625 cc Received By: CGC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☑ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☑ Yes ☐ No *If yes:* Cooler # 2 of 3

Cooler Custody Seals Present? ☐ Yes ☑ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? CGL ☑ Yes ☑ No *If yes:* Which VOA samples are in cooler? ↓

~~MW-22, MW-36~~, No trip blanks

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: P | Correction Factor (°C): C

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.9 | Corrected Temp (°C): 1.9

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding If no, proceed with login

Additional Comments

MW-26 vials received empty

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 10.23.24 | TIME 1625 | Received By: CGC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☑ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☑ Yes ☐ No *If yes:* Cooler # 3 of 3

Cooler Custody Seals Present? ☐ Yes ☑ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☑ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant. ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 9 | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.5 | Corrected Temp (°C): 2.5

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used.		
Uncorrected Temp (°C).		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way

Cedar Falls, IA 50613-6907
phone 319.277.2401 fax 319.277.2425

Chain of Custody Record

eurofins

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Regulatory Program: ☐ DW ☐ NPDES ☑ RCRA ☐ Other:

Client Contact	Project Manager: Nathan Ohrt	Site Contact: Dave Popp	Date	COC No:
Nathan Ohrt	Email: nohrt@scsengineers.com	Lab Contact: Sam Miller	Carrier:	1 of 2 COCs
SCS Engineers	Cell: 319-331-9613			Sampler:
West Des Moines Iowa	Analysis Turnaround Time: ☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only: Walk-in Client: / Lab Sampling:
	Other: ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day			
Project Name: 2nd 2024 Semi-Annual Sampling				
Site: Muscatine County Sanitary Landfill				Job / SDG No.
P O # 27223255.25				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Appendix I	Metals List (see note)	Appendix I VOCs	Total Suspended Solids	2,4,5-TP [Silvex]	Endosulfan I	Sulfide	Trip Blank	Sample Specific Notes.
MW-2	10/21/24	14:10	G	W		N	Y		X		X					
MW-4	10/22/24	10:39	G	W		N	Y	X			X					
MW-9	10/21/24	14:49	G	W		N	Y		X	X	X					
MW-11	10/21/24	16:30	G	W		N	Y		X	X	X					
MW-12R	10/22/24	8:44	G	W		N	Y	X			X	X				
MW-13	10/21/24	15:52	G	W		N	Y	X			X					
MW-20			G	W		N	Y		X		X					
MW-21	10/21/24	15.22	G	W		N	Y		X		X					
MW-22	10/21/24	17:00	G	W		N	Y		X	X	X					
MW-23	10/22/24	15:19	G	W		N	Y	X			X					
MW-25	10/21/24	17:35	G	W		N	Y		X		X					
MW-26	10/22/24	9.55	G	W		N	Y	X			X			X		
MW-36	10/21/24	18:10	G	W		N	Y	X			X					
MW-37	10/22/24	13:13	G	W		N	Y	X			X					
MW-38	10/22/24	12:15	G	W		N	Y		X	X	X		X			
MW-39	10/22/24	11:12	G	W		N	Y		X	X	X		X			
MW-D1	10/21/24	15:52	G	W		N	Y	X			X					
MW-D2	10/22/24	9:55	G	W		N	Y	X			X					
Trip Blank						N									X	

Preservation Used: 1= Ice, 2= HCl, 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments.
"Metals List" includes arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, and zinc.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No		Cooler Temp. (°C) Obs'd _____ Corr'd._____		Therm ID No. _____
Relinquished by: Cole Tesar	Company: SCS	Date/Time: 10/23/24 9:25	Received by:	Company:	Date/Time
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time.
Relinquished by:	Company:	Date/Time.	Received in Laboratory by: CGL	Company: Eurofins	Date/Time: 10-23-24 1625

Form No. CA-C-WI-002, Rev 4.23, dated 4/16/2019

Eurofins TestAmerica, Cedar Falls
3019 Venture Way

Cedar Falls IA 50613-6907
phone 319 277.2401 fax 319.277.2425

Chain of Custody Record

eurofins

Regulatory Program: ☐ DW ☐ NPDES ☑ RCRA ☐ Other

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Nathan Ohrt	Site Contact: Dave Popp	Date.	COC No
Nathan Ohrt	Email. nohrt@scsengineers.com	Lab Contact: Sam Miller	Carrier:	2 of 2 COCs
SCS Engineers	Cell 319-331-9613			Sampler
West Des Moines, Iowa	Analysis Turnaround Time			For Lab Use Only:
	☐ CALENDAR DAYS ☐ WORKING DAYS			Walk-in Client:
	Other:			Lab Sampling
Project Name 2nd 2024 Bracketing	☐ 2 weeks			
Site Muscatine County Sanitary Landfill	☐ 1 week			Job / SDG No
P O # 27223255.25	☐ 2 days			
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Benzene	Vinyl Chloride	Barium	Total Suspended Solids	Trip Blank	Sample Specific Notes.
MW-56			G	W		N	Y			X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments
"Appendix I metals list" includes arsenic, barium, cadmium, copper, cobalt, lead, nickel, and zinc.
"AMD" includes total alkalinity, total iron, total manganese, total aluminum, and sulfate.
"Natural Attenuation" includes total organic carbon, nitrate, total iron, total manganese, and sulfate.

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No | Cooler Temp (°C) Obs'd _____ Corr'd _____ Therm ID No _____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by: CGL	Company: Eurofins	Date/Time: 10.23.24 1625

Form No. CA-C-WI-002, Rev. 4.23, dated 4/16/2019

11/6/2024

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Miller, Samuel	Carrier Tracking No(s): N/A	COC No: 310-77672.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Samuel.Miller@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Iowa; State Program - Iowa		Job #: 310-293510-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 11/5/2024			Preservation Codes: -
City: Lancaster	TAT Requested (days): N/A			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: 2nd 2024 Semi-Annual Sampling	Project #: 31006335			
Site: 310-SCS Muscatine Co SLF 1st 2024	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/8151A_AP (MOD) 2,4,5-TP Silvex	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-12R (310-293510-5)	10/22/24	08:44 Central	G	Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	10/24/24 1140				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time 10/25/24 1010	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2: 1.5 C: 1.5

Ver: 10/10/2024

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone 319-277-2401 Fax 319-277-2425

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Miller, Samuel	Carrier Tracking No(s): N/A	COC No: 310-77675 1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Samuel Miller@et eurofinsus com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Environment Testing North Cen		Accreditations Required (See note): State - Iowa, State Program - Iowa		Job #: 310-293510-1
Address: 2417 Bond Street, ,	Due Date Requested: 11/5/2024	Analysis Requested		Preservation Codes:
City: University Park	TAT Requested (days): N/A			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: 2nd 2024 Semi-Annual Sampling	Project #: 31006335			
Site: 310-SCS Muscatine Co SLF 1st 2024	SSOW#: N/A			Other: N/A

310 293510 COC

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9034_Calc/9030B	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-26 (310-293510-12)	10/22/24	09 55 Central	G	Water			X	1	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing North Central LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing North Central LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/24/24 1155			10/25/24 0935	BETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
		3.2-3.8

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-293510-1
SDG Number: Muscatine County Sanitary Landfill

Login Number: 293510
List Number: 1
Creator: Bunker, Xavier M

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-293510-1
SDG Number: Muscatine County Sanitary Landfill

Login Number: 293510
List Number: 3
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 10/25/24 01:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-293510-1
SDG Number: Muscatine County Sanitary Landfill

Login Number: 293510
List Number: 2
Creator: Arroyo, Haley

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC
List Creation: 10/25/24 11:31 AM

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

Appendix B-2
Data Validation Documentation

Completed by: Michael Morgan
Date of Sampling: 6/24-26/2024
Lab Report Date: 7/9/2024
Site Name: Muscatine County Sanitary Landfill
Project Type: HMSP - 1st 2024 Bracketing
Lab Report Number: 310-284592-1

	OK	NO	N/A	NOTES
Sample Collection and Sample Handling				
Chain of Custody	X			
Temperature	X			
Preservation		X		
Condition	X			
Case Narrative	X	X		
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections.
Trip Blank Detections	X			No detections.
Accuracy				
ICV/CCV	X			The CCV associated with batch 310-426115 recovered above the upper control limit for Vinyl chloride (28.3 D) and Trichlorofluoromethane (33.1%D); the samples associated with this CCV were non-detects for the affected analytes so the data have been reported.
LCS/LCSD	X			
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates			X	

Completed by: Michael Morgan
Date of Sampling: 6/24-26/2024
Lab Report Date: 7/15/2024
Site Name: Muscatine County Sanitary Landfill
Project Type: HMSP - 1st 2024 Semi-Annual Sampling
Lab Report Number: 310-284531-1

	OK	NO	N/A	NOTES
Sample Collection and Sample Handling				
Chain of Custody	X			
Temperature	X			
Preservation		X		Samples MW-23 and MW-38 were received with insufficient preservation at a pH of >2; the sample(s) was preserved to the appropriate pH in the laboratory.
Condition		X		One container for MW-12R was received broken; enough volume in remaining container for analysis.
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections		X		The method blank contained Benzene above the method detection limit; the target analyte concentration was less than the reporting limit in the method blank; therefore, re-analysis of samples was not performed.
Trip Blank Detections	X			No detections.
Accuracy				
ICV/CCV		X		The CCV associated with batch 310-426115 recovered above the upper control limit for Vinyl chloride (28.3 D) and Trichlorofluoromethane (33.1%D); the samples associated with this CCV were non-detects for the affected analytes so the data have been reported. The CCV associated with batch 310-426950 recovered above the upper control limit for Diethyl phthalate (21.0%D); the samples associated with this CCV were non-detects for the affected analytes so the data have been reported.
LCS/LCSD		X		The LCS and/or LCSD for preparation batch 310-426155 and analytical batch 310-426950 recovered outside control limits for the Famphur and Kepone, these analytes were biased high in the LCS and were not detected in the associated samples so the data have been reported. Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 310-426155 and analytical batch 310-426950 recovered outside control limits for the following analytes: 3,3'-Dimethylbenzidine and Hexachloropropene. Method 8270E: The LCS/LCSD) for preparation batch 310-426155 and analytical batch 310-426950 recovered outside control limits for: p-Phenylene diamine; p- Phenylene diamine has been identified as a poor performing analyte when analyzed using this method so re-extraction/reanalysis was not performed.
MS/MSD		X		Method 8270E: Insufficient sample volume was available to perform a MS/MSD associated with preparation batch 310-426155.
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates	X			Sample MW-11 and duplicate sample MW-D1 had <50% RPD for analyzed parameters except Barium (86.19%).

Completed by: Michael Morgan
Date of Sampling: 10/21-22/2024
Lab Report Date: 11/6/2024
Site Name: Muscatine County Sanitary Landfill
Project Type: HMSP - 2nd 2024 Semi-Annual Sampling
Lab Report Number: 310-293510-1

	OK	NO	N/A	NOTES
Sample Collection and Sample Handling				
Chain of Custody	X			
Temperature	X			
Preservation	X			MW-38 was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples.
Condition		X		MW-38 was diluted due to the nature of the sample matrix:; elevated reporting limits are provided.
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections.
Trip Blank Detections	X			No detections.
Accuracy				
ICV/CCV		X		The CCV associated with batch 310-426115 recovered above the upper control limit for Vinyl chloride (28.3 D) and Trichlorofluoromethane (33.1%D); the samples associated with this CCV were non-detects for the affected analytes so the data have been reported. The CCV associated with batch 310-426950 recovered above the upper control limit for Diethyl phthalate (21.0%D); the samples associated with this CCV were non-detects for the affected analytes so the data have been reported.
LCS/LCSD		X		The LCS and/or LCSD for preparation batch 310-437478 and analytical batch 310-438683 recovered outside control limits for Silver; these analyte was biased high in the LCS and was not detected in the associated samples so the data have been reported.
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates	X			Sample MW-13 and duplicate sample MW-D1 has <50% RPD for analyzed parameters with the exception of Lead (56% RPD). Sample MW-26 and duplicate MW-D2 has <50% RPD for analyzed parameters.

Appendix C-1
Summary of Groundwater Chemistry – HMSP

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Antimony, mg/L (CAS NO - 7440-36-0)	3/4/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	3/25/2009	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 0.001	N/A	N/A	N/A	N/A	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	9/7/2009	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	0.0018	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.002	< 0.002	N/A	< 0.002	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	9/7/2010	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	0.0021	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	3/20/2012	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	3/20/2012	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	0.0028	< 0.002	< 0.002	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	3/26/2014	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	0.0021	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	1/13/2015	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	0.000198	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	0.000172*	< 0.001	0.00116	< 0.001	N/A	N/A	< 0.001	0.000178*	< 0.001	< 0.001	< 0.001	N/A	N/A	0.00018*	0.000324*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000239*	0.000315*
	2/10/2016	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.000222*	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/10/2016	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	< 0.001
	7/26/2016	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/14/2017	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.000423*	< 0.001	< 0.001	N/A	N/A	0.000623*	< 0.001
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	0.000516*	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	0.000406*	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.001	0.000515*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.002	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.002	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.000551*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	< 0.002	< 0.002
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	< 0.002	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.002	0.000697*	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	0.000719*	N/A	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	< 0.002
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	< 0.002	< 0.002
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	< 0.002	< 0.002
	3/14/2023	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	< 0.002	N/A	< 0.002	< 0.002	< 0.002	N/A	N/A	< 0.002	< 0.002
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	< 0.002	< 0.008	N/A	N/A	N/A	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	N/A	N/A	N/A	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A
Arsenic, mg/L (CAS NO - 7440-38-2)	3/4/2008	N/A	N/A	N/A	< 0.005	0.01	< 0.005	0.008	< 0.005	0.036	0.007	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.031	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.029	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0474	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0167	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0249	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0376	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0048	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Arsenic, mg/L (CAS NO - 7440-38-2)	7/13/2009	< 0.004	N/A	N/A	N/A	N/A	< 0.004	N/A	< 0.004	0.0437	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0287	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.011	0.0048	N/A	0.0112	N/A	N/A	N/A	0.0048	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	0.0095	N/A	N/A	< 0.004	< 0.004	0.0077	0.0707	< 0.004	0.122	< 0.004	0.0067	0.0091	0.0576	0.0188	0.0082	0.0045	0.0065	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	0.0069	N/A	N/A	< 0.004	0.0108	0.0208	0.052	< 0.004	0.062	0.0064	< 0.004	0.0109	0.0083	0.0417	0.0097	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2010	0.0086	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 0.004	N/A	N/A	< 0.004	< 0.004	0.0125	0.0524	< 0.004	0.0888	< 0.004	< 0.004	< 0.004	< 0.004	0.0213	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.0523	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.004	N/A	N/A	< 0.004	0.0066	0.0217	< 0.004	< 0.004	0.0546	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	0.0084	N/A	N/A	< 0.004	0.0053	0.0133	< 0.004	< 0.004	0.0548	< 0.004	< 0.004	< 0.004	< 0.004	0.014	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	0.0045	0.0105	0.0269	0.0062	< 0.004	0.0468	0.0041	N/A	N/A	0.004	0.0099	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	0.0133	< 0.004	< 0.004	0.0249	< 0.004	0.0053	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.004	N/A	N/A	< 0.004	0.0064	0.0104	0.0072	0.0046	0.0627	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	0.0372	< 0.004	< 0.004	0.065	< 0.004	< 0.004	0.0074	0.0047	0.0084	< 0.004	< 0.004	0.0083	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0088	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0565	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.004	N/A	N/A	< 0.004	0.0095	< 0.004	< 0.004	< 0.004	0.0389	< 0.004	< 0.004	< 0.004	< 0.004	0.0167	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/13/2015	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 0.002	N/A	N/A	< 0.002	0.0028	0.00108	0.00198	< 0.002	0.0574	0.0145	N/A	< 0.002	< 0.002	0.0173	0.000998	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.00189	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.002	N/A	N/A	< 0.002	0.0217	N/A	0.00121*	< 0.002	0.00246	0.00365	N/A	N/A	0.00906	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	0.0809	0.00301
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.21	0.00115*
	2/10/2016	< 0.002	N/A	N/A	< 0.002	0.0198	0.0104	< 0.002	< 0.002	0.00973	0.00348	< 0.002	< 0.002	0.00183*	0.00119*	< 0.002	< 0.002	< 0.002	< 0.002	N/A	0.212	0.00812
	2/10/2016	N/A	N/A	N/A	N/A	0.0188	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0027	0.0121
	7/26/2016	< 0.002	N/A	N/A	0.00122*	0.0403	0.0142	0.000951*	< 0.002	0.0046	0.00297	N/A	N/A	0.00107*	< 0.002	< 0.002	0.00166*	< 0.002	< 0.002	N/A	0.0773	0.0109
	2/14/2017	0.000744*	N/A	N/A	0.0024	0.0364	0.0136	0.00105*	< 0.002	0.00339	< 0.02	< 0.002	< 0.002	0.00215	0.0135	0.00068*	< 0.002	< 0.002	< 0.002	N/A	0.0758	0.00636
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00451	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.002	N/A	N/A	0.00104*	0.0166	0.0123	0.0025	0.000809*	0.00694	0.00354	N/A	< 0.002	0.000804*	0.0301	< 0.002	< 0.002	0.000524*	< 0.002	N/A	0.0478	0.00539
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.032	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.002	N/A	N/A	< 0.002	0.0202	0.000575*	< 0.002	0.000623*	0.00331	0.00364	< 0.002	< 0.002	< 0.002	0.0133	< 0.002	< 0.002	< 0.002	< 0.002	N/A	0.069	0.00749
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0036	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	0.00354	0.00768	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.00182*	0.00284*	0.00522	0.00123*	0.0171	0.00925	0.00186*	< 0.002	0.00864	0.00391	N/A	< 0.002	0.00286	0.0183	< 0.002	0.00152*	< 0.002	< 0.002	N/A	0.0495	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00869	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	0.00243*	0.00321	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	0.00252*	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.002	0.00256	< 0.002	< 0.002	0.00703	0.000987*	< 0.002	< 0.002	0.00686	0.00491	< 0.002	< 0.002	0.00134*	0.00689	< 0.002	< 0.002	< 0.002	< 0.002	N/A	0.0616	0.00644
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.002	0.00165*	< 0.002	< 0.002	0.0174	0.00169*	0.00121*	< 0.002	0.00854	0.00418	< 0.002	< 0.002	0.00205	0.00422	< 0.002	< 0.002	< 0.002	< 0.002	N/A	0.0353	0.00619
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00388	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.002	0.00177*	< 0.002	< 0.002	0.0062	0.00194*	0.00099*	< 0.002	0.0141	0.00395	< 0.002	< 0.002	< 0.002	0.0146	< 0.002	< 0.002	< 0.002	N/A	N/A	0.0434	0.00414
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00194*	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.002	0.00146*	< 0.002	< 0.002	0.0253	0.00179*	0.00102*	< 0.002	0.016	0.00464	< 0.002	< 0.002	0.00153*	0.0518	< 0.002	< 0.002	0.00156*	N/A	N/A	0.058	0.00605
	9/15/2020	N/A	N/A	N/A	N/A	N/A	0.00182*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.002	0.00202	< 0.002	< 0.002	0.0576	0.00254	< 0.002	< 0.002	0.0112	0.00635	< 0.002	< 0.002	0.00187*	0.00755	< 0.002	< 0.002	0.00119*	N/A	N/A	0.0549	0.00496
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00101*	N/A	N/A	N/A	N/A
	11/30/2021	N/A	0.00139*	< 0.002	< 0.002	0.0213	0.0216	0.000854*	< 0.002	0.0161	0.00443	N/A	N/A	0.00301	0.0595	< 0.002	< 0.002	0.00134*	N/A	N/A	0.0402	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.002	0.0022	< 0.002	< 0.002	0.0246	0.000895*	0.00147*	< 0.002	0.0127	0.00586	N/A	< 0.002	N/A	0.00674	< 0.002	< 0.002	0.00121*	N/A	N/A	N/A	0.00324
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000939*	N/A	N/A	N/A	N/A
	10/26/2022	N/A	0.00183*	< 0.002	< 0.002	0.0318	0.0171	0.00256	< 0.002	0.0201	0.00438	N/A	0.00075*	0.00104*	0.0904	< 0.002	< 0.002	0.00314	N/A	N/A	0.0541	0.0132
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00458	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 0.002	0.00231	< 0.002	< 0.002	0.0185	0.00137*	0.00129*	0.000814*	0.0193	0.00642	< 0.002	< 0.002	< 0.002	0.0589	< 0.002	< 0.002	< 0.002	N/A	N/A	0.0509	0.00314
	3/14/2023	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	0.00219	0.00053*	0.00118*	0.0205	0.0109	0.00521	< 0.002	0.0229	0.00572	N/A	N/A	0.00212	N/A	0.000845*	< 0.002	0.00133*	N/A	N/A	0.0553	0.00491
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00367	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	< 0.002	< 0.002	0.00226	< 0.002	0.0278	0.00162*	0.0073	0.00229	< 0.002	0.0233	N/A	0.00596	< 0.002	0.0319	< 0.002	0.000678*	0.00176*	< 0.002	0.00271	0.0621	0.00517
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	< 0.002	0.0161	0.00131*	N/A	0.00106*	0.0223	0.0047	N/A	< 0.002	0.000638*	0.00438	N/A	< 0.002	0.000959*	< 0.002	0.00438	0.0268	0.0076
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00464	N/A	N/A	N/A	N/A	N/A	N/A	0.00129*	N/A	N/A	N/A	N/A
Barium, mg/L (CAS NO - 7440-39-3)	3/4/2008	N/A	N/A	N/A	0.305	0.897	0.129	0.245	0.05	2.55	0.603	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	0.282	0.796	0.313	0.177	0.123	1.04	0.581	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	0.296	0.91	0.411	0.297	0.175	1.22	0.537	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	0.285	0.84	0.7	0.259	0.198	1.74	0.514	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.588	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	0.141	N/A	N/A	0.315	0.842	0.686	0.269	0.16	1.47	0.574	0.143	0.119	1.14	1.22	0.246	0.28	0.0392	N/A	N/A	N/A	N/A
	3/25/2009	0.0959	N/A	N/A	0.3	0.861	0.179	0.247	0.0617	1.8	0.569	0.074	0.0621	0.11	0.39	0.22	0.276	0.054	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.103	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	0.133	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0384	0.0763	0.96	0.326	0.219	0.282	0.0461	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.884	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	0.174	N/A	N/A	N/A	N/A	0.58	N/A	0.154	1.88	0.534	0.102	0.0481	0.438	0.346	0.218	0.268	0.044	N/A	N/A	N/A	N/A
	9/7/2009	0.127	N/A	N/A	0.321	0.92	0.889	0.297	0.208	1.41	0.508	0.0916	0.0893	0.701	0.321	0.201	0.27	0.0908	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.619	0.992	N/A	0.318	N/A	N/A	N/A	0.118	N/A	N/A	N/A	0.259	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	0.332	N/A	N/A	0.354	0.95	0.684	0.627	0.229	2.75	0.579	0.132	0.2	1.64	0.526	0.276	0.497	0.19	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.509	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	0.251	N/A	N/A	0.33	0.992	0.983	0.584	0.379	2.46	0.573	0.115	0.249	1.03	0.729	0.33	0.49	0.123	N/A	N/A	N/A	N/A
	9/7/2010	0.274	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Barium, mg/L (CAS NO - 7440-39-3)	3/7/2011	0.215	N/A	N/A	0.285	0.853	0.448	0.74	0.0887	2.76	0.626	0.0557	0.212	1.19	0.667	0.237	0.372	0.124	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.704	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	0.111	N/A	N/A	0.353	1.08	1.33	0.58	0.357	1.97	0.62	N/A	0.183	1.16	0.748	0.303	0.538	0.153	N/A	N/A	N/A	N/A
	3/20/2012	0.357	N/A	N/A	0.298	0.945	0.51	0.179	0.122	2.23	0.584	0.0681	0.124	0.27	0.651	0.218	0.45	0.103	N/A	N/A	N/A	N/A
	3/20/2012	0.0939	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	0.513	0.809	1.05	0.453	0.165	1.94	0.495	N/A	N/A	0.871	0.585	0.214	0.474	0.109	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.161	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	0.1	N/A	N/A	0.279	0.989	0.594	0.249	0.209	2.55	0.682	0.0789	0.186	1.07	0.453	0.244	0.299	0.0558	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.289	N/A	N/A	N/A	N/A	N/A
	9/3/2013	0.0729	N/A	N/A	0.289	1.08	0.438	0.417	0.421	2.14	0.529	N/A	0.137	1.24	0.568	0.217	0.564	0.129	N/A	N/A	N/A	N/A
	3/26/2014	0.105	N/A	N/A	0.309	0.912	0.759	0.297	0.181	2.16	0.749	0.0671	0.301	1.33	0.578	0.257	0.503	0.155	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.89	N/A	N/A	N/A	N/A	0.544	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	N/A	N/A	N/A	0.174	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	0.0399	N/A	N/A	0.303	0.994	0.211	0.235	0.119	1.02	0.725	0.0651	0.0523	0.399	0.483	0.233	0.174	0.0376	N/A	N/A	N/A	N/A
	1/13/2015	0.063	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.115	N/A	N/A	0.302	0.917	0.198	0.26	0.136	2.32	0.896	N/A	0.107	0.316	0.524	0.197	0.234	0.0704	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.181	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	0.0889	N/A	N/A	0.507	1	N/A	0.295	0.141	0.514	0.755	N/A	N/A	2.19	0.462	0.238	0.111	0.112	N/A	N/A	13.8	1.11
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.271	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.61	0.166
	2/10/2016	0.0444	N/A	N/A	0.423	0.96	0.658	0.225	0.103	1.49	0.652	0.0417	0.0771	1	0.421	0.193	0.299	0.0812	N/A	N/A	9.59	0.812
	2/10/2016	N/A	N/A	N/A	N/A	0.946	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.399	0.732
	7/26/2016	0.0651	N/A	N/A	0.572	1.02	0.994	0.255	0.112	1.67	0.606	N/A	N/A	1.04	0.404	0.215	0.357	0.0889	N/A	N/A	9.04	0.78
	2/14/2017	0.0783	N/A	N/A	0.546	1.08	1.2	0.31	0.0941	2.16	0.624	0.0433	0.131	1.19	0.472	0.24	0.368	0.0747	N/A	N/A	12.4	1.08
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.54	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	0.0749	N/A	N/A	0.485	1.02	0.74	0.218	0.164	2.64	0.623	N/A	0.129	0.612	0.53	0.228	0.36	0.0606	N/A	N/A	12	0.996
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.509	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	0.0479	N/A	N/A	0.374	1.11	0.133	0.225	0.0948	3.23	0.657	0.0434	0.0759	0.193	0.458	0.237	0.21	0.0926	N/A	N/A	15.6	0.647
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	2.8	0.286	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.0978	2.11	0.282	0.512	1.02	0.688	0.404	0.124	3.06	0.587	N/A	0.156	1.08	0.507	0.255	0.533	0.112	N/A	N/A	14.9	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	1.73	0.288	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	2.23	0.301	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	0.063	2.19	0.264	0.385	0.896	0.15	0.189	0.0776	2.91	0.781	0.0412	0.0805	0.815	0.445	0.178	0.244	0.0645	0.199	N/A	14.7	0.379
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.187	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	0.0542	2.04	0.303	0.508	0.968	0.217	0.317	0.0692	2.74	0.595	0.0377	0.0737	0.79	0.386	0.214	0.226	0.0797	0.194	N/A	6.6	0.484
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.557	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	0.0572	1.93	0.237	0.311	0.896	0.164	0.234	0.0837	3.02	0.66	0.046	0.113	0.345	0.45	0.223	0.209	0.0896	N/A	N/A	10	0.537
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.238	N/A	N/A	N/A	N/A	N/A
	9/15/2020	0.0637	1.78	0.25	0.344	1.02	0.407	0.231	0.0959	2.98	0.627	0.0599	0.109	0.706	0.569	0.272	0.271	0.117	N/A	N/A	13.6	0.607
	9/15/2020	N/A	N/A	N/A	N/A	N/A	0.421	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	0.0445	1.79	0.212	0.323	1.13	0.198	0.257	0.0928	2.97	0.691	0.0536	0.104	0.707	0.447	0.25	0.202	0.072	N/A	N/A	11.2	0.502
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0747	N/A	N/A	N/A	N/A
	11/30/2021	N/A	1.75	0.225	0.386	0.909	1.22	0.457	0.12	2.83	0.606	N/A	N/A	0.846	0.533	0.264	0.248	0.139	N/A	N/A	12	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.106	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	0.0615	1.75	0.169	0.31	0.76	0.844	0.278	0.144	3.45	0.708	N/A	N/A	0.128	N/A	0.46	0.221	0.287	0.115	N/A	N/A	0.195
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0992	N/A	N/A	N/A	N/A
	10/26/2022	N/A	2.27	0.225	0.356	0.843	1.28	0.373	0.112	3.86	0.704	N/A	0.162	0.743	0.622	0.241	0.358	0.102	N/A	N/A	17.3	0.269
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.697	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	0.0645	2.09	0.164	0.285	0.612	0.14	0.182	0.0962	3.17	0.739	0.0614	0.0713	0.246	0.528	0.213	0.196	0.0947	N/A	N/A	15.4	0.189
	3/14/2023	N/A	N/A	N/A	0.303	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	2.46	0.225	0.302	0.604	1.06	0.404	0.106	3.43	0.615	N/A	N/A	0.859	N/A	0.259	0.302	0.133	N/A	N/A	16.9	0.224
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.991	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	0.0628	0.059	0.184	0.168	0.542	0.385	0.413	0.259	0.087	0.628	N/A	0.567	0.105	0.373	0.249	0.172	0.0957	0.218	0.214	13	0.181
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.103	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	0.363	0.468	0.991	N/A	0.178	4.04	0.659	N/A	0.128	0.732	0.38	N/A	0.3	0.132	0.398	0.224	18.4	0.201
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.626	N/A	N/A	N/A	N/A	N/A	N/A	0.119	N/A	N/A	N/A	N/A
Beryllium, mg/L (CAS NO - 7440-41-7)	3/4/2008	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 0.004	N/A	N/A	N/A	N/A	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.004	< 0.004	N/A	< 0.004	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2010	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0047	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.0043	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Beryllium, mg/L (CAS NO - 7440-41-7)	2/28/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/13/2015	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.000225	N/A	N/A	< 0.001	< 0.001	< 0.001	0.000261	< 0.001	< 0.001	< 0.001	N/A	0.000209	< 0.001	0.000168	< 0.001	0.000131	0.00006	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.000109	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	0.000288*	< 0.001	N/A	N/A	**0.00348**	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	0.00023*	0.000071*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000079*	0.000178*
	2/10/2016	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.000096*	< 0.001	< 0.001	0.000049*	< 0.001	< 0.001	< 0.001	< 0.001	0.000048*	N/A	N/A	0.00021*	< 0.001
	2/10/2016	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	< 0.001
	7/26/2016	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/14/2017	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.002	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.002	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	< 0.001
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 0.001	0.000308*	0.000272*	< 0.001	< 0.001	< 0.001	< 0.001	0.000275*	< 0.001	0.000326*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	0.000421*
	3/14/2023	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	< 0.001	< 0.004	N/A	N/A	N/A	0.000334*	N/A	N/A	< 0.001	< 0.001	< 0.001	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
Cadmium, mg/L (CAS NO - 7440-43-9)	3/4/2008	N/A	N/A	N/A	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.001	N/A	N/A	0.0011	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0012	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	3/25/2009	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	0.0014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 0.001	N/A	N/A	N/A	N/A	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0014	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	9/7/2009	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.0021	< 0.001	N/A	0.002	N/A	N/A	N/A	< 0.001	N/A	N/A	< 0.001	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	0.0076	< 0.001	0.0072	< 0.001	< 0.001	< 0.001	0.0045	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	0.0054	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0027	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	9/7/2010	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	0.0008	N/A	N/A	< 0.0008	0.0008	< 0.0008	0.009	< 0.0008	0.005	< 0.0008	< 0.0008	0.0009	0.0009	0.0022	< 0.0008	< 0.0008	< 0.0008	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.0096	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.0008	N/A	N/A	< 0.0008	0.0054	0.0011	0.0011	0.0008	< 0.0008	< 0.0008	N/A	< 0.0008	< 0.0008	< 0.0008	0.0019	< 0.0008	< 0.0008	N/A	N/A	N/A	N/A
	3/20/2012	< 0.0008	N/A	N/A	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	0.0011	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	N/A	N/A	N/A	N/A
	3/20/2012	< 0.0008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	0.0042	< 0.0008	0.0016	< 0.0008	< 0.0008	< 0.0008	< 0.0008	N/A	N/A	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 0.0008	N/A	N/A	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0008	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.0008	N/A	N/A	< 0.0008	< 0.0008	0.002	< 0.0008	0.0027	0.0008	< 0.0008	N/A	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	N/A	N/A	N/A	N/A
	3/26/2014	< 0.0008	N/A	N/A	< 0.0008	0.0016	0.0031	0.0011	< 0.0008	< 0.0008	< 0.0008	0.0009	0.0014	0.0011	< 0.0008	0.0011	0.0015	< 0.0008	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0008	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	N/A	N/A	< 0.0008	< 0.0008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.0008	N/A	N/A	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	0.0019	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	N/A	N/A	N/A	N/A
	1/13/2015	< 0.0008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.000142	N/A	N/A	0.000263	0.00109	0.000178	0.000764	0.000202	0.00012	0.00026	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000126	< 0.0005	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.000169	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Cadmium, mg/L (CAS NO - 7440-43-9)	9/28/2015	< 0.0005	N/A	N/A	0.000403*	0.000209*	N/A	0.000346*	0.00194	0.000423*	< 0.0005	N/A	N/A	0.000504	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	0.000115*	0.000261*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	0.000118*
	2/10/2016	< 0.0005	N/A	N/A	0.000403*	0.000183*	< 0.0005	< 0.0005	0.000344*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000157*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	< 0.0005	< 0.0005
	2/10/2016	N/A	N/A	N/A	N/A	0.000153*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00011*	< 0.0005
	7/26/2016	< 0.0005	N/A	N/A	0.000624	< 0.0005	0.000054*	< 0.0005	0.000228*	< 0.0005	< 0.0005	N/A	N/A	0.000064*	< 0.0005	< 0.0005	0.000107*	< 0.0005	N/A	N/A	< 0.0005	< 0.0005
	2/14/2017	< 0.0005	N/A	N/A	0.000134*	0.00025*	0.000088*	0.000036*	0.000039*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000134*	< 0.0005	0.000052*	0.000042*	< 0.0005	N/A	N/A	< 0.0005	< 0.0005
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.0005	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	0.000098*	0.00007*	< 0.0005	< 0.0005	N/A	< 0.0005	0.000122*	< 0.0005	< 0.0005	0.000062*	0.000045*	N/A	N/A	< 0.0005	< 0.0005
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.0005	N/A	N/A	0.000092*	< 0.0005	0.000153*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	0.000111*	< 0.0005
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.0005	0.000124*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.000146*	< 0.001	< 0.0005	< 0.0005	< 0.0005	0.000097*	< 0.0005	0.000277*	< 0.0005	< 0.0005	N/A	0.000075*	< 0.0005	< 0.0005	< 0.0005	0.000064*	0.000123*	N/A	N/A	< 0.0005	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.001	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.001	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.001	< 0.0005	< 0.0005	< 0.0005	0.000082*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	< 0.0005	< 0.0005
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000081*	N/A	N/A	< 0.0005	< 0.0005
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.000081*	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00005*	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	N/A	N/A	< 0.0001	0.000053*
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0001	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.0001	< 0.0001	< 0.0001	0.000177	< 0.0001	0.00133	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.000067*	0.000049*	0.00014	0.000142	< 0.0001	< 0.0001	< 0.0001	N/A	N/A	< 0.0001	< 0.0001
	9/15/2020	N/A	N/A	N/A	N/A	N/A	0.00147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.0001	0.000066*	< 0.0001	< 0.0001	0.000197	0.00013	< 0.0001	< 0.0001	< 0.0001	0.000067*	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	N/A	N/A	< 0.0001	< 0.0001
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000094*	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.000069*	< 0.0001	< 0.0001	< 0.0001	N/A	N/A	< 0.0001	< 0.0001	< 0.0001	0.000083*	< 0.0001	N/A	N/A	< 0.0001	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.000455	< 0.0001	< 0.0001	< 0.0001	< 0.0001	N/A	< 0.0001	N/A	< 0.0001	< 0.0001	< 0.0001	0.00012	N/A	N/A	N/A	< 0.0001
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00009*	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.0001	< 0.0001	0.000111	< 0.0001	0.000089*	< 0.0001	< 0.0001	< 0.0001	< 0.0001	N/A	0.000144	0.00021	< 0.0001	< 0.0001	< 0.0001	< 0.0001	N/A	N/A	< 0.0001	< 0.0001
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	0.000152	0.00022	0.000197	0.000101	0.00007*	< 0.0001	< 0.0001	0.000222	< 0.0001	0.000265	< 0.0001	0.000141	0.00009*	< 0.0001	< 0.0001	< 0.0001	< 0.0001	N/A	N/A	< 0.0001	0.000322
	3/14/2023	N/A	N/A	N/A	< 0.0001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.000511	< 0.0002	< 0.0002	< 0.0002	< 0.0002	N/A	N/A	< 0.0002	N/A	0.000235	< 0.0002	< 0.0002	N/A	N/A	< 0.0002	< 0.0002
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.000281	0.000149*	< 0.0002	< 0.0002	< 0.0002	N/A	0.000373	0.00139	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.000107*	< 0.0002	< 0.0002	< 0.0002
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	< 0.0002	< 0.0002	0.000122*	N/A	0.000154*	< 0.0002	< 0.0002	N/A	< 0.0002	0.000219	< 0.0002	N/A	< 0.0002	< 0.0002	0.000103*	< 0.0002	< 0.0002	< 0.0002
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	N/A
Chromium, mg/L (CAS NO - 7440-47-3)	3/4/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	0.0022	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.01	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0126	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	3/25/2009	< 0.01	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 0.01	N/A	N/A	N/A	N/A	< 0.01	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	9/7/2009	< 0.01	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.0383	< 0.01	N/A	0.0186	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	0.0653	N/A	N/A	< 0.01	< 0.01	< 0.01	0.136	< 0.01	0.154	< 0.01	0.0102	0.0381	0.103	0.0432	0.0204	0.0131	0.0142	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	0.0416	N/A	N/A	< 0.01	< 0.01	< 0.01	0.0828	< 0.01	0.0101	< 0.01	< 0.01	0.0445	< 0.01	0.0852	0.0174	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	9/7/2010	0.0338	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	0.0457	N/A	N/A	< 0.008	< 0.008	< 0.008	0.118	< 0.008	0.0755	< 0.008	< 0.008	0.0419	0.0119	0.0669	< 0.008	< 0.008	< 0.008	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.168	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.02	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	N/A
	3/20/2012	< 0.008	N/A	N/A	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	0.0197	< 0.008	< 0.008	< 0.008	N/A	N/A	N/A	N/A
	3/20/2012	0.0407	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	0.0124	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	N/A	N/A	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	0.008	N/A	N/A	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.008	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.008	N/A	N/A	< 0.008	< 0.008	< 0.008	< 0.008	0.0145	< 0.008	< 0.008	N/A	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	N/A	N/A	N/A	N/A
	3/26/2014	< 0.008	N/A	N/A	0.016	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	0.0216	0.0093	< 0.008	< 0.008	< 0.008	< 0.008	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.008	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.008	N/A	N/A	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	N/A	N/A	N/A	N/A
	1/13/2015	< 0.008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.00283	N/A	N/A	< 0.005	< 0.005	< 0.005	0.00134	< 0.005	< 0.005	< 0.005	N/A	0.00367	< 0.005	0.00921	0.00242	< 0.005	< 0.005	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	0.00188*	< 0.005	N/A	N/A	0.00487*	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00245*	0.0021*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00242*	0.00559
	2/10/2016	< 0.005	N/A	N/A	< 0.005	0.00926	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00363*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	0.00135*
	2/10/2016	N/A	N/A	N/A	N/A	0.00992	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	0.00135*
	7/26/2016	0.00135*	N/A	N/A	< 0.005	0.000522*	< 0.005	< 0.005	< 0.005	0.000907*	< 0.005	N/A	N/A	0.0162	0.00765	0.000852*	0.000843*	0.00113*	N/A	N/A	0.00199*	0.00803
	2/14/2017	0.00115*	N/A	N/A	< 0.005	0.000527*	0.00101*	< 0.005	< 0.005	0.00574	< 0.005	< 0.005	0.00153*	0.0011*	< 0.005	0.000459*	< 0.005	< 0.005	N/A	N/A	0.00097*	0.00151*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Chromium, mg/L (CAS NO - 7440-47-3)	9/19/2017	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	0.00204*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	0.000886*	0.00118*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	0.00135*	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00391*	< 0.005	< 0.005	< 0.005	< 0.005	0.000883*	N/A	N/A	0.00202*	0.00116*
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.005	0.00468*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.00832	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	0.00235*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00162*	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.01	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.01	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	0.00129*	0.00101*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.005	0.00458*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00163*	< 0.005
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00372*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	0.00118*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00417*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00129*	< 0.005
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	< 0.005	0.00268*	< 0.005	0.0675	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00201*	0.00176*
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.005	0.0017*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00438*	< 0.005	0.00229*	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00151*	< 0.005
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	0.0867	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00154*	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	0.0011*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	0.00229*	N/A	0.538	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	< 0.005
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	0.00456*	< 0.005	0.00143*	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00205*	< 0.005
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	0.00143*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00114*	< 0.005	< 0.005	0.00146*	< 0.005	0.127	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00186*	< 0.005
	3/14/2023	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00204*	< 0.005
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	< 0.005	0.00226*	0.0022*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00183*	< 0.005
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A	0.00171*	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	0.00134*	0.00141*	< 0.005
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
Cobalt, mg/L (CAS NO - 7440-48-4)	3/4/2008	N/A	N/A	N/A	< 0.01	0.014	< 0.01	< 0.01	< 0.01	0.026	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.01	0.01	0.012	< 0.01	< 0.01	0.021	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.01	0.01	0.013	< 0.01	< 0.01	0.018	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.004	0.012	0.019	0.0055	< 0.004	0.019	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.004	N/A	N/A	< 0.004	0.0106	0.019	0.0051	< 0.004	0.0232	< 0.004	0.0953	< 0.004	0.0217	0.0126	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	< 0.004	N/A	N/A	< 0.004	0.0096	< 0.004	< 0.004	< 0.004	0.0219	< 0.004	0.0489	< 0.004	< 0.004	0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A
	6/2/2009	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0094	< 0.004	0.0177	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0197	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 0.004	N/A	N/A	N/A	N/A	0.0236	N/A	< 0.004	0.0221	< 0.004	0.06	< 0.004	0.0084	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2009	< 0.004	N/A	N/A	0.006	0.0101	0.0524	0.0051	< 0.004	0.0206	< 0.004	0.0501	< 0.004	0.0133	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.0315	0.0103	0.0148	0.0154	N/A	N/A	N/A	0.105	N/A	N/A	N/A	0.0044	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	0.0168	N/A	N/A	0.0084	0.0095	0.0298	0.112	< 0.004	0.114	< 0.004	0.165	0.008	0.0795	0.0228	0.008	0.0064	0.0067	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	0.0098	N/A	N/A	0.0052	0.009	0.0182	0.0709	0.0056	0.0196	0.0061	0.0594	0.0112	0.0128	0.0417	0.0089	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2010	0.0099	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	0.009	N/A	N/A	< 0.004	0.0068	< 0.004	0.0939	< 0.004	0.0652	0.0042	0.017	0.0075	0.0107	0.0283	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.0786	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.004	N/A	N/A	0.0042	0.0091	0.0252	0.009	0.0042	0.0165	< 0.004	N/A	< 0.004	0.0147	0.0047	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	< 0.004	0.0072	0.005	< 0.004	< 0.004	0.0217	< 0.004	0.0222	< 0.004	< 0.004	0.0108	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	0.0081	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	0.012	0.0068	0.024	0.0042	< 0.004	0.0122	0.0042	N/A	N/A	0.0105	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 0.004	N/A	N/A	< 0.004	0.0069	0.0047	0.0041	< 0.004	0.0134	< 0.004	0.044	< 0.004	0.0125	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.004	N/A	N/A	< 0.004	0.0082	0.0073	0.0076	0.012	0.0134	< 0.004	N/A	< 0.004	0.0168	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	0.0057	0.0043	< 0.004	0.0229	< 0.004	0.0265	< 0.004	0.0126	< 0.004	< 0.004	< 0.004	0.0044	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0191	N/A	0.0074	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.0008	N/A	N/A	< 0.0008	0.0081	< 0.0008	0.0017	0.0011	0.0091	< 0.0008	< 0.0008	< 0.0008	0.0025	< 0.0008	< 0.0008	< 0.0008	< 0.0008	N/A	N/A	N/A	N/A
	1/13/2015	< 0.0008	N/A	N/A	N/A	0.0025	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.00163	N/A	N/A	0.000326	0.00609	0.00249	0.00173	0.00103	0.0191	0.000588	N/A	0.000526	0.00076	0.00674	0.000868	0.000454	0.000106	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.00234	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	0.000068*	N/A	N/A	0.000612	0.00559	N/A	0.00151	0.000665	0.00899	0.000355*	N/A	N/A	0.023	0.00252	0.000058*	0.000327*	0.000213*	0.00113	N/A	0.0373	0.0373
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0224	0.023
	2/10/2016	0.000149*	N/A	N/A	0.00165	0.00597	0.0125	0.00109	0.00098	0.0177	0.000346*	0.0005	0.000086*	0.00373	0.00356	0.000107*	0.000268*	0.000167*	0.000617	0.0013	0.0306	0.0359
	2/10/2016	N/A	N/A	N/A	N/A	0.00571	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00498	0.0339
	7/26/2016	0.000077*	N/A	N/A	0.00467	0.00577	0.0194	0.00182	0.00222	0.0154	0.000126*	N/A	N/A	0.00493	0.00342	0.000067*	0.000085*	0.000137*	0.000786	N/A	0.0337	0.0366
	2/14/2017	0.000075*	N/A	N/A	0.00213	0.00673	0.0263	0.00188	0.00146	0.017	< 0.005	0.000343*	0.000092*	0.00482	0.00426	0.00018*	0.000117*	0.000058*	0.000424*	N/A	0.0391	0.0266
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00018*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	0.000086*	N/A	N/A	0.00152	0.00514	0.0129	0.00035*	0.00641	0.0139	0.000164*	N/A	< 0.0005	0.00317	0.00484	< 0.0005	0.000125*	0.000335*	0.000251*	N/A	0.0324	0.0289
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00456	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	0.000007*	N/A	N/A	0.000845	0.00768	0.000184*	0.000727	0.000681	0.0197	0.00012*	0.000112*	< 0.0005	0.000096*	0.00613	0.00008*	< 0.0005	0.000269*	0.000073*	N/A	0.041	0.0216
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0184	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	0.00569	0.00654	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.00145	0.00781	0.00494	0.000873	0.00742	0.0157	0.00262	0.00352	0.017	0.000224*	N/A	< 0.0005	0.00163	0.00424	< 0.0005	0.000819	0.000085*	0.000137*	N/A	0.0468	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0177	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Cobalt, mg/L (CAS NO - 7440-48-4)	11/5/2018	N/A	0.00555	0.00797	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	0.00857	0.00223	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.0005	0.00798	0.00175	0.000349*	0.00652	0.000687	0.00111	0.000147*	0.0137	0.000194*	< 0.0005	< 0.0005	0.00188	0.00793	< 0.0005	0.000107*	< 0.0005	< 0.0005	N/A	0.036	0.0173
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.0005	0.00698	0.00446	0.000883	0.0066	0.00224	0.00214	< 0.0005	0.0152	< 0.0005	< 0.0005	< 0.0005	0.00204	0.00607	< 0.0005	< 0.0005	0.000123*	< 0.0005	0.000856	0.0162	0.0199
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.0005	0.00715	0.00106	0.000444*	0.004	0.00159	0.000949	0.000096*	0.013	0.000105*	< 0.0005	< 0.0005	0.000423*	0.00736	0.000119*	< 0.0005	< 0.0005	N/A	N/A	0.0243	0.0213
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.0005	0.00623	0.00772	0.00229	0.00473	0.00276	0.00054	< 0.0005	0.0146	0.000092*	0.00138	< 0.0005	0.00129	0.00881	< 0.0005	< 0.0005	0.00263	N/A	N/A	0.0363	0.0199
	9/15/2020	N/A	N/A	N/A	N/A	N/A	0.00257	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.0005	0.0123	0.00108	0.000163*	0.00586	0.00152	0.00037*	0.000175*	0.0146	0.000206*	< 0.0005	< 0.0005	0.000774	0.00823	< 0.0005	< 0.0005	0.000355*	N/A	N/A	0.0319	0.0156
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000298*	N/A	N/A	N/A	N/A
	11/30/2021	N/A	0.0049	0.00689	0.0041	0.00481	0.0237	0.00171	0.000623	0.0126	0.00024*	N/A	N/A	0.00122	0.00727	< 0.0005	< 0.0005	0.00127	N/A	N/A	0.0289	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000288*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.0005	0.00561	0.00291	0.000224*	0.00131	0.0154	0.00212	0.000343*	0.0125	< 0.0005	N/A	< 0.0005	N/A	0.0136	< 0.0005	< 0.0005	0.000975	N/A	N/A	N/A	0.00581
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00121	N/A	N/A	N/A	N/A
	10/26/2022	N/A	0.00642	0.00502	0.00712	0.00214	0.0223	0.0021	0.00087	0.0126	0.000231*	N/A	0.000253*	0.00449	0.00703	< 0.0005	< 0.0005	0.00213	N/A	N/A	0.0384	0.0057
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000239*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	0.000267*	0.00695	0.000712	0.000304*	0.00121	< 0.0005	0.000213*	0.000426*	0.0119	0.000483*	0.000303*	< 0.0005	0.0002*	0.00841	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	0.0336	0.00562
	3/14/2023	N/A	N/A	N/A	0.000261*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	0.0064	0.00773	0.000541	0.00232	0.0183	0.00236	< 0.0005	0.0114	< 0.0005	N/A	N/A	0.00136	N/A	0.000302*	< 0.0005	0.00213	N/A	N/A	0.0393	0.0139
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00116	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	< 0.0005	0.00565	0.00192*	0.0495	0.000582	0.0143	0.00227	0.000175*	0.0125	< 0.002	N/A	< 0.0005	0.00385	0.00461	< 0.0005	< 0.0005	0.00177	0.000332*	0.000391*	0.0365	0.00293
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	0.000917	0.00149	0.0178	N/A	0.0034	0.0119	< 0.0005	N/A	< 0.0005	0.00212	0.00323	N/A	< 0.0005	0.00152	0.000173*	0.000766	0.0301	0.00307
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	0.00142	N/A	N/A	N/A	N/A
Copper, mg/L (CAS NO - 7440-50-8)	3/4/2008	N/A	N/A	N/A	0.005	0.016	< 0.005	0.01	< 0.005	0.01	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.009	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	0.008	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0084	< 0.004	0.0083	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.004	N/A	N/A	0.0149	< 0.004	< 0.004	0.0048	< 0.004	0.0077	< 0.004	0.0073	0.0064	0.0067	0.0245	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	< 0.004	N/A	N/A	0.0065	< 0.004	< 0.004	< 0.004	< 0.004	0.0042	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0051	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	< 0.004	0.0051	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	0.0066	N/A	N/A	N/A	N/A	< 0.004	N/A	< 0.004	0.0112	< 0.004	0.0064	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.004	< 0.004	0.0056	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.079	0.0088	N/A	0.0276	N/A	N/A	N/A	0.0095	N/A	N/A	N/A	0.0074	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	0.034	N/A	N/A	0.0107	< 0.004	< 0.004	0.146	< 0.004	0.154	< 0.004	0.011	0.0208	0.0898	0.0341	0.0143	0.0132	0.0139	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	0.024	N/A	N/A	0.0094	< 0.004	< 0.004	0.113	0.004	0.0266	< 0.004	0.005	0.0287	0.0078	0.0736	0.0167	0.0078	< 0.004	N/A	N/A	N/A	N/A
	9/7/2010	0.0235	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	0.0238	N/A	N/A	0.0041	0.0042	0.0056	0.162	< 0.004	0.107	< 0.004	< 0.004	0.0263	0.0135	0.0595	< 0.004	0.0041	< 0.004	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.159	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.004	N/A	N/A	< 0.004	0.006	0.0055	0.0116	< 0.004	0.0093	< 0.004	N/A	N/A	0.0046	0.0051	< 0.004	0.0049	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	0.024	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0047	< 0.004	0.0147	< 0.004	< 0.004	< 0.004	< 0.004	0.0219	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	0.0262	< 0.004	0.0059	0.0054	< 0.004	0.0079	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0849	0.0241	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0096	0.005	0.0607	< 0.004	< 0.004	< 0.004	0.0109	< 0.004	< 0.004	< 0.004	0.0044	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	0.0076	0.0088	0.0329	0.006	< 0.004	N/A	0.0056	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	< 0.004	N/A	N/A	0.0222	< 0.004	0.0104	0.0102	0.0054	0.0077	0.0043	< 0.004	0.0133	0.0108	< 0.004	< 0.004	< 0.004	0.0094	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	0.0047	0.0105	0.0049	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0053	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/13/2015	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.00395	N/A	N/A	0.00188	0.00134	0.00481	0.0182	0.00247	0.0015	0.00391	N/A	0.00196	0.00151	0.00696	0.00163	0.00134	0.00116	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.00198	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.002	N/A	N/A	0.000503*	< 0.002	N/A	0.00214	0.00239	0.00786	< 0.002	N/A	N/A	0.000855*	< 0.002	< 0.002	0.000723*	0.000767*	N/A	N/A	0.00481	0.00959
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00309	0.00609
	2/10/2016	0.00123*	N/A	N/A	0.000944*	0.00158*	0.00111*	0.00125*	0.00167*	0.0021	< 0.002	0.000681*	< 0.002	0.000595*	0.000727*	0.000779*	0.000601*	0.00103*	N/A	N/A	0.00109*	0.00254
	2/10/2016	N/A	N/A	N/A	N/A	0.00172*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00184*	< 0.005
	7/26/2016	< 0.005	N/A	N/A	0.00162*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	2/14/2017	< 0.005	N/A	N/A	0.00125*	0.0016*	< 0.005	< 0.005	0.00131*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00129*	N/A	N/A	< 0.005	0.00433*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	0.0122	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00347*	N/A	N/A	< 0.005	< 0.005
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	0.00195*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00275*	0.00217*
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.005	0.00516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.00383*	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.01	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.01	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.005	0.00647	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	0.00357*
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Copper, mg/L (CAS NO - 7440-50-8)	9/15/2020	< 0.005	< 0.005	< 0.005	0.00165*	< 0.005	0.0022*	0.00203*	0.00229*	< 0.005	< 0.005	< 0.005	0.00154*	< 0.005	0.0048*	< 0.005	< 0.005	0.00241*	N/A	N/A	0.00159*	< 0.005
	9/15/2020	N/A	N/A	N/A	N/A	N/A	0.00236*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.005	0.00434*	0.00203*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00288*	N/A	N/A	< 0.005	< 0.005
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00283*	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00311*	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	0.0037*	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	< 0.005	N/A	0.023	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	< 0.005
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	0.00252*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00214*	0.00214*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00449*	0.0029*	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	3/14/2023	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00205*	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	N/A	0.00221*	< 0.005	< 0.005	N/A	N/A	< 0.005	0.00904
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	< 0.005	0.0286	< 0.005	0.00195*	0.00198*	0.00399*	0.0031*	< 0.005	0.00247*	0.00192*	N/A	0.00332*	0.00281*	0.0027*	0.00597	0.00416*	0.00886	0.00502	0.00308*	< 0.005	0.00215*
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00294*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A	0.0027*	< 0.005	< 0.005	0.0031*	< 0.05	< 0.005
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
Lead, mg/L (CAS NO - 7439-92-1)	3/4/2008	N/A	N/A	N/A	0.006	< 0.005	0.007	0.012	0.006	0.006	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0042	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0053	< 0.004	< 0.004	0.0152	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0076	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	< 0.004	0.0049	< 0.004	< 0.004	0.0041	< 0.004	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A
	7/13/2009	0.0079	N/A	N/A	N/A	N/A	0.0049	N/A	< 0.004	< 0.004	< 0.004	0.0083	0.0491	< 0.004	0.0304	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0057	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.0153	0.0189	N/A	0.0173	N/A	N/A	N/A	0.008	N/A	N/A	N/A	0.0047	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	0.0262	N/A	N/A	< 0.004	< 0.004	< 0.004	0.109	< 0.004	0.129	< 0.004	0.0104	0.015	0.0772	0.0234	0.0068	0.009	0.0101	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	0.0183	N/A	N/A	< 0.004	< 0.004	< 0.004	0.08	< 0.004	0.0143	< 0.004	0.005	0.022	< 0.004	0.0554	0.0101	0.0055	< 0.004	N/A	N/A	N/A	N/A
	9/7/2010	0.0185	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	0.0185	N/A	N/A	< 0.004	< 0.004	< 0.004	0.103	< 0.004	0.0666	< 0.004	< 0.004	0.0162	0.0108	0.0389	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0093	< 0.004	0.005	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	0.0371	N/A	N/A	0.004	< 0.004	< 0.004	< 0.004	0.005	0.0086	0.0076	< 0.004	0.0065	0.0104	0.0148	0.0042	< 0.004	0.0277	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	0.0059	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0064	< 0.004	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0044	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0072	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0045	< 0.004	< 0.004	< 0.004	N/A	0.0056	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0088	0.0064	< 0.004	< 0.004	< 0.004	0.007	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/13/2015	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.00431	N/A	N/A	0.000243	0.000332	0.00104	0.00548	0.000342	0.000828	0.000906	N/A	0.00176	0.000468	0.0062	0.000942	0.000974	0.000178	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.00245	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	0.00014*	N/A	N/A	0.000116*	0.000199*	N/A	0.000387*	< 0.0005	0.00287	0.000253*	N/A	N/A	0.00103	0.000117*	0.000124*	0.000143*	< 0.0005	N/A	N/A	0.00346	0.00091
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000198*	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00178	0.0025
	2/10/2016	0.000342*	N/A	N/A	0.00014*	0.00087	< 0.0005	0.000308*	0.000218*	0.00173	0.000146*	< 0.0005	0.000132*	0.00143*	0.000232*	< 0.0005	< 0.0005	0.000172*	N/A	N/A	0.000717	0.000221*
	2/10/2016	N/A	N/A	N/A	N/A	0.000527	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	< 0.0005
	7/26/2016	< 0.0005	N/A	N/A	0.00038*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000408*	< 0.0005	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	< 0.0005	< 0.0005
	2/14/2017	0.00035*	N/A	N/A	0.000933	0.00151	< 0.0005	0.000231*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000257*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	< 0.0005	0.000285*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.0005	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	0.000531	< 0.0005	< 0.005	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000429*	N/A	N/A	< 0.0005	0.000357*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.0005	N/A	N/A	< 0.0005	0.000344*	< 0.0005	0.000412*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000441*	N/A	N/A	0.000516	0.000918
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	0.000402*	0.00273	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.00312	0.00125	< 0.0005	< 0.0005	0.0003*	< 0.0005	0.000546	< 0.0005	< 0.0005	0.000895	N/A	0.0003*	< 0.0005	0.000396*	< 0.0005	0.000636	< 0.0005	N/A	N/A	< 0.0005	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.001	0.000323*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.001	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	< 0.0005	0.000371*
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	< 0.0005	< 0.0005
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000526	< 0.0005	0.000356*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	< 0.0005	0.000519
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.0005	0.000397*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000509	< 0.0005	< 0.0005	0.000225*	N/A	N/A	0.000285*	0.000116*
	9/15/2020	N/A	N/A	N/A	N/A	N/A	0.000257*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.0005	0.00225	< 0.0005	< 0.0005	0.000259*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000767	< 0.0005	< 0.0005	0.000664	N/A	N/A	< 0.0005	0.000278*
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000596	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	< 0.0005	0.000446*	< 0.0005	< 0.0005	0.000282*	N/A	N/A	< 0.0005	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000255*	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	N/A	0.00101	< 0.0005	< 0.0005	0.000613	N/A	N/A	N/A	< 0.0005
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000411*	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Lead, mg/L (CAS NO - 7439-92-1)	10/26/2022	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	0.00153	< 0.0005	0.000336*	< 0.0005	< 0.0005	0.000257*	N/A	N/A	< 0.0005	0.000287*
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	0.00048*	0.000388*	0.00037*	< 0.0005	0.000248*	< 0.0005	< 0.0005	0.000411*	0.000272*	0.000503	< 0.0005	< 0.0005	< 0.0005	0.000872	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	< 0.0005	0.000848
	3/14/2023	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000263*	< 0.0005	0.000483*	< 0.0005	N/A	N/A	< 0.0005	N/A	< 0.0005	< 0.0005	0.000536	N/A	N/A	< 0.0005	0.000306*
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000357*	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000288*	N/A	< 0.0005	< 0.0005	0.000504	< 0.0005	< 0.0005	0.000463*	0.000421*	0.000292*	0.000308*	0.000514
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	0.000348*	< 0.0005	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	0.000318*	< 0.0005	0.0012	0.000431*	< 0.0005
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000891	N/A	N/A	N/A	N/A	N/A	N/A	0.000273*	N/A	N/A	N/A	N/A
Mercury, mg/L (CAS NO - 7439-97-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.0005	< 0.0005	N/A	< 0.0005	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 0.0002	< 0.0002	N/A	< 0.0002	< 0.0002	< 0.0002	< 0.0002	N/A	N/A	< 0.0002	< 0.0002	< 0.0002	< 0.0002	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	N/A	< 0.0002	< 0.0002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0000933*	< 0.0002
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	< 0.0002
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0002	< 0.0002	N/A	< 0.0002	N/A	N/A	N/A	N/A	N/A	< 0.0002	< 0.0002	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	< 0.0002	N/A	N/A	N/A	N/A	N/A	< 0.0002	< 0.0002	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	< 0.0002	< 0.0002	< 0.0002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	N/A
Nickel, mg/L (CAS NO - 7440-02-0)	3/4/2008	N/A	N/A	N/A	0.007	0.016	< 0.005	0.017	< 0.005	0.093	0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.005	0.01	0.016	0.009	0.015	0.034	0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	0.008	0.01	0.015	0.02	0.021	0.044	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	0.0097	0.0186	0.0242	0.022	0.0207	0.0716	0.0086	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0097	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	0.0062	N/A	N/A	0.0078	0.0153	0.0202	0.0197	0.017	0.0482	0.0067	0.21	0.0097	0.0408	0.0276	0.0056	0.0089	0.0053	N/A	N/A	N/A	N/A
	3/25/2009	0.006	N/A	N/A	0.0075	0.0133	0.0047	0.0117	< 0.004	0.0561	0.0057	0.109	0.0077	< 0.004	0.0083	< 0.004	0.0125	0.0061	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	0.0054	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.024	0.0042	0.0435	0.0082	< 0.004	0.0074	0.0044	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0332	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	0.0101	N/A	N/A	N/A	N/A	0.0175	N/A	0.0192	0.0606	0.0057	0.138	< 0.004	0.0174	0.0097	< 0.004	0.0054	< 0.004	N/A	N/A	N/A	N/A
	9/7/2009	< 0.004	N/A	N/A	0.0138	0.0139	0.0219	0.0165	0.019	0.0427	0.0046	0.111	< 0.004	0.0237	0.0063	< 0.004	0.0045	< 0.004	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.0607	0.0171	N/A	0.0373	N/A	N/A	N/A	0.199	N/A	N/A	N/A	0.0121	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	0.044	N/A	N/A	0.0162	0.0176	0.0236	0.27	0.0217	0.318	0.0104	0.236	0.0283	0.177	0.0496	0.0234	0.0219	0.0187	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0107	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	0.0263	N/A	N/A	0.0139	0.0135	0.0253	0.175	0.0276	0.0908	0.021	0.107	0.0343	0.0357	0.088	0.0239	0.0127	0.0061	N/A	N/A	N/A	N/A
	9/7/2010	0.0291	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	0.0259	N/A	N/A	0.008	0.018	0.0135	0.241	0.0068	0.21	0.0179	0.0276	0.0291	0.0401	0.0706	0.0074	0.0098	0.0064	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.201	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	0.0045	N/A	N/A	0.0116	0.0194	0.0305	0.0273	0.022	0.0871	0.0158	N/A	0.0103	0.0389	0.0162	0.0112	0.0109	0.0075	N/A	N/A	N/A	N/A
	3/20/2012	0.0046	N/A	N/A	0.01	0.0155	0.0267	0.0119	0.0086	0.0849	0.0139	0.0586	0.0059	0.0131	0.0251	0.0056	0.0079	0.0059	N/A	N/A	N/A	N/A
	3/20/2012	0.0226	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	0.0357	0.0128	0.0295	0.0153	0.0134	0.0675	0.0144	N/A	N/A	0.0279	0.0121	0.004	0.0071	0.0053	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0126	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	0.0055	N/A	N/A	0.0067	0.0128	0.0259	0.0143	0.021	0.0714	0.0134	0.0752	0.0075	0.0326	0.0075	< 0.004	0.0062	< 0.004	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.005	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.004	N/A	N/A	< 0.004	0.0101	0.0238	0.0164	0.12	0.077	0.0061	N/A	< 0.004	0.0282	0.0061	< 0.004	0.0056	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	< 0.004	N/A	N/A	0.0389	0.0098	0.0215	0.0122	0.0232	0.0816	0.015	0.0423	0.0153	0.0315	0.0046	< 0.004	< 0.004	0.0085	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.004	N/A	N/A	< 0.004	0.0085	0.0041	0.0067	0.0049	0.0327	0.0077	< 0.004	0.0073	0.0067	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/13/2015	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.00369	N/A	N/A	0.00216	0.00936	0.00718	0.01	0.00526	0.07	0.00572	N/A	0.00259	0.0045	0.0149	0.00205	0.0022	0.000984	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.00559	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.005	N/A	N/A	0.00102*	0.00483*	N/A	0.00641	0.0207	0.0452	0.00299*	N/A	N/A	0.0563	0.00465*	< 0.005	0.00185*	0.000737*	N/A	N/A	0.0644	0.0825
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00241*	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0342	0.0363
	2/10/2016	0.00103*	N/A	N/A	0.00246*	0.0167	0.0104	0.00633	0.00258*	0.0762	0.00363*	0.00485*	0.0026*	0.0164	0.00677	< 0.005	0.0013*	0.00107*	N/A	N/A	0.0458	0.0655
	2/10/2016	N/A	N/A	N/A	N/A	0.0159	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00745	0.0583
	7/26/2016	< 0.005	N/A	N/A	0.00949	0.00327*	0.0157	0.00696	0.00788	0.0658	0.00226*	N/A	N/A	0.0281	0.00928	< 0.005	0.00174*	0.0027*	N/A	N/A	0.0499	0.0657
	2/14/2017	< 0.005	N/A	N/A	0.00245*	0.0116	0.0225	0.00703	0.00393*	0.0829	0.00208*	0.00352*	0.00177*	0.0234	0.00696	< 0.005	0.00163*	< 0.005	N/A	N/A	0.0538	0.0751
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00236*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.005	N/A	N/A	< 0.005	0.00326*	0.0118	0.00282*	0.0116	0.0664	0.00192*	N/A	0.00126*	0.0102	0.00885	< 0.005	0.00105*	0.00409*	N/A	N/A	0.0525	0.0582
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0084	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.005	N/A	N/A	0.0329	0.00896	0.00347*	0.00284*	0.00305*	0.069	0.00183*	0.00153*	0.00485*	0.00153*	0.00923	< 0.005	0.00107*	0.0021*	N/A	N/A	0.0665	0.043
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0735	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	0.00657	0.0133	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.00522	0.0117	0.00819	0.00421*	0.00718	0.0163	0.00493*	0.0114	0.0672	0.00185*	N/A	0.00245*	0.0133	0.00959	< 0.005	0.0033*	0.00278*	N/A	N/A	0.0798	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	0.00573*	0.00893	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	0.00875*	0.0131	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.005	0.00903	0.0135	0.00479*	0.00727	0.00841	0.0029*	< 0.005	0.053	0.00176*	< 0.005	0.00687	0.0117	0.0127	< 0.005	< 0.005	< 0.005	N/A	N/A	0.0602	0.0241
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.005	0.0071	0.0152	< 0.005	0.00767	0.0152	0.00713	< 0.005	0.0721	< 0.005	< 0.005	0.00496*	0.0111	0.00999	< 0.005	< 0.005	0.00245*	N/A	N/A	0.0281	0.0362
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.005	0.00729	0.0143	0.00591	0.00492*	0.0188	0.00341*	< 0.005	0.0598	< 0.005	< 0.005	0.00456*	0.00323*	0.011	< 0.005	< 0.005	< 0.005	N/A	N/A	0.0462	0.0554
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Nickel, mg/L (CAS NO - 7440-02-0)	9/15/2020	< 0.005	0.00776	0.0168	0.0206	0.0035*	0.0398	0.00597	0.00227*	0.0692	< 0.005	0.0117	0.00847	0.0101	0.0627	< 0.005	< 0.005	0.00502	N/A	N/A	0.0607	0.0512
	9/15/2020	N/A	N/A	N/A	N/A	N/A	0.0415	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.005	0.0186	0.016	< 0.005	0.00454*	0.0255	0.00283*	< 0.005	0.0707	< 0.005	< 0.005	0.00485*	0.00753	0.0131	< 0.005	< 0.005	0.00244*	N/A	N/A	0.0557	0.045
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00223*	N/A	N/A	N/A	N/A
	11/30/2021	N/A	0.00503	0.015	0.0034*	0.00485*	0.0224	0.007	0.00337*	0.0616	< 0.005	N/A	N/A	0.00829	0.128	< 0.005	< 0.005	0.00362*	N/A	N/A	0.0569	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00264*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.005	0.00529	0.0107	0.00291*	< 0.005	0.0304	0.00405*	0.00462*	0.0614	< 0.005	N/A	0.00418*	N/A	0.342	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	0.0119
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	10/26/2022	N/A	0.00638	0.0158	0.0214	0.00333*	0.0216	0.00396*	0.00273*	0.0687	< 0.005	N/A	0.00423*	0.0181	0.0176	< 0.005	< 0.005	< 0.005	N/A	N/A	0.0799	0.0214
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 0.005	0.00707	0.00343*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0613	< 0.005	< 0.005	0.00417*	< 0.005	0.104	< 0.005	< 0.005	< 0.005	N/A	N/A	0.068	0.0161
	3/14/2023	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	0.00638	0.0164	< 0.005	0.00363*	0.0185	0.00542	< 0.005	0.0637	< 0.005	N/A	N/A	0.0134	N/A	< 0.005	< 0.005	0.00302*	N/A	N/A	0.0786	0.0448
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0121	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	< 0.005	0.00485*	0.0119*	0.0161	< 0.005	0.0178	0.00437*	< 0.005	0.0523	< 0.02	N/A	0.00355*	0.0118	0.00815	< 0.005	< 0.005	< 0.005	0.00584	< 0.005	0.0584	0.00848
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	< 0.005	0.00261*	0.0149	N/A	0.00653	0.0649	< 0.005	N/A	0.0024*	0.0182	0.0111	N/A	< 0.005	< 0.005	0.0083	< 0.005	0.0599	0.012
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
Selenium, mg/L (CAS NO - 7782-49-2)	3/4/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 0.004	N/A	N/A	N/A	N/A	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.004	< 0.004	N/A	0.0045	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0322	< 0.004	0.0044	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	0.0227	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0045	< 0.004	N/A	N/A	N/A	N/A
	9/7/2010	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 0.004	N/A	N/A	< 0.004	0.0044	< 0.004	0.0402	< 0.004	0.0077	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.0409	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.004	N/A	N/A	< 0.004	0.0042	0.0044	< 0.004	< 0.004	0.0045	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	< 0.004	0.0058	< 0.004	< 0.004	< 0.004	0.0056	< 0.004	0.0051	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 0.004	< 0.004	0.0063	< 0.004	< 0.004	0.006	< 0.004	N/A	N/A	0.0041	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0047	< 0.004	0.0427	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0354	< 0.004	< 0.004	< 0.004	0.0056	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.0081	< 0.004	< 0.004	< 0.004	0.006	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/13/2015	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	0.0059	< 0.005	N/A	N/A	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005
	2/10/2016	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	2/10/2016	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005
	7/26/2016	0.00233*	N/A	N/A	< 0.005	0.00167*	< 0.005	0.00187*	< 0.005	0.0022*	< 0.005	N/A	N/A	< 0.005	0.00154*	0.00283*	0.00265*	0.00218*	N/A	N/A	0.00198*	0.00206*
	2/14/2017	0.000997*	N/A	N/A	< 0.005	< 0.005	0.000854*	< 0.005	0.00108*	< 0.005	0.000643*	0.00158*	0.000751*	< 0.005	< 0.005	0.00127*	< 0.005	< 0.005	N/A	N/A	0.000847*	< 0.005
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000856*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	0.00144*	N/A	N/A	< 0.005	< 0.005	< 0.005	0.0019*	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	0.00146*	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	0.0012*	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00343*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.00119*	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	0.00142*	< 0.005	< 0.005	N/A	N/A	< 0.005	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.01	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.01	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	0.0012*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	0.00108*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00269*	< 0.005	< 0.005	< 0.005	< 0.005	0.00103*	< 0.005	N/A	N/A	< 0.005	0.00107*
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	0.00096*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00374*	< 0.005	< 0.005	< 0.005	< 0.005	0.00107*	< 0.005	N/A	N/A	< 0.005	< 0.005
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005	0.00103*	0.00108*	< 0.005	N/A	N/A	< 0.005	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	0.00166*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	< 0.005	N/A	< 0.005	< 0.005	0.00125*	< 0.005	N/A	N/A	N/A	< 0.005
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Selenium, mg/L (CAS NO - 7782-49-2)	10/26/2022	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	0.00203*	0.000971*	0.00161*	< 0.005	< 0.005	0.00177*	< 0.005	0.00156*	0.00128*	0.00148*	0.0119	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	0.00162*
	3/14/2023	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	0.00188*
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A	N/A	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A	N/A	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
Silver, mg/L (CAS NO - 7440-22-4)	3/4/2008	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 0.004	N/A	N/A	N/A	N/A	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.004	< 0.004	N/A	< 0.004	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2010	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	N/A	N/A	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/13/2015	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.000072	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	0.000048	0.000058	0.000046	< 0.001	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	0.00014*	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	0.000119*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000098*	< 0.001
	2/10/2016	0.000274*	N/A	N/A	0.000094*	< 0.001	0.000111*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.000125*	0.000282*	< 0.001	0.00023*	< 0.001	< 0.001	N/A	N/A	0.000042*	0.000166*
	2/10/2016	N/A	N/A	N/A	N/A	0.000267*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	< 0.001
	7/26/2016	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/14/2017	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	0.000142*	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	0.000214*	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	0.000326*	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.002	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.002	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.001	0.000683*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.001	0.000567*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	0.000801*	N/A	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	< 0.001
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	3/14/2023	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Thallium, mg/L (CAS NO - 7440-28-0)	3/4/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 0.004	N/A	N/A	N/A	N/A	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2009	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.004	< 0.004	N/A	< 0.004	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	9/7/2010	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/20/2012	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	3/20/2012	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 0.002	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.004	N/A	N/A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	N/A	N/A	N/A	N/A
	1/13/2015	< 0.004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 0.001	N/A	N/A	< 0.001	0.000043	< 0.001	0.000085	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	0.000127	0.00004	< 0.001	< 0.001	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	0.000044*	< 0.001	0.0001*	< 0.001	N/A	N/A	< 0.001	0.000033*	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000036*	< 0.001
	2/10/2016	0.000034*	N/A	N/A	< 0.001	0.000046*	< 0.001	< 0.001	< 0.001	0.000044*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/10/2016	N/A	N/A	N/A	N/A	0.000059*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	< 0.001
	7/26/2016	< 0.001	N/A	N/A	0.000061*	< 0.001	0.000094*	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/14/2017	0.000026*	N/A	N/A	< 0.001	0.000054*	0.00007*	< 0.001	< 0.001	< 0.001	< 0.001	0.000028*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.002	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.002	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	9/15/2020	N/A	N/A	N/A	N/A	N/A	0.000693*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	N/A	< 0.001
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	0.00121	0.000749*	0.00154	< 0.001	< 0.001	< 0.001	< 0.001	0.000935*	< 0.001	0.00136	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	0.000824*
	3/14/2023	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A	N/A	< 0.001	N/A	< 0.001	0.000289*	< 0.001	N/A	N/A	< 0.001	< 0.001
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	< 0.001	< 0.004	N/A	N/A	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	< 0.001	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
Tin, mg/L (CAS NO - 7440-31-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	< 0.5	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.01	< 0.01	N/A	< 0.01	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	0.00207*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	0.0017*
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.005	< 0.005	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Tin, mg/L (CAS NO - 7440-31-5)	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
Vanadium, mg/L (CAS NO - 7440-62-2)	3/4/2008	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 0.04	N/A	N/A	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.01	0.0101	< 0.04	0.026	< 0.04	< 0.04	< 0.04	N/A	N/A	N/A	N/A
	3/25/2009	< 0.01	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0112	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 0.01	N/A	N/A	N/A	N/A	< 0.01	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	9/7/2009	< 0.01	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.0664	< 0.01	N/A	0.0393	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	0.0144	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	0.0904	N/A	N/A	< 0.01	< 0.01	< 0.01	0.306	< 0.01	0.314	< 0.01	< 0.01	0.0499	0.204	0.0775	0.0282	0.0111	0.0275	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	0.0574	N/A	N/A	< 0.01	< 0.01	< 0.01	0.188	< 0.01	0.0191	< 0.01	< 0.01	0.0527	< 0.01	0.128	0.0222	< 0.01	< 0.01	N/A	N/A	N/A	N/A
	9/7/2010	0.0466	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	0.0774	N/A	N/A	< 0.02	< 0.02	< 0.02	0.339	< 0.02	0.149	< 0.02	< 0.02	0.0643	0.027	0.114	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.261	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.02	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	N/A
	3/20/2012	0.0523	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.0295	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	N/A
	3/20/2012	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	0.0206	N/A	N/A	< 0.02	< 0.02	< 0.02	0.0237	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.02	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	N/A
	3/26/2014	< 0.02	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.0256	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 0.02	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	N/A
	1/13/2015	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.00427	N/A	N/A	0.000562	< 0.005	0.00182	0.00699	0.00107	0.00119	0.000501	N/A	0.0014	0.000693	0.0159	0.00313	0.00138	< 0.005	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.00113	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	0.00116*	N/A	N/A	0.00106*	< 0.005	N/A	0.00091*	0.000549*	0.00272*	< 0.005	N/A	N/A	**0.038**	< 0.005	0.000917*	< 0.005	0.00045*	N/A	N/A	0.00367*	0.00193*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000784*	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00357*	0.00406*
	2/10/2016	0.00112*	N/A	N/A	0.000552*	0.00095*	0.00112*	0.000837*	0.000735*	0.00101*	< 0.005	< 0.005	< 0.005	< 0.005	0.00107*	0.000741*	0.000704*	0.000886*	N/A	N/A	0.00103*	0.000695*
	2/10/2016	N/A	N/A	N/A	N/A	0.000791*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000692*	0.000661*
	7/26/2016	0.00082*	N/A	N/A	0.00119*	0.000459*	0.000459*	< 0.005	0.000316*	0.000436*	< 0.005	N/A	N/A	< 0.005	0.000271*	0.000646*	0.000988*	0.000467*	N/A	N/A	0.000513*	0.000599*
	2/14/2017	0.00121*	N/A	N/A	0.000425*	0.000907*	0.000377*	0.000574*	0.000309*	0.000356*	< 0.005	< 0.005	0.000519*	0.000293*	< 0.005	0.000723*	0.000577*	0.000789*	N/A	N/A	0.000636*	0.00112*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	0.001*	N/A	N/A	< 0.005	< 0.005	< 0.005	0.00143*	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00122*	N/A	N/A	< 0.005	< 0.005
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	0.000546*	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	0.000639*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00137*	N/A	N/A	0.00191*	0.00104*
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	0.00096*	**0.00933**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	**0.0112**	0.00254*	0.000647*	0.000727*	0.00064*	< 0.005	0.000802*	< 0.005	0.000577*	< 0.005	N/A	0.000627*	< 0.005	0.000555*	0.000952*	0.000897*	0.000624*	N/A	N/A	0.00116*	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.01	0.000912*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.01	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	0.000859*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	0.000841*	0.00111*
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	0.000833*	< 0.005	< 0.005	0.00107*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	0.00109*
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	0.000841*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0011*	< 0.005	N/A	N/A	0.000927*	0.00102*
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A
	9/15/2020	0.00111*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00192*	< 0.005	< 0.005	0.00103*	N/A	N/A	0.000887*	< 0.005
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.005	0.00313*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00147*	N/A	N/A	< 0.005	< 0.005
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	0.00153*	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	< 0.005	N/A	0.00485*	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	0.00129*
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	0.00123*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	0.00141*	< 0.005	< 0.005	0.00115*	< 0.005	< 0.005	< 0.005	0.00111*	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00273*	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00117*	< 0.005
	3/14/2023	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A	N/A	0.00153*	0.00148*
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	0.00112*	N/A	N/A	N/A	< 0.005	< 0.02	N/A	N/A	N/A	< 0.005	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A	N/A	< 0.005	N/A	N/A	< 0.005	< 0.005	0.00374*	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Zinc, mg/L (CAS NO - 7440-66-6)	3/4/2008	N/A	N/A	N/A	< 0.01	0.021	< 0.01	0.067	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 0.01	0.012	0.018	0.059	< 0.01	0.024	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 0.01	0.014	< 0.01	0.072	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	0.021	0.0107	0.011	0.0534	0.0307	< 0.01	0.0185	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0166	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	0.0144	N/A	N/A	0.0382	0.0589	0.0437	0.0777	0.0181	0.0599	0.035	0.114	0.0184	0.0487	0.0669	0.0219	0.0243	0.0118	N/A	N/A	N/A	N/A
	3/25/2009	0.0158	N/A	N/A	0.0218	0.0501	0.0185	0.0387	0.0138	0.0513	0.0258	0.0719	0.0102	0.0105	0.0409	0.0157	0.0242	0.0203	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	0.0195	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0151	0.0123	0.0418	0.0383	0.0253	0.0516	0.0159	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0436	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	0.0255	N/A	N/A	N/A	N/A	0.0357	N/A	0.0138	0.0768	0.0343	0.0855	< 0.01	0.0275	0.0235	0.017	0.0279	< 0.01	N/A	N/A	N/A	N/A
	9/7/2009	< 0.01	N/A	N/A	< 0.01	< 0.01	0.0576	0.0399	0.0107	0.0172	< 0.01	0.079	< 0.01	0.0112	0.0213	< 0.01	0.0121	< 0.01	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	0.107	0.0404	N/A	0.168	N/A	N/A	N/A	0.179	N/A	N/A	N/A	0.0276	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	0.0912	N/A	N/A	0.0245	< 0.01	0.0285	1.01	0.0148	0.27	< 0.01	0.193	0.116	0.26	0.0916	0.0527	0.0371	0.0423	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	0.0653	N/A	N/A	0.0113	< 0.01	0.0129	0.502	< 0.01	0.0235	< 0.01	0.0798	0.0704	0.0141	0.171	0.0364	0.0163	< 0.01	N/A	N/A	N/A	N/A
	9/7/2010	0.061	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	0.0593	N/A	N/A	0.0089	0.031	< 0.008	0.691	0.0081	0.158	0.0085	0.0158	0.0674	0.0279	0.151	< 0.008	0.0096	< 0.008	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.702	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 0.008	N/A	N/A	< 0.008	0.0276	< 0.008	0.0737	< 0.008	0.0102	< 0.008	N/A	< 0.008	< 0.008	< 0.008	0.0082	< 0.008	< 0.008	N/A	N/A	N/A	N/A
	3/20/2012	0.0767	N/A	N/A	< 0.008	< 0.02	0.0088	0.0251	< 0.008	0.0332	< 0.008	0.0193	< 0.008	< 0.008	0.0425	< 0.008	< 0.008	< 0.02	N/A	N/A	N/A	N/A
	3/20/2012	< 0.008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	0.107	0.0117	0.0092	0.0336	< 0.008	0.0144	0.0157	N/A	N/A	< 0.008	0.0081	0.0089	0.0649	0.0228	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	0.0177	N/A	N/A	0.0136	0.0109	0.0121	0.0795	0.0103	< 0.008	0.0089	0.0485	0.015	0.0181	< 0.008	< 0.008	0.0087	< 0.008	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0096	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 0.02	N/A	N/A	< 0.02	< 0.008	0.0094	0.0555	0.0132	0.0254	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02	0.0109	0.011	N/A	N/A	N/A	N/A
	3/26/2014	< 0.02	N/A	N/A	0.891	0.0286	< 0.02	0.041	< 0.02	< 0.02	< 0.02	< 0.02	0.0299	0.0246	< 0.02	< 0.02	< 0.02	0.0224	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	N/A	0.0148	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	0.0126	N/A	N/A	0.0088	0.0119	< 0.008	0.0401	0.01	< 0.008	0.0124	0.0114	< 0.008	< 0.008	< 0.008	0.0101	< 0.008	0.0095	N/A	N/A	N/A	N/A
	1/13/2015	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	0.00941	N/A	N/A	< 0.01	0.0249	0.0122	0.0727	< 0.01	< 0.01	0.0114	N/A	< 0.01	< 0.01	0.0212	< 0.01	0.0116	0.0123	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.00741	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	0.00773*	N/A	N/A	0.00761*	< 0.01	N/A	**0.0419**	< 0.01	**0.0224**	< 0.01	N/A	N/A	**0.067**	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	< 0.01	< 0.01
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00858*	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	**0.031**
	2/10/2016	< 0.01	N/A	N/A	**0.0178**	**0.0299**	**0.011**	**0.0438**	< 0.01	**0.0101**	**0.0111**	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	< 0.01	**0.0372**
	2/10/2016	N/A	N/A	N/A	N/A	**0.0235**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	< 0.01
	7/26/2016	< 0.01	N/A	N/A	**0.0276**	< 0.01	0.00554*	**0.0165**	< 0.01	0.00733*	0.00923*	N/A	N/A	< 0.01	**0.0166**	< 0.01	< 0.01	< 0.01	N/A	N/A	< 0.01	**0.0189**
	2/14/2017	< 0.01	N/A	N/A	0.00734*	0.00863*	< 0.01	**0.0515**	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	0.00681*	0.00689*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.02	N/A	N/A	< 0.02	< 0.02	< 0.02	**0.0569**	< 0.02	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.02	N/A	N/A	< 0.02	**0.0231**	< 0.02	**0.0268**	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.02	**0.0215**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	0.0192*	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	0.0131*	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.04	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.04	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.0178*	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	**0.0383**	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.0195*	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.0185*	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.0109*	< 0.02	< 0.02	< 0.02	N/A	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	N/A	< 0.02
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 0.02	< 0.08	< 0.02	< 0.02	< 0.02	0.0175*	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A	N/A	< 0.02	< 0.02
	3/14/2023	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.02	0.00711*	< 0.02	0.0155*	< 0.02	0.0187*	0.00714*	< 0.02	0.0112*	N/A	N/A	< 0.02	N/A	< 0.02	< 0.02	0.0101*	N/A	N/A	< 0.02	< 0.02
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	< 0.02	< 0.02	< 0.08	**0.0202**	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.08	N/A	0.0158*	< 0.02	< 0.02	< 0.02	0.0104*	< 0.02	0.0143*	< 0.02	< 0.02	< 0.02
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A
Total Suspended Solids, mg/L (CAS NO - TSS)	9/11/2014	118	N/A	N/A	56	20	14	989	59	1500	112	13	90	153	320	94	57	47	N/A	N/A	N/A	N/A
	4/8/2015	124	N/A	N/A	3.25	3.87	< 1.88	123	40.7	202	35.1	N/A	153	55	52	41.5	26.6	14.5	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	24.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	**4**	N/A	N/A	**23.3**	**39.4**	N/A	**23.5**	**2.5**	N/A	**27.1**	N/A	N/A	**295**	**3.87**	**7.62**	< 1.88	**5.63**	**32.5**	**36.8**	**559**	**53.6**
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**3.5**	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**223**	**31.3**
	2/10/2016	**9**	N/A	N/A	**21.1**	**18.1**	**70.3**	**22.4**	**18**	**35.5**	**33**	< 1.88	**8.87**	**48.6**	**28.5**	**7.75**	**14**	**26.3**	**26.4**	**28.6**	**210**	**308**
	2/10/2016	N/A	N/A	N/A	N/A	**15.7**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**186**	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Total Metals Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Total Suspended Solids, mg/L (CAS NO - TSS)	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	38.2	27
	7/26/2016	8.33	N/A	N/A	100	37.4	59	2.63	2.75	26	23.3	N/A	N/A	25.5	5.13	1.88	33.5	3.63	12.1	444	56.3	32.3
	11/14/2016	N/A	N/A	N/A	N/A	N/A	61.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	43.6	19.4
	2/14/2017	2.75	N/A	N/A	25.2	56.3	49.8	3.38	3.75	28.1	18.1	0.875*	6.75	34.6	19	4.25	2	1.5*	13.8	41.3	37.9	13.8
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	7.5	N/A	N/A	4.62	22.3	42.8	9.14	4.38	46	22.6	N/A	1.13*	30.6	54.5	< 1.88	1.75*	9.25	3.75	N/A	47.4	23.3
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1.88	N/A	N/A	2.13	27.5	1.13*	11.2	18	52	20.9	< 1.88	3	12.3	4.4	2	1.13*	6.38	1.88	12	46	21
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	21.5	212	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	12.9	21.8	14.9	8	19.5	35.5	10	2.25	57.5	18	N/A	6	34.4	34.5	0.875*	5.75	4.13	1.5*	33	65	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	38.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	3.63	29.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	2.5	3.38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1.88	3	< 1.88	1.25*	14.5	2.5	1.75*	2.25	47.1	24.4	< 1.88	0.875*	23.4	3.87	< 1.88	1*	2.38	0.875*	2	24.9	17.5
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.88	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 5	2.38	< 5	5	26	5.88	2.25	1.25*	29	22.6	< 1.88	1.25*	11.4	1.63*	< 1.88	< 1.88	0.875*	1*	9.5	29.9	8.67
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1.88	3.63	< 1.88	14.9	41	3.75	6.75	2.88	84.8	24.5	< 1.88	2.13	1.5*	6.38	2.5	< 1.88	2.63	N/A	N/A	38.8	18.7
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.75	N/A	N/A	N/A	N/A	N/A
	9/15/2020	13.8	9	0.75*	1*	40.7	4.88	0.75*	1.63*	60.8	21.1	1.38*	< 1.88	7.75	87.5	1.25*	< 1.88	3.38	N/A	N/A	38	12.8
	9/15/2020	N/A	N/A	N/A	N/A	N/A	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1.88	54	< 1.88	< 1.88	97.6	1.25*	< 1.88	0.75*	61.2	25.9	< 1.88	< 1.88	6.63	12.9	< 1.88	< 1.88	36.8	N/A	N/A	45.6	4.25
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	17.8	N/A	N/A	N/A	N/A
	11/30/2021	N/A	8.38	< 1.88	5	37.3	48.5	4.75	4.75	85.2	17.9	N/A	N/A	15.8	65.3	0.875*	< 1.88	5.75	N/A	N/A	49.7	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1.88	2.38	11.9	0.75*	57	18	9.38	2.5	82	28	N/A	1*	N/A	148	3.38	2.5	8.13	N/A	N/A	N/A	3
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.75	N/A	N/A	N/A	N/A
	10/26/2022	N/A	3.13	< 1.88	1.39*	57	50	15	1.38*	89	22	N/A	67	11	57	< 1.88	< 1.88	11.9	N/A	N/A	72	13.3
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	9.38	3.38	1.25*	7.88	63	2	1.38*	1*	121	31	1.63*	< 1.88	1*	92	< 1.88	< 1.88	2	N/A	N/A	69	2.13
	3/14/2023	N/A	N/A	N/A	1*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	4.38	14.8	28.5	44	42	52	21.5	109	23	N/A	N/A	16	N/A	4.62	4.13	10.4	N/A	N/A	66	2.63
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	32.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	< 5	25.3	2.5	10.8	38	20.3	9.5	< 1.88	101	26	N/A	2	2.63	147	< 1.88	1.5*	4.75	4.62	279	72	4
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	6.38	20.5	15.5	N/A	11.9	71	18.3	N/A	2	4.75	121	N/A	1.5*	10	5.75	71.5	40	12.3
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.3	N/A	N/A	N/A	N/A	N/A	N/A	7.62	N/A	N/A	N/A	N/A

Note: * indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.

Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,1,1,2-Tetrachloroethane, ug/L (CAS NO - 630-20-6)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane, ug/L (CAS NO - 71-55-6)	9/28/1994	N/A	N/A	N/A	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/15/1994	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/21/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/6/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/21/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/12/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,1,1-Trichloroethane, ug/L (CAS NO - 71-55-6)	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2,2-Tetrachloroethane, ug/L (CAS NO - 79-34-5)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,1,2,2-Tetrachloroethane, ug/L (CAS NO - 79-34-5)	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2-Trichloroethane, ug/L (CAS NO - 79-00-5)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,1,2-Trichloroethane, ug/L (CAS NO - 79-00-5)	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethane, ug/L (CAS NO - 75-34-3)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	3.9	< 1	2.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	4.2	< 1	2.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	2.5	< 1	2.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	1	3.6	< 1	3.5	< 1	1.1	1.2	1.6	< 1	5.4	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	2.8	< 1	< 1	< 1	1.3	< 1	3.8	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	1.5	< 1	2.3	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	3.3	< 1	2.8	< 1	< 1	< 1	1.5	< 1	2.5	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	5.3	< 1	3.2	< 1	< 1	1.1	1.8	< 1	2.5	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	4.4	< 1	2.9	< 1	< 1	1	1.6	< 1	8.5	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	3	< 1	2.6	< 1	< 1	1.2	1.4	< 1	5.8	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1.8	< 1	< 1	< 1	< 1	< 1	6	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2.2	< 1	1.7	N/A	< 1	< 1	< 1	< 1	6.6	< 1	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,1-Dichloroethane, ug/L (CAS NO - 75-34-3)	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	5	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	4.4	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3.2	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1.1	N/A	< 1	< 1	< 1	< 1	5	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.7	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.913*	N/A	0.281*	< 1	0.723*	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	1.33	N/A	N/A	< 1	0.451*	< 1	0.975*	< 1	N/A	N/A	1.93	0.404*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.96*	< 1	< 1	< 1	0.723*	< 1	0.662*	< 1	N/A	N/A	1.54	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.02	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.225*	< 1	1.13	N/A	N/A	< 1	0.683*	< 1	0.949*	< 1	N/A	N/A	1.45	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1.11	< 1	< 1	0.257*	0.685*	< 1	0.914*	< 1	N/A	N/A	1.46	0.265*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.737*	< 1	1.48	N/A	0.628*	0.232*	0.513*	< 1	1.21	< 1	N/A	N/A	1.62	0.4*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.569*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1.49	< 1	< 1	< 1	0.634*	< 1	0.77*	< 1	N/A	N/A	1.35	0.216*
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	0.226*	< 1	0.833*	< 1	1.61	N/A	0.602*	< 1	N/A	< 1	1.64	< 1	N/A	N/A	1.43	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.69	< 1	< 1	< 1	0.66*	< 1	0.402*	< 1	N/A	N/A	1.35	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.54	< 1	< 1	< 1	0.681*	< 1	0.377*	< 1	N/A	N/A	0.718*	0.239*
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.789*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.18	< 1	< 1	< 1	0.6*	< 1	< 1	< 1	N/A	N/A	0.765*	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.6	< 1	0.264*	< 1	0.622*	< 1	0.4*	< 1	N/A	N/A	1.18	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.989*	< 1	0.235*	< 1	0.389*	< 1	< 1	< 1	N/A	N/A	0.614*	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	0.275*	< 1	< 1	< 1	1.03	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.689*	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.89*	N/A	0.307*	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	0.301*	< 1	< 1	< 1	1.08	N/A	0.515*	< 1	0.514*	< 1	0.496*	< 1	N/A	N/A	0.848*	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.873*	< 1	< 1	< 1	0.602*	< 1	< 1	< 1	N/A	N/A	0.713*	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	0.335*	< 1	< 1	< 1	0.947*	N/A	N/A	< 1	N/A	< 1	0.293*	< 1	N/A	N/A	0.868*	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	0.86*	N/A	N/A	< 1	0.365*	N/A	N/A	< 1	< 1	< 1	0.765*	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	0.915*	N/A	N/A	< 1	0.262*	N/A	N/A	< 1	< 1	< 1	0.656*	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethene, ug/L (CAS NO - 75-35-4)	9/28/1994	N/A	N/A	N/A	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/15/1994	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/21/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/6/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/21/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/12/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	3.8	< 1	2.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,1-Dichloroethene, ug/L (CAS NO - 75-35-4)	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 2	N/A	N/A	< 2	< 2	N/A	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	2/10/2016	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	2/10/2016	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	7/26/2016	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	2/14/2017	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	< 2	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 2	< 2	< 2	< 2	0.664*	< 2	< 2	< 2	< 2	< 2	N/A	< 2	N/A	< 2	< 2	< 2	< 2	N/A	N/A	N/A	< 2
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	3/14/2023	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	N/A	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 2	N/A	< 2	< 2	< 2	N/A	N/A	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane, ug/L (CAS NO - 96-18-4)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,2,3-Trichloropropane, ug/L (CAS NO - 96-18-4)	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dibromo-3-Chloropropane, ug/L (CAS NO - 96-12-8)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 0.5	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,2-Dibromo-3-Chloropropane, ug/L (CAS NO - 96-12-8)	9/28/2015	< 0.5	N/A	N/A	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	< 0.5	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	N/A	< 0.5	< 0.5
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5
	2/10/2016	< 0.5	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	N/A	< 0.5	< 0.5
	2/10/2016	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5
	7/26/2016	< 0.5	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	N/A	< 0.5	< 0.5
	2/14/2017	< 0.5	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	N/A	< 0.5	< 0.5
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.5	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	N/A	< 0.5	< 0.5
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.5	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	N/A	< 0.5	< 0.5
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.5	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	N/A	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	N/A	N/A	< 0.5	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1.2	< 1.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1.2	< 1.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	N/A	N/A	< 1.2	< 1.2
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.2	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	N/A	N/A	< 1.2	< 1.2
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	3/14/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dibromoethane [EDB], ug/L (CAS NO - 106-93-4)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 0.13	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.13	N/A	N/A	< 0.13	< 0.13	N/A	< 0.13	< 0.13	< 0.13	< 0.13	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	N/A	< 0.13	< 0.13
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.13	< 0.13
	2/10/2016	< 0.13	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	N/A	< 0.13	< 0.13
	2/10/2016	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.13	< 0.13
	7/26/2016	< 0.13	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	N/A	< 0.13	< 0.13

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,2-Dibromoethane [EDB], ug/L (CAS NO - 106-93-4)	2/14/2017	< 0.13	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	N/A	< 0.13	< 0.13
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.13	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	N/A	< 0.13	< 0.13
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.13	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	N/A	< 0.13	< 0.13
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.13	< 0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	N/A	< 0.13	< 0.13	N/A	< 0.13	< 0.13	< 0.13	N/A	N/A	< 0.13	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.34	< 0.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.34	< 0.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	N/A	N/A	< 0.34	< 0.34
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.34	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	N/A	N/A	< 0.34	< 0.34
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene, ug/L (CAS NO - 95-50-1)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.214*	1.41
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	1.02
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.353*	2
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	2.22
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	2.18
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.254*	1.55
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.316*	1.44
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.368*	1.04
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,2-Dichlorobenzene, ug/L (CAS NO - 95-50-1)	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	0.378*	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	1.1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	1.31
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	1.55
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	1.32
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	0.909*
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	0.733*
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	0.487*	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.384*
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane, ug/L (CAS NO - 107-06-2)	9/28/1994	N/A	N/A	N/A	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/15/1994	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/21/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	4	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/6/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	5	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/21/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/12/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	1.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	1.82	< 1	0.59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	1.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	2	< 0.4	1.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	1.9	< 1	1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	1.7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2.4	< 1	1.1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	1.5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.456*	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	0.451*	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.342*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.203*	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.19*	< 1	0.457*	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.488*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.591*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.469*	< 1	0.702*	N/A	0.189*	0.239*	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.686*	< 1	< 1	0.226*	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,2-Dichloroethane, ug/L (CAS NO - 107-06-2)	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.712*	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.571*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.712*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.639*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.414*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.647*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.482*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.462*	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.425*	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.41*	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	0.419*	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloropropane, ug/L (CAS NO - 78-87-5)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	2.9	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2.8	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	2.5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	3.9	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.545*	< 1	0.59*	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.729*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,2-Dichloropropane, ug/L (CAS NO - 78-87-5)	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.549*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.436*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.476*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.511*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.341*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	0.503*	< 1	< 1	< 1	0.524*	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	0.312*	< 1	< 1	< 1	0.375*	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.316*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	0.354*	< 1	< 1	< 1	0.342*	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	0.355*	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.434*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene, ug/L (CAS NO - 106-46-7)	9/28/1994	N/A	N/A	N/A	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/15/1994	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/21/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/6/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/21/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/12/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	1.3	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	4.6	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	2.9	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	3.2	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	2.8	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	3.4	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	1.1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	1.4	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	1.9	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	1.9	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	1.69	2.41
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.994*	< 1	< 1	< 1	N/A	N/A	1.62	3.5
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	3.69
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	3.63
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.754*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.492*	< 1	< 1	N/A	< 1	< 1	0.573*	< 1	< 1	< 1	N/A	N/A	2.04	1.75
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.551*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.751*	< 1	< 1	< 1	N/A	N/A	2	1.34
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.453*	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,4-Dichlorobenzene, ug/L (CAS NO - 106-46-7)	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.858*	< 1	< 1	< 1	N/A	N/A	< 1	1.64
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	1.73
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.944*	< 1	< 1	< 1	N/A	N/A	1.27	2.33
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.734*	< 1	< 1	< 1	N/A	N/A	1.88	2.03
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.966*	< 1	< 1	< 1	N/A	N/A	1.09	1.41
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.312*	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	1.57	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	0.402*	< 1	< 1	< 1	N/A	N/A	1.71	0.895*
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.838*	< 1	< 1	< 1	N/A	N/A	1.65	0.54*
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	2.3	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	1.5	0.284*
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.237*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	0.421*	< 1	< 1	N/A	N/A	< 1	0.719*	N/A	N/A	< 1	< 1	< 1	1.7	0.6*
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Butanone, ug/L (CAS NO - 78-93-3)	3/4/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 5	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 5	< 5	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 5	N/A	N/A	< 5	< 5	< 5	7.2	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/13/2015	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	0.767*	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 10	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/10/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	0.499*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/10/2016	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	7/26/2016	< 10	N/A	N/A	3.45*	< 10	3.28*	< 10	4.76*	< 10	3.8*	N/A	N/A	4.58*	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	1.78*	1.31*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	2.12*	< 10
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.45*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	2.98*	< 10
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
2-Butanone, ug/L (CAS NO - 78-93-3)	4/27/2021	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	3/14/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Hexanone, ug/L (CAS NO - 591-78-6)	3/4/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 5	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 5	< 5	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/13/2015	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 10	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/10/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/10/2016	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	7/26/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
2-Hexanone, ug/L (CAS NO - 591-78-6)	3/14/2023	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	3/14/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-Methyl-2-Pentanone, ug/L (CAS NO - 108-10-1)	3/4/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 5	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 5	< 5	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/13/2015	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 10	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/10/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/10/2016	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	7/26/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	3/14/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Acetone, ug/L (CAS NO - 67-64-1)	3/4/2008	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	17.5	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	3/25/2009	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10	14.6	11.3	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 10	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	9/7/2009	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 10	< 10	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 10	N/A	N/A	< 10	< 10	20.2	< 10	< 10	< 10	< 10	< 10	12.1	12.7	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	9/7/2010	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	3/20/2012	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	3/20/2012	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	3/26/2014	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	1/13/2015	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 10	N/A	N/A	5.97*	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	5.33*	5.07*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.64*	4.72*
	2/10/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/10/2016	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	7/26/2016	< 10	N/A	N/A	4.81*	< 10	3.1*	< 10	< 10	1.81*	< 10	N/A	N/A	2.63*	3.49*	< 10	< 10	< 10	N/A	N/A	4.41*	2.36*
	2/14/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	1.88*	2.38*	2.19*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	3.58*	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	2.67*	N/A	N/A	3.48*	3.99*	3.75*	3.81*	15.1	4.34*	4.37*	N/A	2.41*	2.89*	2.94*	2.85*	3.15*	4.69*	N/A	N/A	5.51*	4.11*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.19*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	2.66*	N/A	N/A	2.15*	3.56*	2.35*	< 10	< 10	4.97*	< 10	< 10	1.79*	2.16*	1.92*	< 10	< 10	2.04*	N/A	N/A	4.82*	9.18*
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.86*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 10	3.15*	8.64*	4.41*	< 10	4.07*	< 10	< 10	3.91*	4.69*	N/A	< 10	3.13*	N/A	4.61*	5.08*	< 10	N/A	N/A	7.44*	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	3.12*	3.61*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	6.1*	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	3.14*	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	4.25*	< 10
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 10	< 10	< 10	3.51*	< 10	< 10	3.31*	< 10	6.76*	< 10	< 10	< 10	< 10	3.96*	< 10	< 10	< 10	N/A	N/A	19.1	8.33*
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	3.52*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	4.27*	< 10
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	3.42*	< 10	N/A	N/A	N/A	< 10	3.22*	< 10	< 10	N/A	N/A	3.48*	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	6.07*	3.18*
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	10.5	< 10
	3/14/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	5.35*	< 10
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	5.98*	32.3	N/A	N/A	< 10	3.59*	N/A	N/A	< 10	< 10	19.4	8.75*	< 10
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	6.52*	5.09*	< 10
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acrylonitrile, ug/L (CAS NO - 107-13-1)	3/4/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Acrylonitrile, ug/L (CAS NO - 107-13-1)	6/2/2009	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 5	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 5	< 5	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/13/2015	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 10	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/10/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/10/2016	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	7/26/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 5	3.29*	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 5	4.21*	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/30/2021	N/A	3.25*	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	3/14/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene, ug/L (CAS NO - 71-43-2)	9/28/1994	N/A	N/A	N/A	< 2	< 2	2	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/15/1994	N/A	N/A	N/A	< 1	< 1	2	N/A	6	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/21/1995	N/A	N/A	N/A	< 1	< 1	2	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/6/1995	N/A	N/A	N/A	< 1	< 1	1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/21/2002	N/A	N/A	N/A	N/A	N/A	2.29	N/A	1.2	3.01	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/12/2002	N/A	N/A	N/A	N/A	N/A	1.88	N/A	< 1	3.65	0.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2002	N/A	N/A	N/A	N/A	N/A	2.45	N/A	1.36	2.42	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2002	N/A	N/A	N/A	N/A	N/A	2	N/A	2	3	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/18/2003	N/A	N/A	N/A	N/A	N/A	< 1	N/A	1.8	4	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/2/2003	N/A	N/A	N/A	N/A	N/A	2.3	N/A	2.4	4.4	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2004	N/A	N/A	N/A	N/A	N/A	1.7	N/A	< 0.3	3.7	0.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2004	N/A	N/A	N/A	N/A	N/A	2.2	N/A	1.6	3.6	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/11/2005	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2005	N/A	N/A	N/A	N/A	N/A	2.4	N/A	2	4	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2006	N/A	N/A	N/A	N/A	N/A	1	N/A	< 0.2	1.1	0.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Benzene, ug/L (CAS NO - 71-43-2)	9/26/2006	N/A	N/A	N/A	N/A	N/A	1.4	N/A	1.4	3.6	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	2.7	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	1.2	N/A	2	3.5	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	3.8	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	1.6	< 1	2	1.7	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	1.5	< 1	2.5	2.3	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	2	< 1	2.1	2.1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	1.9	< 1	2.4	2	< 1	< 1	< 1	1.7	7.2	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	1.7	< 1	< 1	< 1	< 1	7	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	2.1	9	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	1.9	N/A	2.2	2.7	< 1	< 1	< 1	1.3	8.8	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	2.4	< 1	2.9	2	< 1	< 1	< 1	1.6	10	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	1.8	< 1	1.8	3.2	< 1	< 1	< 1	1.5	9.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	1.7	< 1	2	3.1	< 1	< 1	< 1	2	8.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	4	< 1	< 1	< 1	< 1	3.7	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	2.3	< 1	2.2	4.1	< 1	N/A	< 1	1	4.2	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	1.2	< 1	< 1	3.2	< 1	< 1	< 1	< 1	8	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	1.7	< 1	1.7	3.3	< 1	N/A	N/A	< 1	7.1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	1	< 1	< 1	3.1	< 1	< 1	< 1	< 1	7.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	3.6	< 1	N/A	< 1	1.6	8.8	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	3.1	< 1	< 1	< 1	< 1	7.1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	7.8	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 0.5	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	2.28	0.388*	N/A	< 0.5	< 0.5	5.65	< 0.5	< 0.5	< 0.5	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.255*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 0.5	N/A	N/A	< 0.5	< 0.5	N/A	< 0.5	1.08	0.122*	0.388*	N/A	N/A	1.41	3.76	< 0.5	< 0.5	< 0.5	N/A	0.27*	3.11	0.398*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.46	0.781
	2/10/2016	< 0.5	N/A	N/A	< 0.5	< 0.5	0.679	< 0.5	< 0.5	0.512	0.379*	< 0.5	< 0.5	1.08	4.04	< 0.5	< 0.5	< 0.5	N/A	< 0.5	2.57	1.21
	2/10/2016	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.804	1.45
	7/26/2016	< 0.5	N/A	N/A	< 0.5	< 0.5	0.824	< 0.5	0.19*	0.858	0.395*	N/A	N/A	0.853	4.1	< 0.5	< 0.5	< 0.5	N/A	0.251*	2.96	1.71
	2/14/2017	< 0.5	N/A	N/A	< 0.5	< 0.5	1.37	< 0.5	< 0.5	0.754	0.371*	< 0.5	< 0.5	0.574	5.62	< 0.5	< 0.5	< 0.5	N/A	< 0.5	3.03	0.999
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.367*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 0.5	N/A	N/A	< 0.5	< 0.5	0.9	< 0.5	0.287*	1.35	0.49*	N/A	< 0.5	0.752	5.27	< 0.5	< 0.5	< 0.5	N/A	0.209*	3.51	1.26
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 0.5	N/A	N/A	< 0.5	< 0.5	0.451*	< 0.5	< 0.5	0.974	0.375*	< 0.5	< 0.5	0.353*	5	< 0.5	< 0.5	< 0.5	N/A	< 0.5	3.62	0.711
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 0.5	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.957	< 0.5	0.395*	1.2	0.485*	N/A	< 0.5	0.525	N/A	< 0.5	< 0.5	< 0.5	N/A	0.28*	4.03	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 0.5	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 0.5	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.442*	< 0.5	< 0.5	1.12	0.507	< 0.5	< 0.5	1.02	4.63	< 0.5	< 0.5	< 0.5	N/A	< 0.5	3.58	0.7
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.848	< 0.5	< 0.5	0.968	0.333*	< 0.5	< 0.5	0.612	4.36	< 0.5	< 0.5	< 0.5	N/A	< 0.5	1.59	0.629
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.531	< 0.5	< 0.5	1.26	0.453*	< 0.5	< 0.5	< 0.5	4.84	< 0.5	< 0.5	< 0.5	N/A	< 0.5	3.18	0.701
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.07	< 0.5	< 0.5	1.55	0.444*	< 0.5	< 0.5	0.506	3.81	< 0.5	< 0.5	< 0.5	N/A	N/A	4.07	0.728
	9/15/2020	N/A	N/A	N/A	N/A	N/A	1.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.814	< 0.5	< 0.5	1.17	0.337*	< 0.5	< 0.5	0.426*	0.896	< 0.5	< 0.5	< 0.5	N/A	N/A	2.71	0.503
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 0.5	< 0.5	< 0.5	< 0.5	1.41	< 0.5	0.261*	1.49	0.55	N/A	N/A	0.635	2.05	< 0.5	< 0.5	< 0.5	N/A	N/A	3.55	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.04	< 0.5	< 0.5	1.39	< 0.5	N/A	< 0.5	N/A	3.09	< 0.5	< 0.5	< 0.5	N/A	N/A	N/A	< 0.5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 0.5	< 0.5	< 0.5	< 0.5	1.05	< 0.5	< 0.5	1.48	0.341*	N/A	< 0.5	0.592	2.02	< 0.5	< 0.5	< 0.5	N/A	N/A	3.87	0.34*
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.308*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.34	0.226*	< 0.5	< 0.5	< 0.5	3.08	0.265*	< 0.5	< 0.5	N/A	N/A	3.71	< 0.5
	3/14/2023	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 0.5	< 0.5	< 0.5	< 0.5	0.567	< 0.5	< 0.5	1.66	0.35*	N/A	N/A	0.458*	N/A	< 0.5	< 0.5	< 0.5	N/A	N/A	5.28	< 0.5
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	0.392*	N/A	< 0.5	1.47	0.276*	N/A	N/A	0.884	1.32	N/A	N/A	< 0.5	< 0.5	< 0.5	3.88	< 0.5
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 0.5	0.773	N/A	< 0.5	1.96	0.417*	N/A	N/A	0.623	2.36	N/A	N/A	< 0.5	< 0.5	< 0.5	4.65	< 0.5
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.345*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Bromochloromethane, ug/L (CAS NO - 74-97-5)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 5	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	2/10/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/10/2016	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	7/26/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	3/14/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bromodichloromethane, ug/L (CAS NO - 75-27-4)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Bromodichloromethane, ug/L (CAS NO - 75-27-4)	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bromoform, ug/L (CAS NO - 75-25-2)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Bromoform, ug/L (CAS NO - 75-25-2)	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 5	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	2/10/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/10/2016	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	7/26/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	3/14/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bromomethane, ug/L (CAS NO - 74-83-9)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Bromomethane, ug/L (CAS NO - 74-83-9)	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 4	N/A	N/A	< 4	< 4	N/A	< 4	< 4	< 4	< 4	N/A	N/A	< 4	0.277*	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	< 4
	2/10/2016	< 4	N/A	N/A	< 4	< 4	< 4	0.246*	< 4	< 4	< 4	< 4	< 4	< 4	0.845*	< 4	0.329*	< 4	N/A	N/A	< 4	< 4
	2/10/2016	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	< 4
	7/26/2016	< 4	N/A	N/A	0.356*	< 4	0.293*	< 4	0.378*	< 4	0.371*	N/A	N/A	0.281*	1.24*	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	2/14/2017	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	0.262*	N/A	N/A	0.251*	0.338*	0.416*	0.437*	0.227*	0.364*	0.282*	N/A	0.441*	0.303*	0.401*	0.229*	0.316*	0.329*	N/A	N/A	0.549*	0.308*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.428*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	0.22*	< 4	< 4	< 4	< 4	0.349*	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.24*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	N/A	< 4	< 4	< 4	< 4	N/A	N/A	N/A	< 4
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	3/14/2023	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 4	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Disulfide, ug/L (CAS NO - 75-15-0)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Carbon Disulfide, ug/L (CAS NO - 75-15-0)	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	0.411*	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	0.26*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	0.226*
	7/26/2016	< 1	N/A	N/A	0.359*	< 1	0.183*	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.219*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	0.323*	0.216*	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	0.174*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	0.515*
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	0.768*	0.755*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	0.969*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	0.539*	< 1	1.19	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	1.02
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	1.07	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.05	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	1.36	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	0.694*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	2.08	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	2.29	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.56	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	0.964*	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride, ug/L (CAS NO - 56-23-5)	9/28/1994	N/A	N/A	N/A	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/15/1994	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/21/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/6/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/21/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/12/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Carbon Tetrachloride, ug/L (CAS NO - 56-23-5)	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 2	N/A	N/A	< 2	< 2	N/A	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	2/10/2016	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	2/10/2016	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	7/26/2016	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	2/14/2017	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	< 2	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	N/A	< 2	< 2	< 2	< 2	N/A	N/A	N/A	< 2
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	3/14/2023	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	N/A	< 2	< 2	< 2	N/A	N/A	< 2	< 2
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 2	N/A	< 2	< 2	< 2	N/A	N/A	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene, ug/L (CAS NO - 108-90-7)	3/6/2007	N/A	N/A	N/A	N/A	N/A	14.5	N/A	< 1	14.2	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	23.8	N/A	5.6	20.3	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	17.9	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	8.2	< 1	3.3	4.6	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	8.5	< 1	3.6	7.7	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	28.4	< 1	4.4	11.2	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	17.7	< 1	4.2	6	< 1	< 1	< 1	< 1	2.7	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	5.7	< 1	< 1	< 1	< 1	2.8	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	1	4.7	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	5.9	N/A	3.2	10.1	< 1	< 1	< 1	< 1	5	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	12.6	< 1	4.6	5.5	< 1	< 1	< 1	< 1	5.7	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	9.9	< 1	1.6	15.4	< 1	< 1	< 1	< 1	6.6	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	19.2	< 1	2.6	16	< 1	< 1	< 1	< 1	5.7	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	6	< 1	< 1	20	< 1	< 1	< 1	< 1	2.9	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	31.5	< 1	3.7	19.9	< 1	N/A	< 1	< 1	2.5	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	7.9	< 1	< 1	17.9	< 1	< 1	< 1	< 1	6.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	33.5	< 1	3.3	19.5	< 1	N/A	N/A	< 1	5.3	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	17.6	< 1	< 1	17	< 1	< 1	< 1	< 1	5.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	14.3	< 1	< 1	20.4	< 1	N/A	< 1	< 1	6.6	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	6.1	< 1	< 1	15.7	< 1	< 1	< 1	< 1	5.8	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	1.4	< 1	< 1	< 1	< 1	< 1	< 1	< 1	5.8	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Chlorobenzene, ug/L (CAS NO - 108-90-7)	4/8/2015	< 1	N/A	N/A	< 1	< 1	2.07	< 1	< 1	11.9	0.359*	N/A	< 1	< 1	5.45	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	0.984*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	0.272*	N/A	N/A	< 1	5.2	< 1	< 1	< 1	N/A	N/A	7.81	3.55
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.19	4.77
	2/10/2016	< 1	N/A	N/A	< 1	< 1	5.35	< 1	< 1	1.09	0.442*	< 1	< 1	0.555*	6.1	< 1	< 1	< 1	N/A	N/A	7.34	9.07
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	10.8
	7/26/2016	< 1	N/A	N/A	< 1	< 1	19.7	< 1	< 1	< 1	0.305*	N/A	N/A	< 1	5.99	< 1	< 1	< 1	N/A	N/A	8.48	11.3
	2/14/2017	< 1	N/A	N/A	< 1	< 1	32.2	< 1	< 1	< 1	0.289*	< 1	< 1	< 1	6.5	< 1	< 1	< 1	N/A	N/A	8.29	6.88
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	24	< 1	1.23	2.73	0.304*	N/A	< 1	0.394*	7.65	< 1	< 1	< 1	N/A	N/A	9.07	6.67
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	1.7	< 1	< 1	2.37	0.274*	< 1	< 1	0.212*	6.98	< 1	< 1	< 1	N/A	N/A	10.8	4.15
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	20.3	< 1	1.23	3.34	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	10.5	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	2.71	< 1	< 1	2.7	< 1	< 1	< 1	< 1	8.44	< 1	< 1	< 1	N/A	N/A	11	4.83
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	5.05	< 1	< 1	2.93	< 1	< 1	< 1	< 1	8.8	< 1	< 1	< 1	N/A	N/A	5.53	6.15
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	4.42	< 1	< 1	3.29	< 1	< 1	< 1	< 1	9.21	< 1	< 1	< 1	N/A	N/A	11.3	6.99
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	10.4	< 1	< 1	4.16	< 1	< 1	< 1	< 1	9.8	< 1	< 1	< 1	N/A	N/A	11.9	5.48
	9/15/2020	N/A	N/A	N/A	N/A	N/A	11.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	5.14	< 1	< 1	3.08	< 1	< 1	< 1	< 1	2.8	< 1	< 1	< 1	N/A	N/A	9.57	3.92
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	37.4	< 1	< 1	4.47	< 1	N/A	N/A	< 1	7.48	< 1	< 1	< 1	N/A	N/A	12	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	28.5	< 1	0.573*	3.48	< 1	N/A	< 1	N/A	10.1	< 1	< 1	< 1	N/A	N/A	N/A	0.917*
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	40.9	< 1	< 1	4.2	< 1	N/A	< 1	0.464*	10.8	< 1	< 1	< 1	N/A	N/A	13.5	2.47
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	4.15	< 1	< 1	< 1	< 1	12.2	< 1	< 1	< 1	N/A	N/A	14	0.481*
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	31.6	< 1	< 1	4.48	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	17.6	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	14	N/A	< 1	4.23	< 1	N/A	N/A	0.655*	4.49	N/A	N/A	< 1	< 1	< 1	14.2	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	29.6	N/A	0.827*	5.27	< 1	N/A	N/A	0.465*	13.8	N/A	N/A	< 1	< 1	< 1	16.2	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorodibromomethane, ug/L (CAS NO - 124-48-1)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 5	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	2/10/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/10/2016	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Chlorodibromomethane, ug/L (CAS NO - 124-48-1)	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	7/26/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	3/14/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chloroethane, ug/L (CAS NO - 75-00-3)	3/6/2007	N/A	N/A	N/A	N/A	N/A	1.2	N/A	< 1	1.1	2.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	1	N/A	3.6	1.6	2.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	2	2.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	4.1	7.4	1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	5	6.8	1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	2.9	2	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	1.1	3.8	4.9	1.8	< 1	< 1	2.3	3	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	4.8	1.5	< 1	< 1	< 1	2.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	2	3	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	2.9	4	1.3	< 1	< 1	< 1	2.2	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	4.9	5.7	1.8	< 1	< 1	1.8	2.6	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2.8	1.9	1.4	< 1	< 1	1.9	2.1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	3.4	1.6	1.4	< 1	< 1	2.3	1.9	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	1.6	1.1	< 1	< 1	< 1	1.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	1.4	< 1	2.9	1.7	< 1	N/A	< 1	1.2	1.2	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	1.3	< 1	< 1	< 1	< 1	1.2	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	1.2	< 1	1.9	1.8	< 1	N/A	N/A	< 1	1.1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	3.4	< 1	N/A	< 1	1.2	1.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	3	< 1	< 1	< 1	< 1	1.3	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.7	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 4	N/A	N/A	0.396*	< 4	< 4	< 4	< 4	2.91*	< 4	N/A	< 4	< 4	2.43*	< 4	< 4	< 4	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 4	N/A	N/A	< 4	< 4	N/A	< 4	1.11*	< 4	< 4	N/A	N/A	< 4	1.83*	< 4	< 4	< 4	N/A	N/A	5.26	1.5*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.7*	< 4
	2/10/2016	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	< 4	0.56*	< 4	< 4	0.683*	2.45*	< 4	< 4	< 4	N/A	N/A	3.26*	1.13*
	2/10/2016	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.449*	1.06*
	7/26/2016	< 4	N/A	N/A	< 4	< 4	0.8*	< 4	1.86*	1.93*	< 4	N/A	N/A	0.723*	2.43*	< 4	< 4	< 4	N/A	N/A	3.34*	0.862*
	2/14/2017	< 4	N/A	N/A	< 4	< 4	0.758*	< 4	< 4	2.33*	< 4	< 4	< 4	< 4	1.9*	< 4	< 4	< 4	N/A	N/A	3.42*	1.26*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Chloroethane, ug/L (CAS NO - 75-00-3)	9/19/2017	< 4	N/A	N/A	< 4	< 4	0.452*	< 4	1.49*	1.83*	< 4	N/A	< 4	0.591*	3.59*	< 4	< 4	< 4	N/A	N/A	3.09*	1.35*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	1.04*	0.703*	< 4	< 4	< 4	2.69*	< 4	< 4	< 4	N/A	N/A	2.54*	< 4
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.875*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 4	< 4	< 4	< 4	< 4	< 4	< 4	2.97*	0.984*	< 4	N/A	< 4	< 4	N/A	< 4	< 4	< 4	N/A	N/A	3.27*	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.27*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	0.802*	< 4	< 4	< 4	< 4	2.3*	< 4	< 4	< 4	N/A	N/A	1.99*	< 4
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	2.9*	< 4	< 4	< 4	N/A	N/A	0.863*	< 4
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	1.61*	< 4
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	0.901*	< 4	< 4	< 4	< 4	4.53	< 4	< 4	< 4	N/A	N/A	2.29*	< 4
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	1.92*	< 4	< 4	< 4	N/A	N/A	1.1*	< 4
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	4.58	< 4	< 4	< 4	N/A	N/A	1.39*	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	N/A	4.3	< 4	< 4	< 4	N/A	N/A	N/A	< 4
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	< 4	6.75	< 4	< 4	< 4	N/A	N/A	2.14*	< 4
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	0.795*	< 4	< 4	< 4	< 4	5.22	< 4	< 4	< 4	N/A	N/A	1.65*	< 4
	3/14/2023	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	N/A	< 4	< 4	< 4	N/A	N/A	1.47*	< 4
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	3.01*	N/A	N/A	< 4	< 4	< 4	1.65*	< 4
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 4	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	2.39*	N/A	N/A	< 4	< 4	< 4	1.57*	< 4
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chloroform, ug/L (CAS NO - 67-66-3)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Chloroform, ug/L (CAS NO - 67-66-3)	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	N/A	< 3	< 3	< 3	< 3	N/A	N/A	N/A	< 3
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	3/14/2023	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 3	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chloromethane, ug/L (CAS NO - 74-87-3)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 3	N/A	N/A	< 3	< 3	N/A	< 3	< 3	0.354*	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	0.496*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	< 3
	2/10/2016	0.343*	N/A	N/A	< 3	< 3	< 3	0.374*	< 3	< 3	0.363*	< 3	0.323*	< 3	0.451*	< 3	0.431*	< 3	N/A	N/A	< 3	0.365*
	2/10/2016	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	< 3
	7/26/2016	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	2/14/2017	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Chloromethane, ug/L (CAS NO - 74-87-3)	2/24/2020	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	N/A	< 3	< 3	< 3	< 3	N/A	N/A	N/A	< 3
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	3/14/2023	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 3	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
cis-1,2-Dichloroethene, ug/L (CAS NO - 156-59-2)	3/6/2007	N/A	N/A	N/A	N/A	N/A	6.2	N/A	21.2	< 1	26.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	5	N/A	114	< 1	26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	22.1	< 1	28.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	126	1	24.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	1	126	< 1	24.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	2	< 1	92.7	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	1.6	94.4	< 1	32.7	< 1	2.7	< 1	4.8	< 1	2.8	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	1	< 1	26.5	< 1	< 1	< 1	3	< 1	1.7	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	1.8	< 1	4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	110	< 1	25.8	< 1	< 1	< 1	4.1	< 1	1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	1.3	166	< 1	29.5	< 1	1.9	< 1	5.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	87.7	< 1	26.3	< 1	2.6	< 1	4.6	< 1	4.3	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	1	< 1	77.3	< 1	20	< 1	2.2	< 1	3.9	< 1	5.4	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	14.4	< 1	1	< 1	1.2	< 1	3.3	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	3	< 1	85.1	< 1	13.5	N/A	2	< 1	1.3	< 1	3.1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	4.7	< 1	2	< 1	3.2	< 1	3.4	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	2.7	< 1	66.2	< 1	9.5	N/A	N/A	< 1	3	< 1	2.6	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	1	< 1	< 1	< 1	5.3	< 1	2.3	< 1	2.8	< 1	2.1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.2	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	17.8	< 1	6.7	N/A	1	< 1	2.6	< 1	2.9	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	1.1	< 1	< 1	< 1	8.2	< 1	2	< 1	2.4	< 1	2.3	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	4.6	< 1	< 1	< 1	2.5	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2.32	< 1	7.04	N/A	0.731*	< 1	2.08	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	20.8	< 1	12.3	N/A	N/A	< 1	1.69	< 1	0.595*	< 1	N/A	N/A	< 1	0.664*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	0.359*
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	7.71	< 1	0.5*	0.18*	1.93	< 1	0.423*	< 1	N/A	N/A	0.256*	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	0.163*
	7/26/2016	< 1	N/A	N/A	< 1	< 1	1.74	< 1	7.42	< 1	10.4	N/A	N/A	0.178*	1.98	< 1	0.541*	< 1	N/A	N/A	0.316*	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	2.36	< 1	4.81	< 1	9.14	< 1	1	< 1	1.99	< 1	0.496*	< 1	N/A	N/A	0.268*	0.268*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	1.41	< 1	25.4	< 1	13.1	N/A	1.2	0.184*	1.38	< 1	0.611*	< 1	N/A	N/A	0.345*	0.572*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.284*	< 1	15.8	< 1	< 1	< 1	2.11	< 1	0.546*	< 1	N/A	N/A	0.219*	0.241*
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	1.16	< 1	22.6	< 1	17.3	N/A	1.08	< 1	N/A	< 1	0.801*	< 1	N/A	N/A	0.264*	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	19.9	< 1	< 1	< 1	1.6	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	17.8	< 1	< 1	< 1	1.81	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	14.2	< 1	0.496*	< 1	1.88	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	0.325*	< 1	< 1	< 1	16.9	< 1	0.408*	< 1	1.05	< 1	< 1	< 1	N/A	N/A	0.273*	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	0.456*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
cis-1,2-Dichloroethene, ug/L (CAS NO - 156-59-2)	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.493*	< 1	10.8	< 1	0.231*	< 1	0.229*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	2.05	< 1	2.45	< 1	9.4	N/A	N/A	< 1	0.591*	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	1.28	< 1	4.72	< 1	6.81	N/A	< 1	N/A	1.3	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	1.6	< 1	1.57	< 1	8.69	N/A	0.578*	< 1	0.923*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	7.93	< 1	< 1	< 1	1.09	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	1.72	< 1	< 1	< 1	10.4	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	0.865*	N/A	0.507*	< 1	7.79	N/A	N/A	< 1	0.698*	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.495*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	1.37	N/A	3.36	< 1	10.8	N/A	N/A	< 1	0.892*	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
cis-1,3-Dichloropropene, ug/L (CAS NO - 10061-01-5)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 5	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	2/10/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/10/2016	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	7/26/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
cis-1,3-Dichloropropene, ug/L (CAS NO - 10061-01-5)	10/26/2022	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	3/14/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene, ug/L (CAS NO - 100-41-4)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.683*	1.22
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	0.313*
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.906*	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.94*	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	1.42	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	0.318*	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	1.91	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.345*	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	0.408*
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.924*	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.822*	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.834*	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	2.06	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Ethylbenzene, ug/L (CAS NO - 100-41-4)	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	0.369*	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	0.571*	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iodomethane, ug/L (CAS NO - 74-88-4)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	9.49*	9.14*	< 10	< 10	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 10	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/10/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	5.88*	< 10	< 10	6.14*	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/10/2016	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	7/26/2016	< 50	N/A	N/A	< 10	< 50	< 10	< 50	< 10	< 50	< 10	N/A	N/A	< 10	< 50	< 50	< 50	< 50	N/A	N/A	< 50	< 50
	2/14/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	3/14/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Methylene Bromide, ug/L (CAS NO - 74-95-3)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methylene Chloride, ug/L (CAS NO - 75-09-2)	3/4/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Methylene Chloride, ug/L (CAS NO - 75-09-2)	6/2/2009	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 5	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 5	< 5	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 5	N/A	N/A	< 5	8.2	6.6	< 5	< 5	< 5	< 5	11.5	5.5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/13/2015	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	0.768*	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 5	N/A	N/A	< 5	< 5	N/A	< 5	< 5	0.179*	< 5	N/A	N/A	< 5	0.464*	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.342*	< 5
	2/10/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	0.233*	0.21*	0.307*	< 5	< 5	0.487*	< 5	< 5	< 5	N/A	N/A	0.392*	< 5
	2/10/2016	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	7/26/2016	< 5	N/A	N/A	0.33*	< 5	0.366*	< 5	0.498*	0.325*	0.309*	N/A	N/A	0.309*	0.47*	0.204*	0.191*	< 5	N/A	N/A	0.428*	< 5
	2/14/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	0.339*	< 5	< 5	< 5	N/A	N/A	0.247*	< 5
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 5	N/A	N/A	< 5	< 5	< 5	< 5	0.186*	< 5	0.205*	< 5	< 5	< 5	0.421*	0.23*	< 5	< 5	N/A	N/A	0.301*	< 5
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	3/14/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Styrene, ug/L (CAS NO - 100-42-5)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Styrene, ug/L (CAS NO - 100-42-5)	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetrachloroethene, ug/L (CAS NO - 127-18-4)	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	**1.1**	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	**4.5**	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	**3.2**	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	**3.7**	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	**2.6**	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	**2.2**	< 1	< 1	< 1	**1.1**	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	**1.2**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	**3**	< 1	< 1	< 1	**1.1**	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1**	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.4**	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	**1.1**	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Tetrachloroethene, ug/L (CAS NO - 127-18-4)	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.2	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.5	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.5	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	0.598*	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	0.329*	< 1	< 1	N/A	N/A	< 1	< 1	< 1	0.299*	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	0.374*	< 1	< 1	< 1	0.246*	< 1	< 1	< 1	0.52*	0.386*	0.266*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	1.04	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	0.39*	< 1	0.19*	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	0.639*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.96	< 1	0.436*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	0.48*	< 1	< 1	< 1	0.183*	< 1	< 1	N/A	1.61	< 1	0.269*	< 1	0.244*	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.273*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	0.378*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.245*	< 1	0.599*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	1.26	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.755*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.48*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.513*	< 1	0.783*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.502*	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	0.498*	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	0.635*	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene, ug/L (CAS NO - 108-88-3)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Toluene, ug/L (CAS NO - 108-88-3)	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	0.154*	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	< 1	0.26*	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.596*	0.186*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.237*	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.37*	0.636*
	2/10/2016	0.406*	N/A	N/A	0.505*	< 1	0.268*	0.216*	0.446*	< 1	0.307*	< 1	0.259*	0.432*	< 1	< 1	0.216*	0.163*	N/A	N/A	0.468*	0.43*
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	0.163*
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	0.216*
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.182*	< 1	0.302*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	0.331*	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.191*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.165*	< 1	< 1	< 1	N/A	N/A	0.293*	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	0.74*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	0.52*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	4.58	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
trans-1,2-Dichloroethene, ug/L (CAS NO - 156-60-5)	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	1.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	5.1	< 1	1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	7.3	< 1	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	7.4	< 1	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	4.1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	4.6	< 1	1.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	5.8	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	9.2	< 1	1.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	4.3	< 1	1.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	4.6	< 1	1.1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	7.4	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	4	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	1.3	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
trans-1,2-Dichloroethene, ug/L (CAS NO - 156-60-5)	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.338*	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	2.05	< 1	1.41	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.583*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	0.264*	< 1	0.545*	< 1	0.712*	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	0.302*	< 1	0.323*	< 1	0.645*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.627*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2.04	< 1	1.01	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.945*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.46	< 1	1.08	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.26	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.984*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.32	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.917*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.346*	< 1	1.22	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.276*	< 1	0.553*	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.639*	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.509*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.527*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.89*	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	0.662*	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	0.395*	< 1	0.876*	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.955*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
trans-1,3-Dichloropropene, ug/L (CAS NO - 10061-02-6)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 5	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	2/10/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/10/2016	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
trans-1,3-Dichloropropene, ug/L (CAS NO - 10061-02-6)	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	7/26/2016	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	3/14/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
trans-1,4-Dichloro-2-Butene, ug/L (CAS NO - 110-57-6)	3/4/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 5	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 5	< 5	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/13/2015	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 10	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/10/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/10/2016	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	7/26/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
trans-1,4-Dichloro-2-Butene, ug/L (CAS NO - 110-57-6)	4/11/2018	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	3/14/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trichloroethene, ug/L (CAS NO - 79-01-6)	9/28/1994	N/A	N/A	N/A	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/15/1994	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/21/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/6/1995	N/A	N/A	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/21/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	6.4	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/12/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	1.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/18/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/2/2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/11/2005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/26/2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.2	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	2.1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	7.6	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	4.8	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	4.7	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	4.6	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	4.2	< 1	1.1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	2.9	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	5.6	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	1.7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2.4	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	1.9	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.338*	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Trichloroethene, ug/L (CAS NO - 79-01-6)	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	1.26	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.33*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.241*	< 1	0.301*	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.202*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.201*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.607*	< 1	0.493*	N/A	0.212*	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	0.312*	< 1	< 1	< 1	0.233*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.535*	< 1	0.433*	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.431*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trichlorofluoromethane, ug/L (CAS NO - 75-69-4)	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 4	N/A	N/A	< 4	< 4	N/A	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	< 4
	2/10/2016	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	2/10/2016	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	< 4
	7/26/2016	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Trichlorofluoromethane, ug/L (CAS NO - 75-69-4)	2/14/2017	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	N/A	< 4	< 4	< 4	< 4	N/A	N/A	N/A	< 4
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	3/14/2023	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	N/A	N/A	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	< 4
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	< 4	N/A	N/A	< 4	< 4	< 4	< 4	< 4
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 4	< 4	N/A	< 4	< 4	< 4	N/A	N/A	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4	< 4
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Acetate, ug/L (CAS NO - 108-05-4)	3/4/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 5	N/A	N/A	N/A	N/A	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2009	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 5	< 5	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	9/7/2010	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/20/2012	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 5	N/A	N/A	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A
	1/13/2015	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 10	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/10/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/10/2016	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	7/26/2016	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Vinyl Acetate, ug/L (CAS NO - 108-05-4)	8/7/2018	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	3/14/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	< 10
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride, ug/L (CAS NO - 75-01-4)	1/21/2002	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/12/2002	N/A	N/A	N/A	N/A	N/A	1.8	N/A	< 1	< 1	4.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2002	N/A	N/A	N/A	N/A	N/A	0.79	N/A	4.64	< 1	0.59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2002	N/A	N/A	N/A	N/A	N/A	< 2	N/A	3	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/18/2003	N/A	N/A	N/A	N/A	N/A	< 1	N/A	4	< 1	3.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/2/2003	N/A	N/A	N/A	N/A	N/A	1.3	N/A	5.8	N/A	3.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2004	N/A	N/A	N/A	N/A	N/A	0.5	N/A	< 0.2	N/A	3.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2004	N/A	N/A	N/A	N/A	N/A	1.1	N/A	4.6	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/11/2005	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	N/A	3.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2005	N/A	N/A	N/A	N/A	N/A	< 1	N/A	6.4	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2006	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	< 0.1	N/A	4.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/26/2006	N/A	N/A	N/A	N/A	N/A	< 1	N/A	2.8	N/A	3.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/6/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	3.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	N/A	N/A	< 1	N/A	3.6	< 1	3.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/4/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	4.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	3.7	< 1	3.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	5.5	< 1	3.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 1	< 1	< 1	< 1	3.9	< 1	2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	5.6	< 1	3.8	< 1	< 1	< 1	2	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	3.1	< 1	< 1	< 1	1.7	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	< 1	1.8	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 1	N/A	N/A	N/A	N/A	< 1	N/A	4.1	< 1	2.7	< 1	< 1	< 1	1.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2009	< 1	N/A	N/A	< 1	< 1	< 1	< 1	7.3	< 1	3.2	< 1	< 1	< 1	1.5	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2.6	< 1	3.3	< 1	< 1	< 1	1.4	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2	< 1	3.1	< 1	< 1	< 1	1.1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	9/7/2010	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	2.3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	< 1	< 1	< 1	< 1	2.6	< 1	1.7	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/20/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	< 1	3.1	< 1	1.7	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1.3	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	2.1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	1/13/2015	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	2.23	N/A	< 1	< 1	0.272*	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 1	N/A	N/A	< 1	< 1	N/A	< 1	0.762*	< 1	2.87	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/10/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	1.9	< 1	< 1	< 1	0.247*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/10/2016	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	7/26/2016	< 1	N/A	N/A	< 1	< 1	< 1	< 1	0.253*	< 1	2.66	N/A	N/A	< 1	0.2*	< 1	< 1	< 1	N/A	N/A	< 1	< 1

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Vinyl Chloride, ug/L (CAS NO - 75-01-4)	2/14/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	2.68	< 1	< 1	< 1	0.287*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.54	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 1	N/A	N/A	< 1	< 1	< 1	< 1	1.25	< 1	3.55	N/A	< 1	< 1	0.188*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.223*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	3.19	< 1	< 1	< 1	0.3*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.05	< 1	3.99	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3.85	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.74	< 1	< 1	< 1	0.211*	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 1	< 1	0.207*	< 1	< 1	< 1	0.18*	< 1	< 1	3.44	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	0.193*
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3.42	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.15	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3.07	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.01	N/A	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3.26	N/A	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.16	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	3/14/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.3	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	N/A	< 1	< 1
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	0.98*	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 1	< 1	N/A	0.233*	< 1	3.17	N/A	N/A	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes, total, ug/L (CAS NO - 1330-20-7)	3/4/2008	N/A	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/28/2008	N/A	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/8/2008	N/A	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/29/2009	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	3/25/2009	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	3/25/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/2/2009	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	6/2/2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	< 2	N/A	N/A	N/A	N/A	< 2	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	9/7/2009	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 2	< 2	N/A	< 2	N/A	N/A	N/A	< 2	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	3/31/2010	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	3/31/2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	9/7/2010	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/7/2011	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	3/20/2012	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	3/20/2012	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	3/26/2014	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 2	N/A	N/A	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A
	1/13/2015	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/8/2015	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	0.337*	< 3	< 3	< 3	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	< 3	N/A	N/A	< 3	< 3	N/A	< 3	< 3	< 3	< 3	N/A	N/A	< 3	0.198*	< 3	< 3	< 3	N/A	N/A	0.343*	0.4*
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.148*	N/A	N/A	N/A	N/A
	12/29/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	0.79*
	2/10/2016	0.586*	N/A	N/A	0.481*	0.132*	0.151*	< 3	0.304*	< 3	0.137*	< 3	< 3	0.352*	0.401*	< 3	< 3	< 3	N/A	N/A	0.89*	< 3
	2/10/2016	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	< 3
	7/26/2016	< 3	N/A	N/A	0.171*	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	N/A	N/A	1.47*	0.165*
	2/14/2017	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	0.336*	< 3	< 3	< 3	N/A	N/A	0.587*	< 3
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	0.758*	< 3
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	0.386*	< 3	< 3	< 3	N/A	N/A	0.653*	< 3
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/17/2018	N/A	< 3	0.55*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Appendix I VOC Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Xylenes, total, ug/L (CAS NO - 1330-20-7)	8/7/2018	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/12/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/5/2018	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/21/2019	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	0.929*	< 3
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A
	9/15/2020	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	9/15/2020	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3
	4/27/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	11/30/2021	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3	< 3	< 3	< 3	N/A	N/A	0.418*	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	N/A	< 3	< 3	< 3	< 3	N/A	N/A	N/A	< 3
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	10/26/2022	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	0.86*	< 3
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/14/2023	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	0.991*	< 3
	3/14/2023	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	N/A	N/A	< 3	N/A	0.566*	0.452*	< 3	N/A	N/A	1.59*	< 3
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	< 3	N/A	N/A	< 3	< 3	< 3	0.977*	< 3
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	< 3	< 3	N/A	< 3	< 3	< 3	N/A	N/A	< 3	< 3	N/A	N/A	< 3	< 3	< 3	0.901*	< 3
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: * indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.

Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,1-Dichloropropene, ug/L (CAS NO - 563-58-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene, ug/L (CAS NO - 95-94-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene, ug/L (CAS NO - 120-82-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 5	< 5	N/A	< 5	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
1,3,5-Trinitrobenzene, ug/L (CAS NO - 99-35-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene, ug/L (CAS NO - 541-73-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	9/7/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	N/A	N/A	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/20/2012	N/A	N/A	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 1	< 1	< 1	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/3/2013	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
1,3-Dichloropropane, ug/L (CAS NO - 142-28-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
1,3-Dinitrobenzene, ug/L (CAS NO - 99-65-0)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
1,4-Naphthoquinone, ug/L (CAS NO - 130-15-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
1,4-Phenylenediamine, ug/L (CAS NO - 106-50-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
1-Naphthylamine, ug/L (CAS NO - 134-32-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2,2-Dichloropropane, ug/L (CAS NO - 594-20-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 4	< 4	N/A	< 4	< 4	< 4	< 4	N/A	N/A	< 4	< 4	< 4	< 4	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	< 4
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	< 4
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
2,2-Dichloropropane, ug/L (CAS NO - 594-20-7)	2/24/2020	N/A	N/A	N/A	< 4	< 4	N/A	< 4	N/A	N/A	N/A	N/A	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A	< 4	< 4	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	< 4	< 4	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
2,3,4,6-Tetrachlorophenol, ug/L (CAS NO - 58-90-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2,4,5-T [2C], ug/L (CAS NO - 93-76-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	< 0.5	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.5	< 0.5	N/A	< 0.5	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.5	< 0.7	< 0.5	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.6	< 0.6	< 0.5	N/A	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 1.01	N/A	< 1.03	< 1.05	N/A	< 1.01	N/A	N/A	< 1.06	< 1.02	< 1.01	< 1.04	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 1.03	N/A	< 1.07	N/A	N/A	< 1.06	N/A	< 1.07	< 1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.07	< 1.09
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.07	< 1.19
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.07	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 1.12	< 1.12	N/A	< 1.08	N/A	N/A	N/A	N/A	N/A	< 1.08	< 1.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.137	< 0.138	N/A	N/A	N/A	N/A	N/A	< 0.133	< 0.134	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 1.11	N/A	N/A	N/A	< 1.1	< 1.07	< 1.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.151
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.147	N/A	N/A	N/A	N/A
2,4,5-TP [Silvex] [2C], ug/L (CAS NO - 93-72-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	< 0.5	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.5	< 0.5	N/A	< 0.5	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.5	< 0.7	< 0.5	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.6	< 0.6	< 0.5	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 1.01	N/A	< 1.03	< 1.05	N/A	< 1.01	N/A	N/A	< 1.06	< 1.02	< 1.01	< 1.04	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 1.03	N/A	< 1.07	N/A	N/A	< 1.06	N/A	< 1.07	< 1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.07	< 1.09
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.07	< 1.19
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.07	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 1.12	< 1.12	N/A	< 1.08	N/A	N/A	N/A	N/A	N/A	< 1.08	< 1.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.137	0.156	N/A	N/A	N/A	N/A	N/A	< 0.133	< 0.134	N/A	N/A	N/A	N/A	N/A
	1/19/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.146	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 1.11	N/A	N/A	< 1.07	< 1.1	< 1.07	< 1.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.189*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.231	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0503
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/14/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.295*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0488	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0491	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.275	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-Trichlorophenol, ug/L (CAS NO - 95-95-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2,4,6-Trichlorophenol, ug/L (CAS NO - 88-06-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
2,4,6-Trichlorophenol, ug/L (CAS NO - 88-06-2)	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2,4-D [2C], ug/L (CAS NO - 94-75-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 2	N/A	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A	< 2	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 2	< 2	N/A	< 2	N/A	N/A	N/A	< 2	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 2	< 2.6	< 2	< 2.5	< 2	< 2	< 2	< 2	< 2	< 2	< 2.5	< 2.5	< 2	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 1.01	N/A	< 1.03	< 1.05	N/A	< 1.01	N/A	N/A	< 1.06	< 1.02	< 1.01	< 1.04	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 1.03	N/A	< 1.07	N/A	N/A	< 1.06	N/A	< 1.07	< 1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.07	< 1.09
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.07	< 1.19
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.07	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 1.12	< 1.12	N/A	< 1.08	N/A	N/A	N/A	N/A	N/A	< 1.08	< 1.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.273	< 0.276	N/A	N/A	N/A	N/A	N/A	0.106*	0.0446*	N/A	N/A	N/A	N/A	N/A
	11/12/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.992*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 1.11	N/A	N/A	N/A	< 1.1	< 1.07	< 1.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.603
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 20	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.59	N/A	N/A	N/A	N/A
2,4-Dichlorophenol, ug/L (CAS NO - 120-83-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2,4-Dimethylphenol, ug/L (CAS NO - 105-67-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	0.538*
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2,4-Dinitrophenol, ug/L (CAS NO - 51-28-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 21.7	< 20.8	N/A	< 20	< 20	N/A	< 20	N/A	N/A	< 20.4	< 20.4	< 20	< 20	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 22.2	N/A	N/A	< 21.5	N/A	< 20.4	< 22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 21.7	< 21.7
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 22.2	< 21.7
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 21.3	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 20.2	< 20.2	N/A	< 20.4	N/A	N/A	N/A	N/A	N/A	< 20.2	< 20.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 21.3	< 20.8	N/A	N/A	N/A	N/A	N/A	< 22	< 21.3	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 22.5	N/A	N/A	N/A	< 21.3	< 22	< 21.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 20
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 20	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 19.2	N/A	N/A	N/A	N/A
2,4-Dinitrotoluene, ug/L (CAS NO - 121-14-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
2,6-Dichlorophenol, ug/L (CAS NO - 87-65-0)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2,6-Dinitrotoluene, ug/L (CAS NO - 606-20-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2-Acetylaminofluorene, ug/L (CAS NO - 53-96-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2-Chloronaphthalene, ug/L (CAS NO - 91-58-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2-Chlorophenol, ug/L (CAS NO - 95-57-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.423*	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2-Methylnaphthalene, ug/L (CAS NO - 91-57-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
2-Methylnaphthalene, ug/L (CAS NO - 91-57-6)	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2-Methylphenol, ug/L (CAS NO - 95-48-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2-Naphthylamine, ug/L (CAS NO - 91-59-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2-Nitroaniline, ug/L (CAS NO - 88-74-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
2-Nitrophenol, ug/L (CAS NO - 88-75-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
3,3-Dichlorobenzidine, ug/L (CAS NO - 91-94-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 54.3	< 52.1	N/A	< 50	< 50	N/A	< 50	N/A	N/A	< 51	< 51	< 50	< 50	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 55.6	N/A	N/A	< 53.8	N/A	< 51	< 54.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 54.3	< 54.3
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 55.6	< 54.3
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
3,3-Dimethylbenzidine, ug/L (CAS NO - 119-93-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
3/4-Methylphenol, ug/L (CAS NO - T-34MP)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.642*	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
3-Chloropropene, ug/L (CAS NO - 107-05-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 2	< 2	N/A	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 2	< 2	N/A	< 2	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
3-Methylcholanthrene, ug/L (CAS NO - 56-49-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
3-Nitroaniline, ug/L (CAS NO - 99-09-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
4,4`-DDD, ug/L (CAS NO - 72-54-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	0.0042*	N/A	< 0.032	0.00262*	N/A	< 0.032	N/A	N/A	0.00648*	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00913*	< 0.0333
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
4,4`-DDD, ug/L (CAS NO - 72-54-8)	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
4,4`-DDE, ug/L (CAS NO - 72-55-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	0.0206*	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00578*	0.0114*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	0.00717*	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
4,4`-DDT, ug/L (CAS NO - 50-29-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.033	0.029*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	0.00729*	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
4,6-Dinitro-2-methylphenol, ug/L (CAS NO - 534-52-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
4-Aminobiphenyl, ug/L (CAS NO - 92-67-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
4-Bromophenyl phenyl ether, ug/L (CAS NO - 101-55-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
4-Chloro-3-methylphenol, ug/L (CAS NO - 59-50-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/20/2012	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	2.17*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	6.14*
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.1*	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
4-Chloroaniline, ug/L (CAS NO - 106-47-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
4-Chlorophenyl phenyl ether, ug/L (CAS NO - 7005-72-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
4-Nitroaniline, ug/L (CAS NO - 100-01-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
4-Nitrophenol, ug/L (CAS NO - 100-02-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
5-Nitro-o-toluidine, ug/L (CAS NO - 99-55-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
7,12-Dimethylbenz [a] anthracene, ug/L (CAS NO - 57-97-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Acenaphthene, ug/L (CAS NO - 83-32-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Acenaphthylene, ug/L (CAS NO - 208-96-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Acetonitrile, ug/L (CAS NO - 75-05-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	< 10	< 10	< 10	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 10	< 10	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10000	< 10000	N/A	< 10000	< 10000	N/A	< 10000	N/A	N/A	< 10000	< 10000	< 10000	< 10000	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 10000	N/A	N/A	< 10000	N/A	< 10000	< 10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10000	< 10000
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	641*	< 10000
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10000	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10000	< 10000	N/A	< 10000	N/A	N/A	N/A	N/A	N/A	< 10000	< 10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10000	< 10000	N/A	N/A	N/A	N/A	N/A	< 10000	< 10000	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 10000	N/A	N/A	N/A	< 10000	< 10000	< 10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10000
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10000	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10000	N/A	N/A	N/A	N/A
Acetophenone, ug/L (CAS NO - 98-86-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	1.14*	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.602*	0.296*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.679*	0.553*

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Acetophenone, ug/L (CAS NO - 98-86-2)	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Acrolein, ug/L (CAS NO - 107-02-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 10	< 10	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10	< 10	N/A	< 10	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
Aldrin, ug/L (CAS NO - 309-00-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 0.032	N/A	< 0.032	N/A	< 0.0327	N/A	< 0.032	N/A	N/A	0.0136*	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0495	< 0.0333
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0348	N/A
	7/26/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.076	N/A
	11/14/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0331	N/A
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0738*	< 0.176
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0338*	N/A
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0944	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.17	N/A
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	5/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0337	N/A
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00753*	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	0.00992*	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.012*	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0337	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	3/14/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0615	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Anthracene, ug/L (CAS NO - 120-12-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Benzo [a] anthracene, ug/L (CAS NO - 56-55-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Benzo [a] pyrene, ug/L (CAS NO - 50-32-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Benzo [b] fluoranthene, ug/L (CAS NO - 205-99-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Benzo [g,h,i] perylene, ug/L (CAS NO - 191-24-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Benzo [k] fluoranthene, ug/L (CAS NO - 207-08-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Benzyl alcohol, ug/L (CAS NO - 100-51-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Alpha-BHC, ug/L (CAS NO - 319-84-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.033	< 0.0333
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Alpha-BHC, ug/L (CAS NO - 319-84-6)	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00239*	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	0.00198*	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	0.00398*	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Beta-BHC, ug/L (CAS NO - 319-85-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	0.0067*	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0289*	< 0.0333
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Delta-BHC, ug/L (CAS NO - 319-86-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	0.00356*	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	0.0361*	N/A	< 0.0344	N/A	N/A	0.0151*	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0136*	< 0.0333
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00326*	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	0.00289*	< 0.0348	N/A	0.00353*	N/A	N/A	N/A	N/A	N/A	0.0025*	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	0.0118*	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Gamma-BHC [Lindane], ug/L (CAS NO - 58-89-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0272*	0.0226*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0343*	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	0.00312*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	0.00604*	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Bis[2-chloroethoxy]methane, ug/L (CAS NO - 111-91-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Bis[2-chloroethyl]ether, ug/L (CAS NO - 111-44-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Bis[2-chloroisopropyl]ether, ug/L (CAS NO - 108-60-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Bis[2-ethylhexyl]phthalate, ug/L (CAS NO - 117-81-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	10	11	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/20/2012	N/A	N/A	N/A	< 10	13	< 10	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	19	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/3/2013	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	< 10	N/A	36	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	N/A	0.462*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	8.15*	2.55*	N/A	5.24*	9.77*	N/A	4.28*	N/A	N/A	6.18*	5.49*	3.87*	4.92*	3.72*	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.79*	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	2.13*	2.93*	2.05*	N/A	N/A	2.57*	N/A	1.81*	2.1*	N/A	N/A	N/A	N/A	2.03*	N/A	N/A	2.93*	1.96*
	2/10/2016	N/A	N/A	N/A	N/A	3.26*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/26/2016	N/A	N/A	N/A	1.34*	< 10.5	0.6*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.2	N/A	N/A	N/A	N/A
	2/14/2017	N/A	N/A	N/A	2*	1.91*	< 10.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.92*	N/A	N/A	< 11.1	2.13*
	9/19/2017	N/A	N/A	N/A	0.93*	0.993*	0.98*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.948*	N/A	N/A	N/A	N/A
	4/11/2018	N/A	N/A	N/A	0.784*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.738*	N/A	N/A	N/A	N/A
	8/7/2018	N/A	N/A	N/A	< 10.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	4/23/2019	N/A	N/A	N/A	< 10.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	6/30/2019	N/A	N/A	N/A	< 10.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.5	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Butyl benzyl phthalate, ug/L (CAS NO - 85-68-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.978*	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	1.14*
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Chlordane, ug/L (CAS NO - 57-74-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 2	N/A	< 2	< 2.04	N/A	< 2	N/A	N/A	N/A	< 2.02	< 2	< 2	< 2.04	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 10.3	N/A	< 2.15	N/A	N/A	< 10.9	N/A	< 2.13	< 2.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2.06	< 2.08
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 23.5	< 11
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2.08	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 2.2	< 2.17	N/A	< 2.13	N/A	N/A	N/A	N/A	N/A	< 2.13	< 2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2.25	< 2.13	N/A	N/A	N/A	N/A	N/A	< 2.13	< 2.11	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 2.13	N/A	N/A	N/A	< 2.15	< 2.22	< 2.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.77	N/A	N/A	N/A	N/A
Chlorobenzilate, ug/L (CAS NO - 510-15-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Chlorobenzilate, ug/L (CAS NO - 510-15-6)	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Chloroprene, ug/L (CAS NO - 126-99-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
Chrysene, ug/L (CAS NO - 218-01-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Cyanide, mg/L (CAS NO - 57-12-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.007	N/A	< 0.007	< 0.007	< 0.007	N/A	< 0.007	< 0.007	< 0.007	N/A	< 0.007	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.007	< 0.007	N/A	< 0.007	N/A	N/A	N/A	< 0.007	N/A	N/A	N/A	< 0.007	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 0.01	< 0.01	N/A	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	< 0.01	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	0.0351	N/A	N/A	N/A	N/A	0.00479*	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	< 0.01
	7/26/2016	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/14/2016	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/14/2017	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043*	< 0.01
	9/19/2017	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A
	6/30/2019	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.01	< 0.01	0.00806*	< 0.01	N/A	N/A	N/A	N/A	N/A	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	0.00517*	N/A	N/A	N/A	N/A	N/A	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	< 0.01	< 0.01	< 0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A	N/A
Diallate [cis or trans], ug/L (CAS NO - 2303-16-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Dibenz [a,h] anthracene, ug/L (CAS NO - 53-70-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Dibenz [a,h] anthracene, ug/L (CAS NO - 53-70-3)	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Dibenzofuran, ug/L (CAS NO - 132-64-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Dichlorodifluoromethane, ug/L (CAS NO - 75-71-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 3	< 3	N/A	< 3	< 3	< 3	< 3	N/A	N/A	< 3	< 3	< 3	< 3	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	< 3
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	< 3
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 3	< 3	N/A	< 3	N/A	N/A	N/A	N/A	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A	< 3	< 3	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	< 3	< 3	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
Dieldrin, ug/L (CAS NO - 60-57-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	0.014*	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.033	0.00682*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	0.00339*	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Diethyl phthalate, ug/L (CAS NO - 84-66-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.648*	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.29*	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Dimethoate, ug/L (CAS NO - 60-51-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	N/A	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	< 0.32	< 0.32	< 0.32	N/A	N/A	< 0.32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	N/A	N/A	N/A	< 0.32	< 0.32	< 0.32	N/A	N/A	< 0.32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/20/2012	N/A	N/A	N/A	< 0.42	< 0.32	< 0.32	N/A	N/A	< 0.32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 0.32	< 0.32	< 0.32	N/A	N/A	1.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	N/A	N/A	N/A	N/A	< 0.32	N/A	N/A	N/A	< 0.32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/3/2013	N/A	N/A	N/A	N/A	< 0.45	N/A	N/A	N/A	< 0.46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	< 0.32	< 0.32	N/A	N/A	N/A	< 0.32	N/A	N/A	N/A	N/A	N/A	< 0.32	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	< 0.32	< 0.32	N/A	N/A	N/A	< 0.32	N/A	N/A	N/A	N/A	N/A	< 0.32	N/A	< 0.4	N/A	N/A	N/A	N/A
	4/8/2015	N/A	N/A	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 11	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	7/26/2016	N/A	N/A	N/A	< 20	N/A	N/A	N/A	N/A	< 10.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/14/2017	N/A	N/A	N/A	< 10.8	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	9/19/2017	N/A	N/A	N/A	< 10.5	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Dimethoate, ug/L (CAS NO - 60-51-5)	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Dimethyl phthalate, ug/L (CAS NO - 131-11-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Dimethylaminoazobenzene, ug/L (CAS NO - 60-11-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Di-n-butyl phthalate, ug/L (CAS NO - 84-74-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	0.797*	N/A	N/A	0.977*	N/A	0.707*	0.811*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.99*	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.849*	0.747*
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Di-n-octyl phthalate, ug/L (CAS NO - 117-84-0)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 21.7	< 20.8	N/A	< 20	< 20	N/A	< 20	N/A	N/A	< 20.4	< 20.4	< 20	< 20	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	2.33*	N/A	N/A	2.37*	N/A	< 20.4	2.3*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.34*	< 21.7
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 22.2	< 21.7
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 21.3	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 20.2	< 20.2	N/A	< 20.4	N/A	N/A	N/A	N/A	N/A	< 20.2	< 20.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 21.3	< 20.8	N/A	N/A	N/A	N/A	N/A	< 22	< 21.3	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 22.5	N/A	N/A	N/A	< 21.3	< 22	< 21.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 20
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 20	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 19.2	N/A	N/A	N/A	N/A
Dinoseb, ug/L (CAS NO - 88-85-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	< 0.5	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.5	< 0.5	N/A	< 0.5	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.5	< 0.7	< 0.5	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.6	< 0.6	< 0.5	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Diphenylamine, ug/L (CAS NO - 122-39-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Disulfoton, ug/L (CAS NO - 298-04-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	0.7	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	N/A	N/A	N/A	N/A	N/A
	3/7/2011	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/20/2012	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	7/26/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Endosulfan I, ug/L (CAS NO - 959-98-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	0.0027*	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.269	0.0661
	5/27/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.401	0.0956
	7/26/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.518	0.149
	11/14/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.354	0.0924
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.656	0.0867*
	9/19/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.587	0.0698
	4/11/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.65	0.0372
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.727	N/A
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	5/8/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0101*	0.0419
	6/30/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.287	0.0345
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	0.497	0.0638
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	0.0144*	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	0.709	0.0507
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.541	0.0649
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.594	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.93	< 0.064
	3/14/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.962	< 0.064
	11/7/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	< 0.0627
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	< 0.09	< 0.0923
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0938	< 0.0911
Endosulfan II, ug/L (CAS NO - 33213-65-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.033	< 0.0333
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	0.0175*	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Endosulfan sulfate, ug/L (CAS NO - 1031-07-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	0.00447*	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0126*	0.00729*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	0.00862*	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Endrin, ug/L (CAS NO - 72-20-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	0.00321*	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00328*	< 0.0333
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Endrin aldehyde, ug/L (CAS NO - 7421-93-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.033	< 0.0333
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Ethyl Methacrylate, ug/L (CAS NO - 97-63-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	< 10	< 10	< 10	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 10	< 10	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 2	< 2	N/A	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 2	< 2	N/A	< 2	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
Ethyl Methanesulfonate, ug/L (CAS NO - 62-50-0)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Famphur, ug/L (CAS NO - 52-85-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 21.7	< 20.8	N/A	< 20	< 20	N/A	< 20	N/A	N/A	< 20.4	< 20.4	< 20	< 20	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 22.2	N/A	N/A	< 21.5	N/A	< 20.4	< 22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 21.7	< 21.7
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 22.2	< 21.7

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Famphur, ug/L (CAS NO - 52-85-7)	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Fluoranthene, ug/L (CAS NO - 206-44-0)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Fluorene, ug/L (CAS NO - 86-73-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Heptachlor, ug/L (CAS NO - 76-44-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.033	< 0.0333
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	0.00352*	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Heptachlor Epoxide, ug/L (CAS NO - 1024-57-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	< 0.0327	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.033	0.0143*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Hexachlorobenzene, ug/L (CAS NO - 118-74-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Hexachlorobutadiene, ug/L (CAS NO - 87-68-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Hexachlorocyclopentadiene, ug/L (CAS NO - 77-47-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 21.7	< 20.8	N/A	< 20	< 20	N/A	< 20	N/A	N/A	< 20.4	< 20.4	< 20	< 20	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 22.2	N/A	N/A	< 21.5	N/A	< 20.4	< 22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 21.7	< 21.7
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 22.2	< 21.7
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Hexachloroethane, ug/L (CAS NO - 67-72-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Hexachloropropene, ug/L (CAS NO - 1888-71-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Indeno [1,2,3-cd] pyrene, ug/L (CAS NO - 193-39-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Isobutanol, mg/L (CAS NO - 78-83-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	< 10	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Isobutanol, mg/L (CAS NO - 78-83-1)	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10	< 10	N/A	< 10	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
Isodrin, ug/L (CAS NO - 465-73-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Isophorone, ug/L (CAS NO - 78-59-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Isosafrole, ug/L (CAS NO - 120-58-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Kepone, ug/L (CAS NO - 143-50-0)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Methacrylonitrile, ug/L (CAS NO - 126-98-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10	< 10	N/A	< 10	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A

SCS ENGINEERS

Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Methapyrilene, ug/L (CAS NO - 91-80-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	1.46*	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Methoxychlor, ug/L (CAS NO - 72-43-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.05	< 0.05	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.032	N/A	< 0.032	0.00531*	N/A	< 0.032	N/A	N/A	< 0.0323	< 0.032	< 0.032	< 0.0327	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.165	N/A	< 0.0344	N/A	N/A	< 0.174	N/A	< 0.034	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.033	0.0035*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.376	< 0.176
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0333	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.0352	< 0.0348	N/A	< 0.034	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0352	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.036	0.00901*	N/A	N/A	N/A	N/A	N/A	N/A	< 0.034	< 0.0337	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.034	N/A	N/A	N/A	< 0.0344	< 0.0356	< 0.034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.064	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0886	N/A	N/A	N/A	N/A
Methyl Methacrylate, ug/L (CAS NO - 80-62-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 1	N/A	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 2	< 2	N/A	< 2	< 2	< 2	< 2	N/A	N/A	< 2	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 2	< 2	N/A	< 2	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	< 2	< 2	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
Methyl Methanesulfonate, ug/L (CAS NO - 66-27-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Naphthalene, ug/L (CAS NO - 91-20-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5	N/A	N/A	< 5	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.567*	< 5
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.376*	< 5
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 5	< 5	N/A	< 5	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	< 5	< 5	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
Nitrobenzene, ug/L (CAS NO - 98-95-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Nitrobenzene, ug/L (CAS NO - 98-95-3)	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
N-Nitrosodiethylamine, ug/L (CAS NO - 55-18-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
N-Nitrosodimethylamine, ug/L (CAS NO - 62-75-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
N-Nitrosodi-n-butylamine, ug/L (CAS NO - 924-16-3)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	1.48*
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
N-Nitrosodi-n-propylamine, ug/L (CAS NO - 621-64-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
N-Nitrosodiphenylamine, ug/L (CAS NO - 86-30-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
N-Nitrosomethylethylamine, ug/L (CAS NO - 10595-95-6)	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
N-Nitrosopiperidine, ug/L (CAS NO - 100-75-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
N-Nitrosopyrrolidine, ug/L (CAS NO - 930-55-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
O,O,O-Triethyl Phosphorothioate, ug/L (CAS NO - 126-68-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
O-Toluidine, ug/L (CAS NO - 95-53-4)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.13*	0.339*
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.24*	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Parathion-Ethyl, ug/L (CAS NO - 56-38-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Parathion-Ethyl, ug/L (CAS NO - 56-38-2)	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Parathion-Methyl, ug/L (CAS NO - 298-00-0)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
PCB-1016, ug/L (CAS NO - 12674-11-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.8	N/A	< 0.8	< 0.808	N/A	< 0.8	N/A	N/A	< 0.825	< 0.941	< 0.8	< 0.825	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.87	N/A	< 0.86	N/A	N/A	< 0.833	N/A	< 0.842	< 0.909	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.842	< 0.833
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.508	< 4.04
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.833	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.879	< 0.87	N/A	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.879	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.899	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.842	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.851	N/A	N/A	N/A	< 0.86	< 0.889	< 0.851	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.77	N/A	N/A	N/A	N/A
PCB-1221, ug/L (CAS NO - 11104-28-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	< 0.2	N/A	< 0.2	< 0.2	< 0.2	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.2	< 0.2	N/A	< 0.2	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.8	N/A	< 0.8	< 0.808	N/A	< 0.8	N/A	N/A	< 0.825	< 0.941	< 0.8	< 0.825	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.87	N/A	< 0.86	N/A	N/A	< 0.833	N/A	< 0.842	< 0.909	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.842	< 0.833
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.508	< 4.04
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.833	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.879	< 0.87	N/A	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.879	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.899	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.842	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.851	N/A	N/A	N/A	< 0.86	< 0.889	< 0.851	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.77	N/A	N/A	N/A	N/A
PCB-1232, ug/L (CAS NO - 11141-16-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	< 0.2	N/A	< 0.2	< 0.2	< 0.2	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.2	< 0.2	N/A	< 0.2	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.8	N/A	< 0.8	< 0.808	N/A	< 0.8	N/A	N/A	< 0.825	< 0.941	< 0.8	< 0.825	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.87	N/A	< 0.86	N/A	N/A	< 0.833	N/A	< 0.842	< 0.909	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.842	< 0.833
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.508	< 4.04
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.833	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.879	< 0.87	N/A	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.879	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.899	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.842	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.851	N/A	N/A	N/A	< 0.86	< 0.889	< 0.851	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.77	N/A	N/A	N/A	N/A
PCB-1242, ug/L (CAS NO - 53469-21-9)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	< 0.2	N/A	< 0.2	< 0.2	< 0.2	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.2	< 0.2	N/A	< 0.2	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.8	N/A	< 0.8	< 0.808	N/A	< 0.8	N/A	N/A	< 0.825	< 0.941	< 0.8	< 0.825	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.87	N/A	< 0.86	N/A	N/A	< 0.833	N/A	< 0.842	< 0.909	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.842	< 0.833
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.508	< 4.04
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.833	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.879	< 0.87	N/A	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.879	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.899	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.842	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.851	N/A	N/A	N/A	< 0.86	< 0.889	< 0.851	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.77	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
PCB-1248, ug/L (CAS NO - 12672-29-6)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	< 0.2	N/A	< 0.2	< 0.2	< 0.2	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.2	< 0.2	N/A	< 0.2	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.8	N/A	< 0.8	< 0.808	N/A	< 0.8	N/A	N/A	< 0.825	< 0.941	< 0.8	< 0.825	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.87	N/A	< 0.86	N/A	N/A	< 0.833	N/A	< 0.842	< 0.909	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.842	< 0.833
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.508	< 4.04
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.833	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.879	< 0.87	N/A	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.879	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.899	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.842	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.851	N/A	N/A	N/A	< 0.86	< 0.889	< 0.851	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.77	N/A	N/A	N/A	N/A
PCB-1254, ug/L (CAS NO - 11097-69-1)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.8	N/A	< 0.8	< 0.808	N/A	< 0.8	N/A	N/A	< 0.825	< 0.941	< 0.8	< 0.825	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.87	N/A	< 0.86	N/A	N/A	< 0.833	N/A	< 0.842	< 0.909	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.842	< 0.833
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.508	< 4.04
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.833	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.879	< 0.87	N/A	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.879	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.899	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.842	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.851	N/A	N/A	N/A	< 0.86	< 0.889	< 0.851	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.77	N/A	N/A	N/A	N/A
PCB-1260, ug/L (CAS NO - 11096-82-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 0.8	N/A	< 0.8	< 0.808	N/A	< 0.8	N/A	N/A	< 0.825	< 0.941	< 0.8	< 0.825	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 0.87	N/A	< 0.86	N/A	N/A	< 0.833	N/A	< 0.842	< 0.909	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.842	< 0.833
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.508	< 4.04
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.833	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 0.879	< 0.87	N/A	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.879	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.899	< 0.851	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.842	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 0.851	N/A	N/A	N/A	< 0.86	< 0.889	< 0.851	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.8	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.77	N/A	N/A	N/A	N/A
Pentachlorobenzene, ug/L (CAS NO - 608-93-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Pentachloronitrobenzene, ug/L (CAS NO - 82-68-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Pentachlorophenol [2C], ug/L (CAS NO - 87-86-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	3.9*
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.29*	< 10.9

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Pentachlorophenol [2C], ug/L (CAS NO - 87-86-5)	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Phenacetin, ug/L (CAS NO - 62-44-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Phenanthrene, ug/L (CAS NO - 85-01-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Phenol, ug/L (CAS NO - 108-95-2)	9/28/1994	N/A	N/A	N/A	5	5	5	N/A	5	5	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/1995	N/A	N/A	N/A	5	5	5	N/A	5	5	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/15/1996	N/A	N/A	N/A	5	5	5	N/A	5	5	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/1997	N/A	N/A	N/A	18	8	27	N/A	13	20	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/1998	N/A	N/A	N/A	290	5	48	N/A	110	44	180	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/1999	N/A	N/A	N/A	2.5	2.5	2.5	N/A	2.5	2.5	2.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2000	N/A	N/A	N/A	2.5	33	2.5	N/A	2.5	2.5	38.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2001	N/A	N/A	N/A	10	10	10	N/A	10	10	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/9/2002	N/A	N/A	N/A	N/A	N/A	< 4.4	N/A	< 4.4	< 4.4	< 4.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/12/2002	N/A	N/A	N/A	N/A	N/A	< 4.4	N/A	< 4.4	< 4.4	< 4.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2002	N/A	N/A	N/A	N/A	N/A	< 4.4	N/A	< 4.4	< 4.4	< 4.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/30/2002	N/A	N/A	N/A	< 5	< 5	< 5	N/A	< 5	15	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/2/2003	N/A	N/A	N/A	< 100	< 100	< 100	N/A	< 100	< 100	< 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2004	N/A	N/A	N/A	< 100	< 100	< 100	N/A	< 100	< 100	< 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2005	N/A	N/A	N/A	< 100	< 100	< 100	N/A	< 100	< 100	< 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2005	N/A	N/A	N/A	< 100	< 100	< 100	N/A	< 100	< 100	< 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/26/2006	N/A	N/A	N/A	< 100	< 100	< 100	N/A	< 100	< 100	< 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10/16/2007	N/A	N/A	N/A	< 100	< 100	< 100	N/A	< 100	< 100	< 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	8/13/2012	N/A	N/A	N/A	< 100	< 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/3/2013	N/A	N/A	N/A	< 100	< 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	< 100	< 100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Phorate, ug/L (CAS NO - 298-02-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Phorate, ug/L (CAS NO - 298-02-2)	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Pronamide, ug/L (CAS NO - 23950-58-5)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Propionitrile, ug/L (CAS NO - 107-12-0)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 10	N/A	< 10	< 10	< 10	N/A	< 10	< 10	< 10	N/A	< 10	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 10	< 10	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10	N/A	N/A	< 10	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10	< 10	N/A	< 10	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
Pyrene, ug/L (CAS NO - 129-00-0)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Safrole, ug/L (CAS NO - 94-59-7)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 8	N/A	< 8	< 8	< 8	N/A	< 8	< 8	< 8	N/A	< 8	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 8	< 8	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Sulfide, mg/L (CAS NO - 18496-25-8)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	N/A	N/A	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	< 1
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.794*	< 1
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 1	< 1	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A	19.5	< 10	N/A	N/A	N/A	N/A	N/A
	11/12/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	1/19/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A	< 10	< 10	< 10	N/A	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	11/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A	0.323*
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	0.439*	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.14	N/A	N/A	N/A	N/A
	10/21/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.1	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Muscatine County Landfill - 70-SDP-02-75P

Other Constituents	Sample Date	MW-29 UPG	MW-49BG UPG	MW-50BG UPG	MW-2 DNG	MW-4 DNG	MW-9 DNG	MW-10A DNG	MW-11 DNG	MW-12R DNG	MW-13 DNG	MW-20 DNG	MW-21 DNG	MW-22 DNG	MW-23 DNG	MW-24 DNG	MW-25 DNG	MW-26 DNG	MW-36 DNG	MW-37 DNG	MW-38 DNG	MW-39 DNG
Thionazin, ug/L (CAS NO - 297-97-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.4	< 0.4	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	< 10.9	< 10.4	N/A	< 10	< 10	N/A	< 10	N/A	N/A	< 10.2	< 10.2	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	N/A	N/A	< 11.1	N/A	N/A	< 10.8	N/A	< 10.2	< 11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10.9
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 11.1	< 10.9
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 10.1	< 10.1	N/A	< 10.2	N/A	N/A	N/A	N/A	N/A	< 10.1	< 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10.6	< 10.4	N/A	N/A	N/A	N/A	N/A	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 11.2	N/A	N/A	N/A	< 10.6	< 11	< 10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 9.62	N/A	N/A	N/A	N/A
Toxaphene, ug/L (CAS NO - 8001-35-2)	7/13/2009	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A
	1/27/2010	N/A	N/A	N/A	< 0.1	< 0.1	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
	9/7/2010	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	N/A	N/A	N/A	N/A	N/A
	3/26/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A	N/A	N/A	N/A
	9/28/2015	N/A	N/A	N/A	N/A	< 2	N/A	< 2	< 2.04	N/A	< 2	N/A	N/A	< 2.02	< 2	< 2	< 2.04	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	N/A	N/A	< 10.3	N/A	< 2.15	N/A	N/A	< 10.9	N/A	< 2.13	< 2.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2.06	< 2.08
	2/14/2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 23.5	< 11
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2.08	N/A	N/A	N/A	N/A
	2/24/2020	N/A	N/A	N/A	< 2.2	< 2.17	N/A	< 2.13	N/A	N/A	N/A	N/A	N/A	< 2.13	< 2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/15/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2.25	< 2.13	N/A	N/A	N/A	N/A	N/A	< 2.13	< 2.11	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	< 2.13	N/A	N/A	N/A	< 2.15	< 2.22	< 2.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2
	10/26/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	6/24/2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1.77	N/A	N/A	N/A	N/A

Note: * indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.

Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

Appendix C-2
Summary of Groundwater Chemistry - Bracketing

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Summary of Groundwater Chemistry

Muscatine County Landfill - 70-SDP-02-75P - Bracketing

Total Metals Constituents	Sample Date	MW-30 DNG	MW-31 DNG	MW-33 DNG	MW-34 DNG	MW-35 DNG	MW-46 DNG	MW-51 DNG	MW-56 DNG	MW-57 DNG
Barium, mg/L (CAS NO - 7440-39-3)	9/1/2011	0.569	0.583	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	0.596	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/20/2012	0.532	0.596	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	0.528	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	0.655	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/26/2014	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/11/2014	0.645	N/A	N/A	2.96	N/A	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	2.81	N/A	N/A	N/A	N/A	N/A
	8/7/2018	N/A	N/A	N/A	N/A	N/A	N/A	0.717	N/A	N/A
	4/23/2019	N/A	N/A	N/A	N/A	N/A	N/A	0.833	N/A	N/A
	6/30/2019	N/A	N/A	N/A	N/A	N/A	0.409	0.508	N/A	N/A
	2/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	0.904	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	0.464	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	0.49	1.08	N/A	N/A
	3/14/2023	N/A	N/A	N/A	N/A	N/A	0.378	1.25	0.864	0.353
	6/24/2024	N/A	N/A	N/A	N/A	N/A	0.447	1.25	N/A	N/A
Total Suspended Solids, mg/L (CAS NO - TSS)	9/11/2014	62	2370	157	333	N/A	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	13	N/A	N/A	N/A	N/A	N/A
	4/8/2015	16.8	237	15	5.75	N/A	N/A	N/A	N/A	N/A
	9/28/2015	27.5	172	16	14.6	107	N/A	N/A	N/A	N/A
	2/10/2016	30	90	19.1	15.9	360	N/A	N/A	N/A	N/A
	7/26/2016	13.9	68.1	13	13.8	30.2	N/A	N/A	N/A	N/A
	1/3/2017	N/A	N/A	N/A	N/A	N/A	98.1	N/A	N/A	N/A
	2/14/2017	19.6	27.2	14.9	2.75	43.4	74.6	N/A	N/A	N/A
	9/19/2017	19	N/A	14.6	20.3	21.4	5	N/A	N/A	N/A
	4/11/2018	25	73	4	34.8	156	3	N/A	N/A	N/A
	8/7/2018	2	43	11.3	17	21.5	14.5	10.9	N/A	N/A
	4/23/2019	19	25.4	19.3	16.8	2.38	11.9	8.63	N/A	N/A
	6/30/2019	15.5	32	24.9	18.3	12.6	13	3.5	N/A	N/A
	2/24/2020	N/A	N/A	N/A	N/A	N/A	7	75	N/A	N/A
	4/27/2021	N/A	N/A	N/A	N/A	N/A	11.3	N/A	N/A	N/A
	5/24/2022	N/A	N/A	N/A	N/A	N/A	134	64	N/A	N/A
	3/14/2023	N/A	N/A	N/A	N/A	N/A	3.75	3.5	204	4890
	6/24/2024	N/A	N/A	N/A	N/A	N/A	12.7	2.38	N/A	N/A

Note: * indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.
Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

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Summary of Groundwater Chemistry

Muscatine County Landfill - 70-SDP-02-75P - Bracketing

Appendix I VOC Constituents	Sample Date	MW-30 DNG	MW-31 DNG	MW-33 DNG	MW-34 DNG	MW-35 DNG	MW-46 DNG	MW-51 DNG	MW-56 DNG	MW-57 DNG
Benzene, ug/L (CAS NO - 71-43-2)	9/1/2011	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/20/2012	< 1	**1.9**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/3/2013	< 1	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	< 1	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	9/11/2014	< 1	**1.1**	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	2/10/2016	N/A	**1.48**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/26/2016	N/A	**1.67**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/14/2017	N/A	**0.968**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/19/2017	N/A	**1.01**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	4/11/2018	0.458*	**0.856**	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A
	8/7/2018	< 0.5	**1.22**	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A
	4/23/2019	**0.52**	0.405*	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A
	6/30/2019	N/A	**0.575**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/24/2020	N/A	0.476*	N/A	**0.612**	N/A	N/A	N/A	N/A	N/A
	4/27/2021	N/A	0.311*	N/A	**0.508**	N/A	N/A	N/A	N/A	N/A
	5/24/2022	N/A	0.298*	N/A	0.475*	N/A	N/A	N/A	N/A	N/A
	3/14/2023	N/A	0.43*	0.276*	**0.584**	N/A	N/A	N/A	N/A	N/A
	6/24/2024	N/A	0.46*	< 0.5	0.476*	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride, ug/L (CAS NO - 75-01-4)	9/1/2011	**2.7**	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/1/2011	**2.8**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/20/2012	< 1	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/2012	**2**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2/28/2013	**2**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	9/3/2013	**1.8**	N/A	**3.2**	< 1	N/A	N/A	N/A	N/A	N/A
	3/26/2014	**3.3**	< 1	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	6/24/2014	N/A	N/A	**3.1**	< 1	N/A	N/A	N/A	N/A	N/A
	9/11/2014	**2**	< 1	**2.8**	< 1	N/A	N/A	N/A	N/A	N/A
	9/11/2014	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A	N/A
	4/8/2015	**4.06**	N/A	0.298*	0.189*	N/A	N/A	N/A	N/A	N/A
	9/28/2015	**1.5**	N/A	**2.74**	< 1	**1.05**	N/A	N/A	N/A	N/A
	2/10/2016	**2.63**	N/A	**3.06**	0.253*	**2.55**	N/A	N/A	N/A	N/A
	7/26/2016	**1.61**	N/A	**2.58**	0.382*	**1.99**	N/A	N/A	N/A	N/A
	2/14/2017	**2.75**	N/A	**1.29**	< 1	**1.49**	N/A	N/A	N/A	N/A
	9/19/2017	**2.24**	N/A	< 1	0.16*	0.99*	N/A	N/A	N/A	N/A
	4/11/2018	**3**	N/A	< 1	0.128*	**1.37**	N/A	N/A	N/A	N/A
	8/7/2018	< 1	N/A	< 1	< 1	**1.39**	N/A	N/A	N/A	N/A
	4/23/2019	**3.73**	N/A	< 1	< 1	< 1	N/A	N/A	N/A	N/A
	6/30/2019	0.588*	N/A	**2.05**	< 1	**1.78**	N/A	N/A	N/A	N/A
	2/24/2020	**4.01**	N/A	0.821*	< 1	< 1	N/A	N/A	N/A	N/A
	4/27/2021	0.868*	N/A	**3.9**	< 1	< 1	N/A	N/A	N/A	N/A
	5/24/2022	**1.68**	N/A	N/A	< 1	< 1	N/A	N/A	N/A	N/A
	3/14/2023	**1.4**	N/A	**1.89**	< 1	< 1	N/A	N/A	N/A	N/A
	6/24/2024	**4.19**	N/A	< 1	< 1	0.241*	N/A	N/A	N/A	N/A

Note: * indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.
Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

Appendix D
Statistical Method and Output

Statistical Method and Output

Purpose

The purpose of this document is to provide the statistical evaluation of groundwater analytical data collected from the groundwater monitoring network of the Muscatine County Sanitary Landfill (Landfill).

Statistical Method

Diagnostic and Exploratory Evaluations and Tests of Assumptions

Both the detection and assessment/corrective action monitoring statistical programs include diagnostic and exploratory evaluations and statistical tests of assumptions, as appropriate, including the following:

- Time Series Plots
- Shapiro-Wilk test for normality
- Ohio Environmental Protection Agency (EPA) Method for identification of outliers
- Mann-Kendall/Sen's Slope trend test

Management of Non-Detect Data

Non-detect values in the dataset are managed using simple substitution or the Kaplan-Meier estimator. If less than 15% of the data are non-detects, simple substitution is used, where non-detect values are assigned a concentration of one-half (½) of the practical quantification limit (PQL). If greater than 15% but less than 50% of the data are non-detects, the Kaplan-Meier estimator is used to define the distribution of the dataset. If non-detects comprise greater than 50% of the available data, non-parametric statistical methods are used.

Management of Outliers

Background datasets are evaluated for outliers using the Ohio EPA Method included in the Sanitas™ statistical software program and described below, which includes the use of Dixon's, Rosner's, and Tukey's outlier tests, as appropriate based on the diagnostic tests, for the datasets that contain less than 75% of the measured concentrations below the PQL. Outliers are not confirmed unless a physical cause or explanation for the outlier is determined.

Management of Data (ND data < 75%)

If less than 75% of the background dataset is below the PQL, outliers are statistically evaluated using the following guidelines.

- A parametric dataset with $n < 20$ is evaluated with the Dixon's outlier test.
- A parametric dataset with $n \geq 20$ is evaluated with the Rosner's outlier test.
- A non-parametric dataset is evaluated with the Tukey's outlier test.

In accordance with the Ohio EPA Method, if a statistically significant outlier is not found using the above tests, but the highest value data point exceeded the second highest data point by an order of magnitude, the highest point is considered an outlier.

Management of Data (ND data ≥ 75%)

If greater than or equal to 75% of the background dataset is less than the PQL, outliers are statistically evaluated using the following guidelines.

- Single detection ≥ the PQL:
    - If ≥ 50% of the background dataset has detections ≥ the method detection limit (MDL), any value ≥ two times the PQL of background is considered an outlier.
    - If < 50% of the background dataset has detections ≥ the MDL, any value ≥ the PQL of background is considered an outlier.
- Two or more detections ≥ the PQL:
    - If ≥ 50% of the background dataset has detections ≥ the MDL, any value ≥ three times the PQL of background is considered an outlier.
    - If < 50% of the background dataset has detections ≥ the MDL, any value ≥ two times the PQL of background is considered an outlier.

Confirmed outliers, if any, are shown in the Summary of Groundwater Chemistry included in the Annual Water Quality Report.

Detection Monitoring Statistical Program

The detection monitoring statistical program for the Landfill is defined by Iowa Administrative Code (IAC) 567-113.10(4)"g". Interwell prediction limits with retesting were selected as the appropriate statistical method for the determination of statistically significant increases (SSIs) over background for inorganic constituents with historical detections. Prediction limits are established using the process below. Data from the most recent sampling event is compared to the prediction limits for the determination of SSIs.

Interwell Prediction Limits with Retesting

- If the dataset has a normal distribution (or can be transformed to a normal distribution using Ladder of Powers), parametric interwell prediction limits are calculated if at least five datasets have been collected from the background monitoring point(s).
- If the dataset does not have a normal distribution (and cannot be transformed to a normal distribution using Ladder of Powers) or has greater than 50% non-detects, nonparametric interwell prediction limits are calculated if at least five datasets have been collected from the background monitoring point(s).
- If an SSI above the prediction limit is indicated, retesting samples using the 1-of-2 retesting scheme are collected prior to the next regularly scheduled sampling event with temporal sample spacing consideration to provide samples with greater independence. If the retesting results are above the prediction limit, the SSI is confirmed, and the monitoring point should be placed into the assessment monitoring program. If any retesting sample concentration is below the prediction limit, the SSI is not confirmed, and the monitoring point continues in the detection monitoring program.

Double Quantification Method

The quasi-statistical "double quantification" method is used for constituents not detected in the background monitoring points. If a constituent is detected in the compliance dataset that has not been historically detected in the background dataset, that constituent must be retested before the next regularly scheduled sampling event. If the retesting results confirm the original detection with a quantifiable detection, the SSI is confirmed, and the monitoring point must be placed into the assessment monitoring program.

Assessment/Corrective Action Monitoring Statistical Program

Confidence intervals or confidence bands, as appropriate, were selected as the appropriate statistical methods for comparison of the groundwater analytical data against a fixed groundwater protection standard (GWPS). The assessment/corrective action monitoring statistical evaluations are

performed using the most recent eight samples or all samples if less than eight samples are available. The confidence intervals or confidence bands used for the assessment/corrective action monitoring statistical evaluation are established using the process below. Transformation of the distribution is not considered.

Confidence Intervals or Confidence Bands

- A parametric confidence interval around a normal mean is calculated if the dataset has a normal distribution and no statistically significant trend is present.
- A non-parametric confidence interval around a median is calculated if the dataset does not have a normal distribution and no statistically significant trend is present.
- Non-parametric confidence bands around a Theil-Sen trend line are calculated if the dataset has a statistically significant trend.

In the event that the lower confidence limit or any part of the lower confidence band, as appropriate, exceeds the GWPS, then the monitoring point is declared out of compliance, and an assessment of corrective measures (ACM) is required. An ACM was submitted to the DNR on March 31, 2021 (Doc #100106) and approved on September 21, 2023 (Doc #107733).

Statistical Software Output

Sanitas™ statistical software is used to perform the statistical evaluations. The statistical output for the 1st and 2nd 2024 statistical evaluations are included in Attachments A and B of this appendix, respectively.

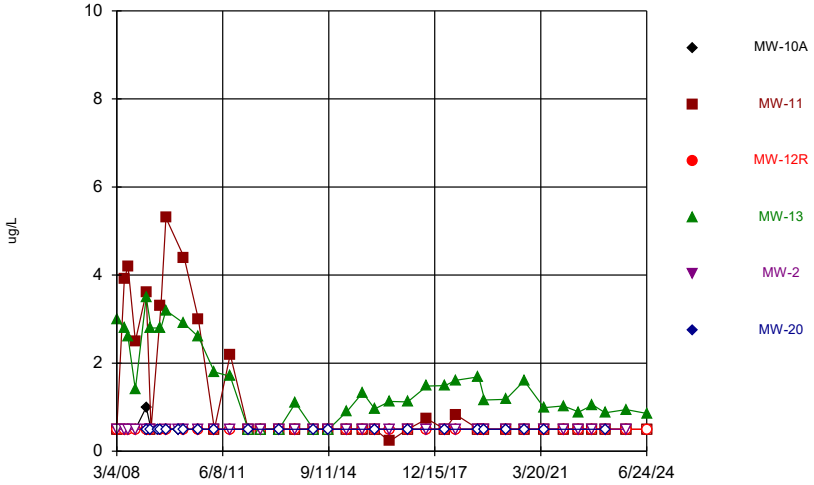
Attachment A

1st 2024 Semi-Annual Statistical Output

Time Series Plots

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

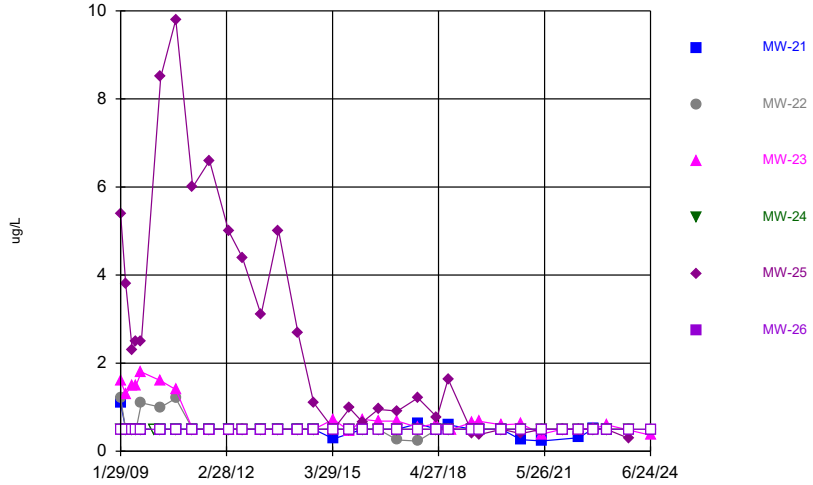
Time Series



Constituent: 1,1-Dichloroethane Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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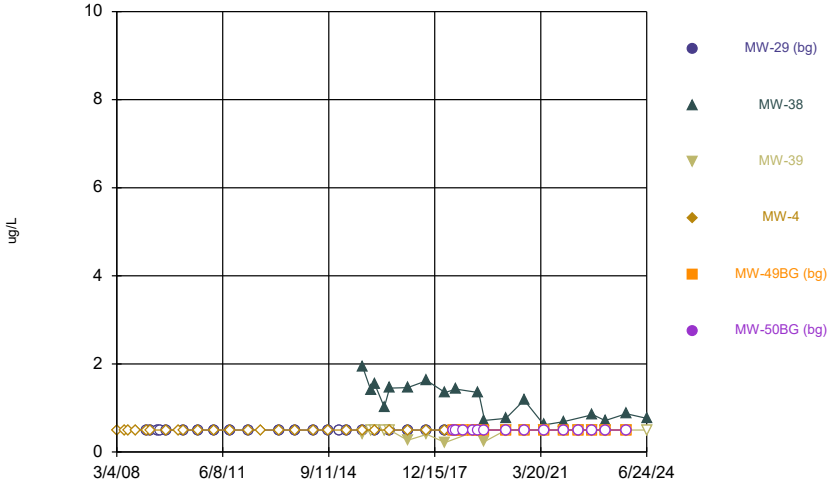
Time Series



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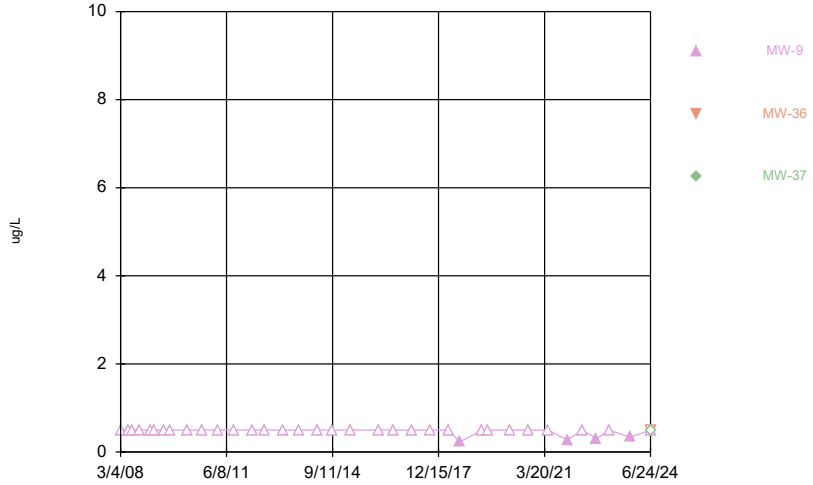
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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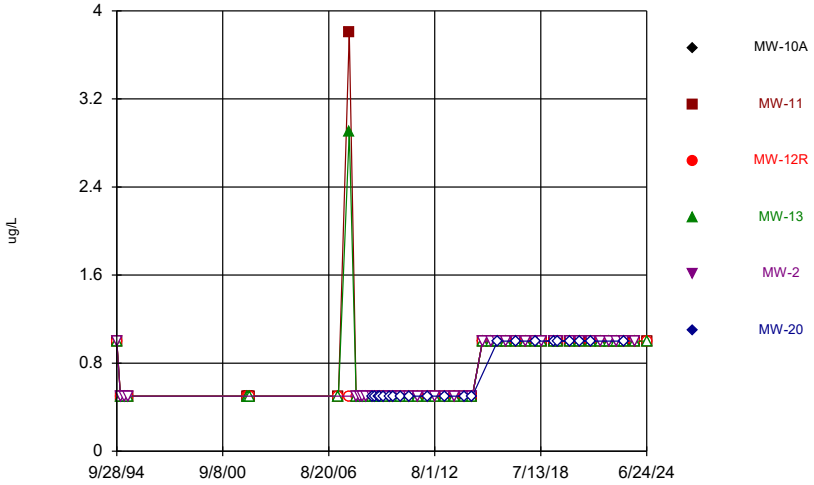
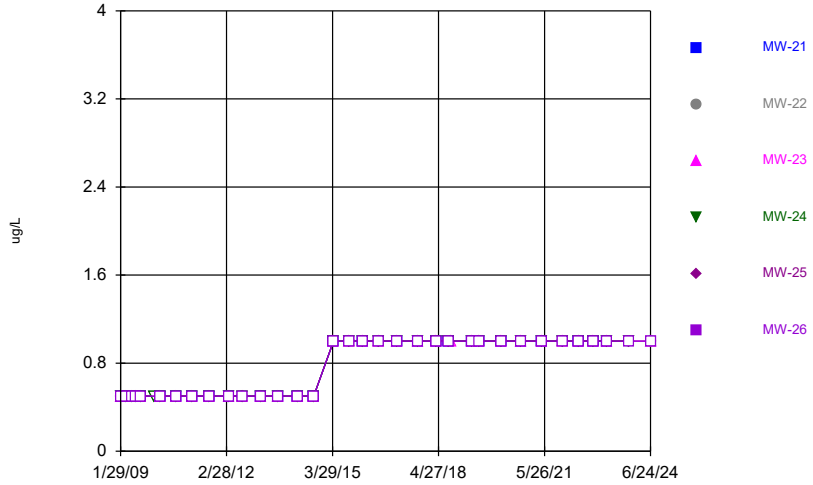
Time Series



Constituent: 1,1-Dichloroethene Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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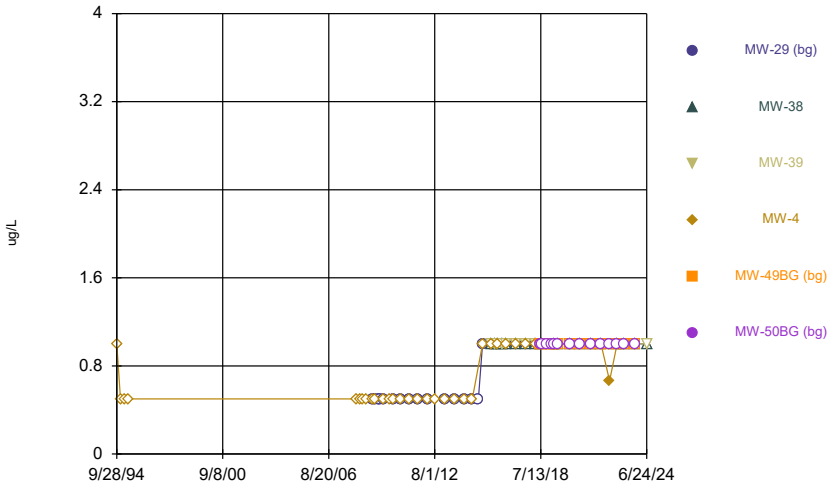
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

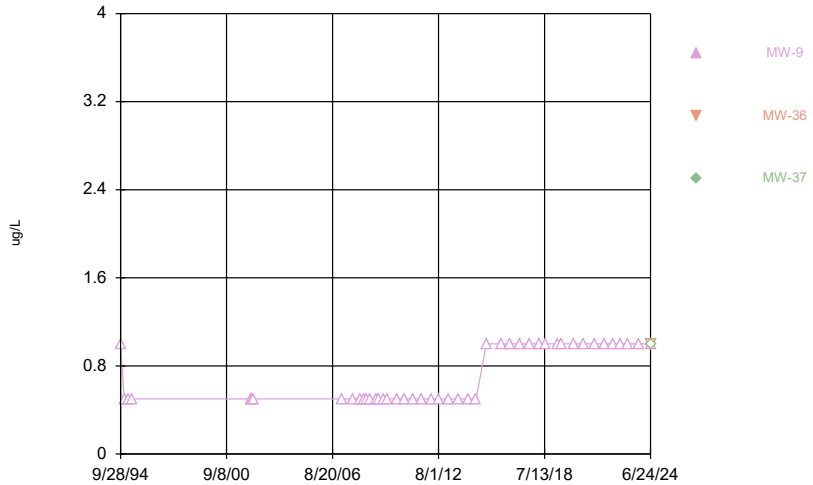
Time Series



Constituent: 1,1-Dichloroethene Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

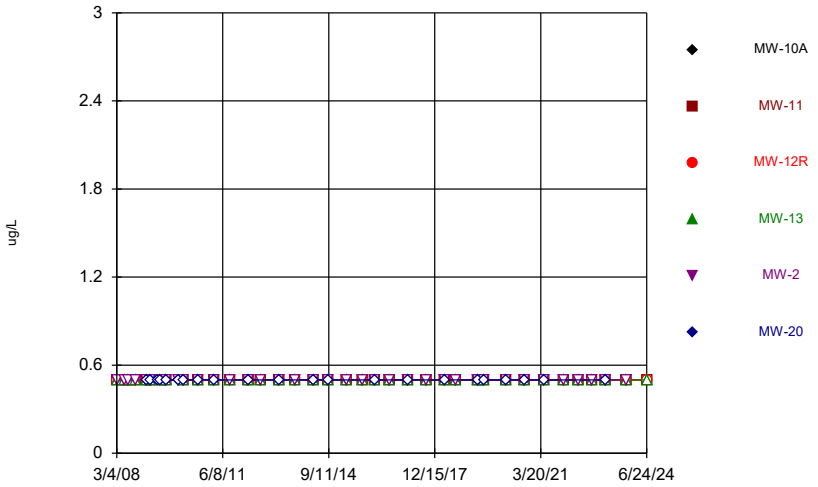
Time Series



Constituent: 1,1-Dichloroethene Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

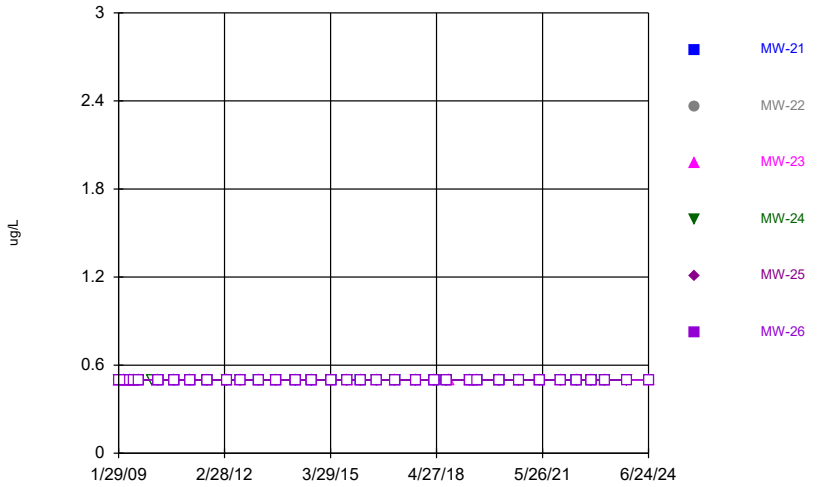
Time Series



Constituent: 1,2-Dichlorobenzene Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

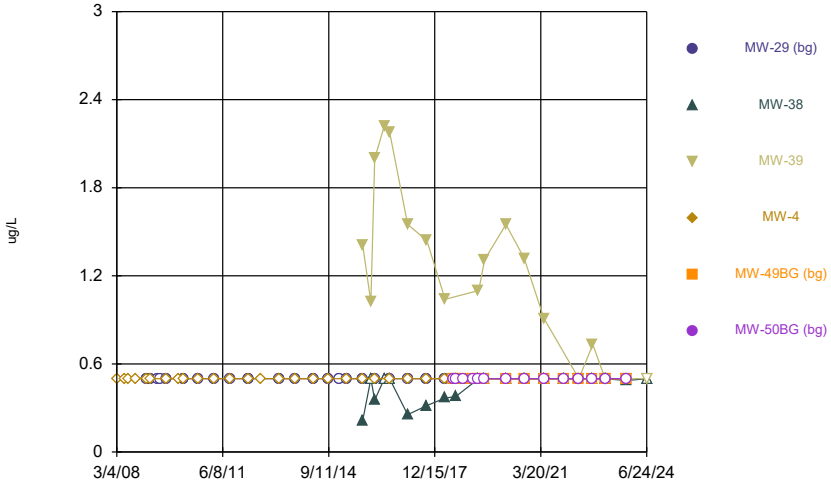
Time Series



Constituent: 1,2-Dichlorobenzene Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

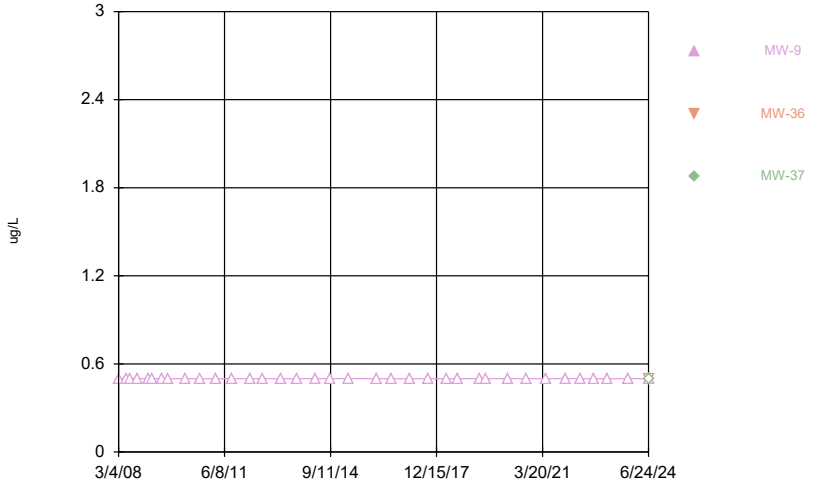
Time Series



Constituent: 1,2-Dichlorobenzene Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

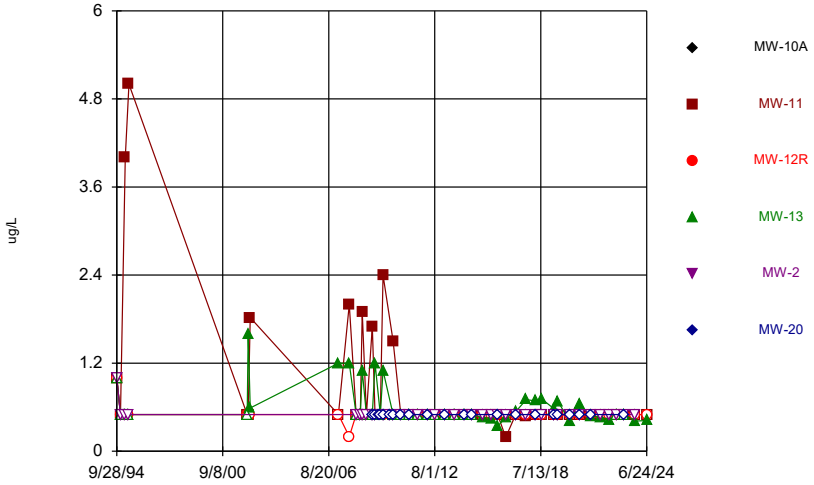
Time Series



Constituent: 1,2-Dichlorobenzene Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

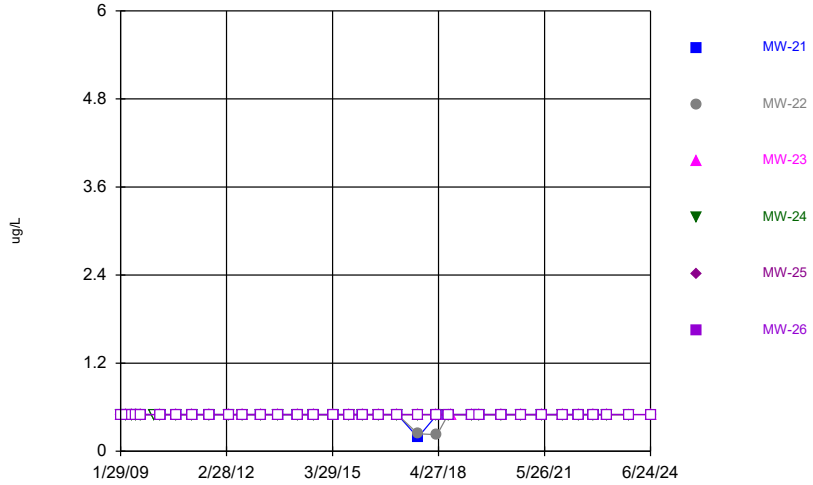
Time Series



Constituent: 1,2-Dichloroethane Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

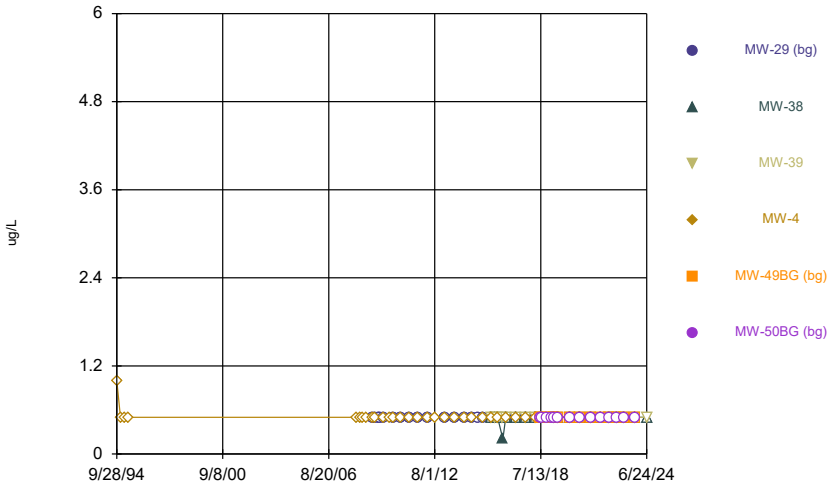
Time Series



Constituent: 1,2-Dichloroethane Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

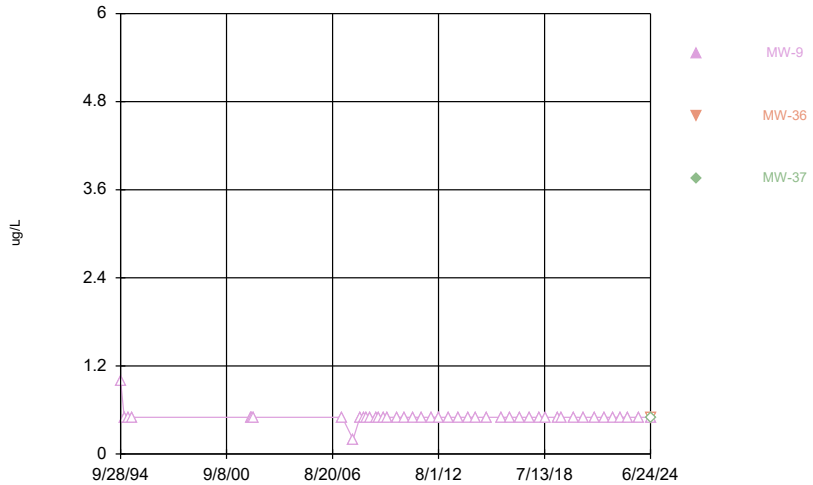
Time Series



Constituent: 1,2-Dichloroethane Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

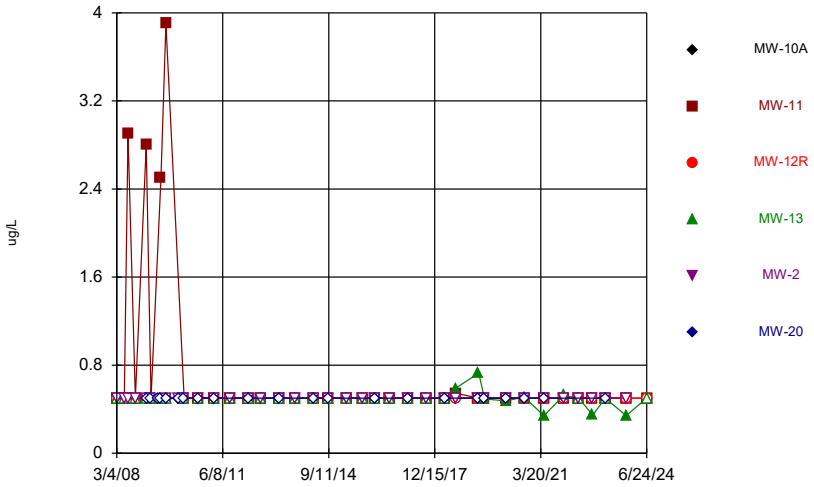
Time Series



Constituent: 1,2-Dichloroethane Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

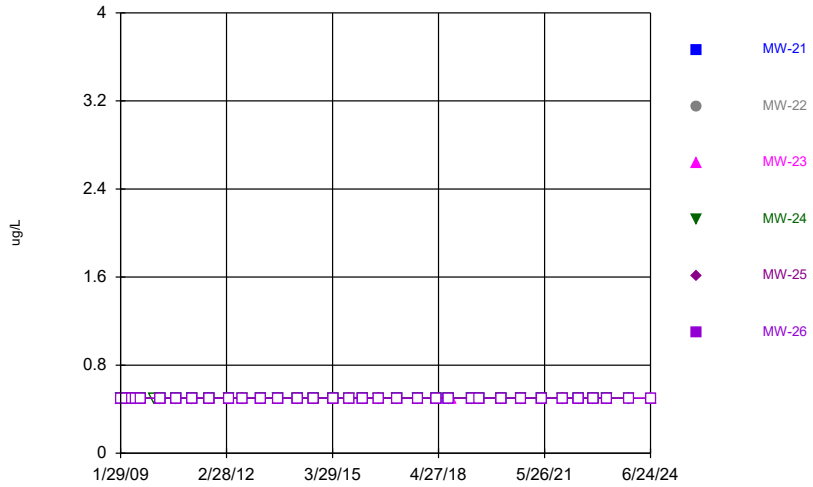
Time Series



Constituent: 1,2-Dichloropropane Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

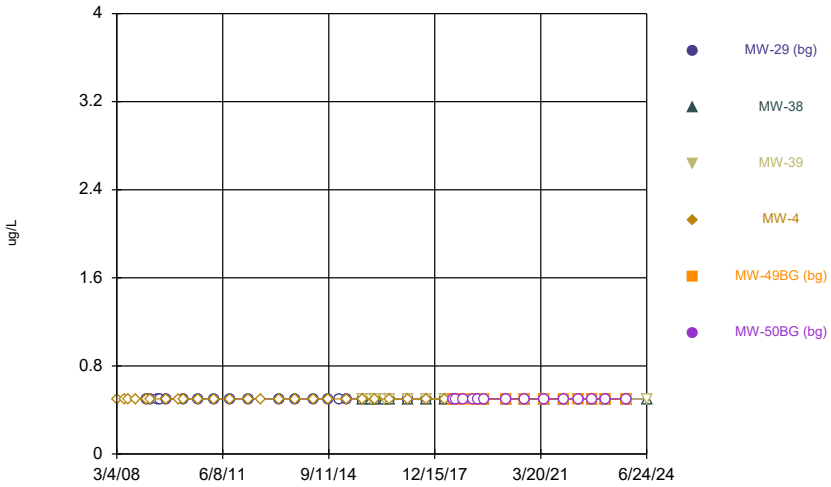
Time Series



Constituent: 1,2-Dichloropropane Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

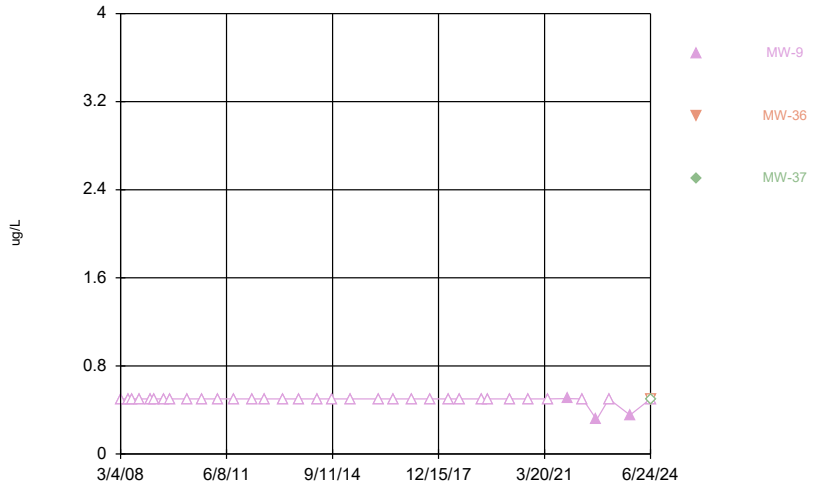
Time Series



Constituent: 1,2-Dichloropropane Analysis Run 10/30/2024 2:23 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

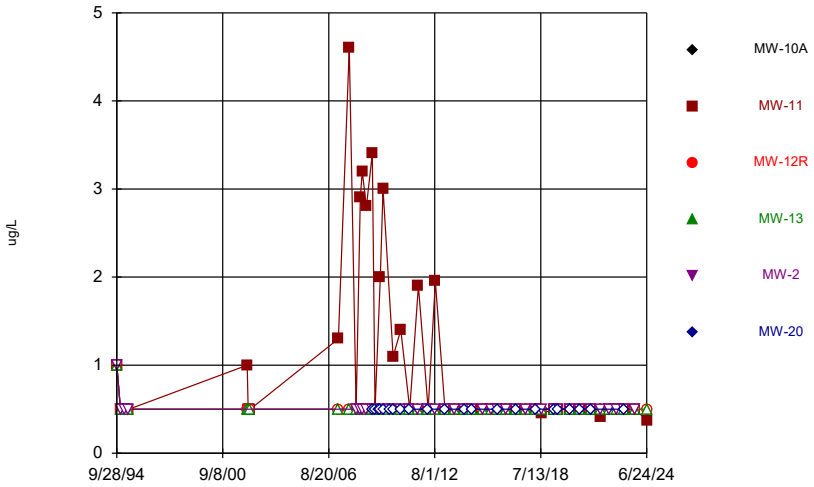
Time Series



Constituent: 1,2-Dichloropropane Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

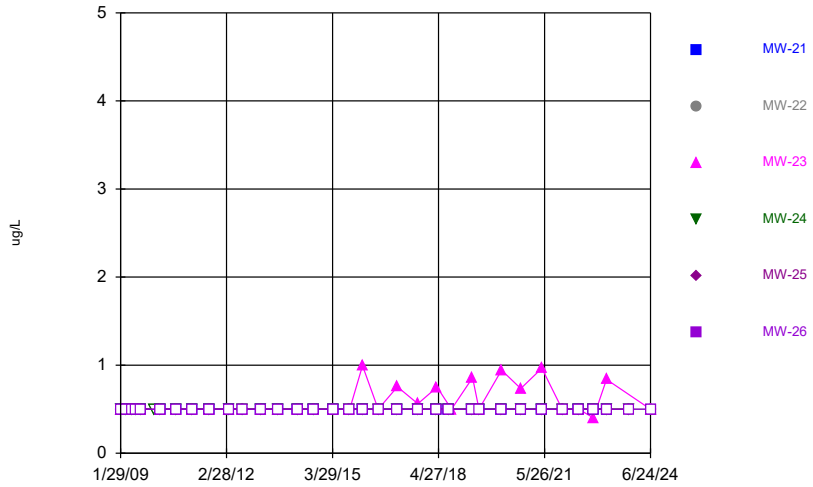
Time Series



Constituent: 1,4-Dichlorobenzene Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

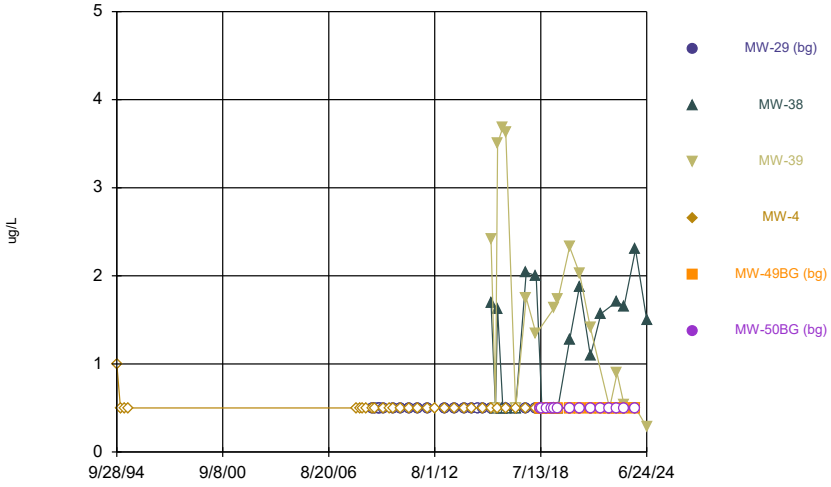
Time Series



Constituent: 1,4-Dichlorobenzene Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

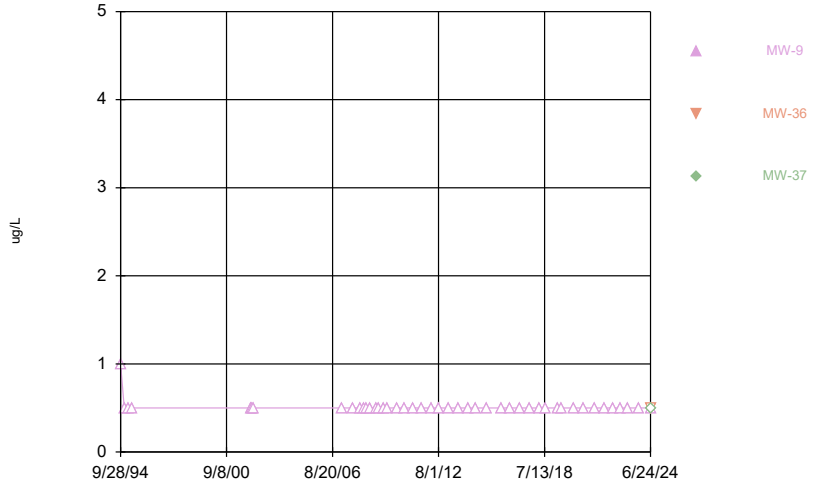
Time Series



Constituent: 1,4-Dichlorobenzene Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

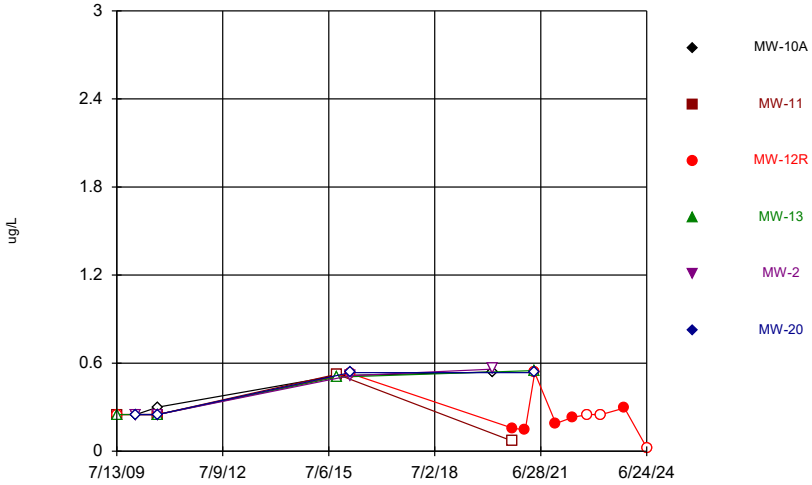
Time Series



Constituent: 1,4-Dichlorobenzene Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

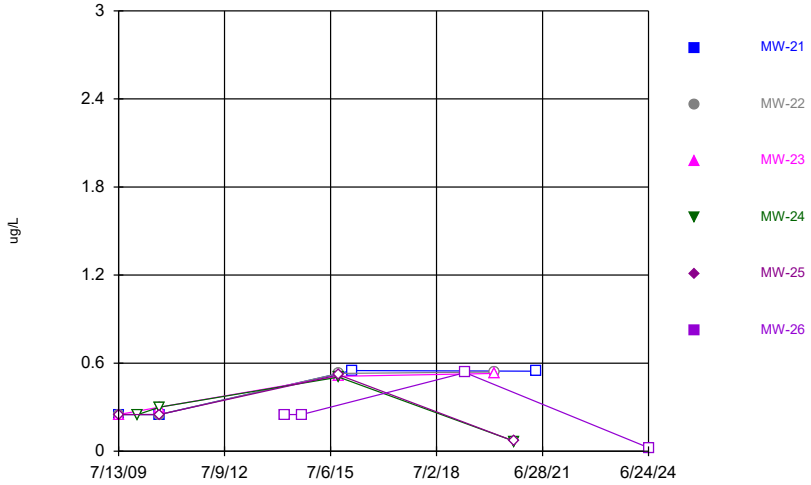
Time Series



Constituent: 2,4,5-TP [Silvex] [2C] Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

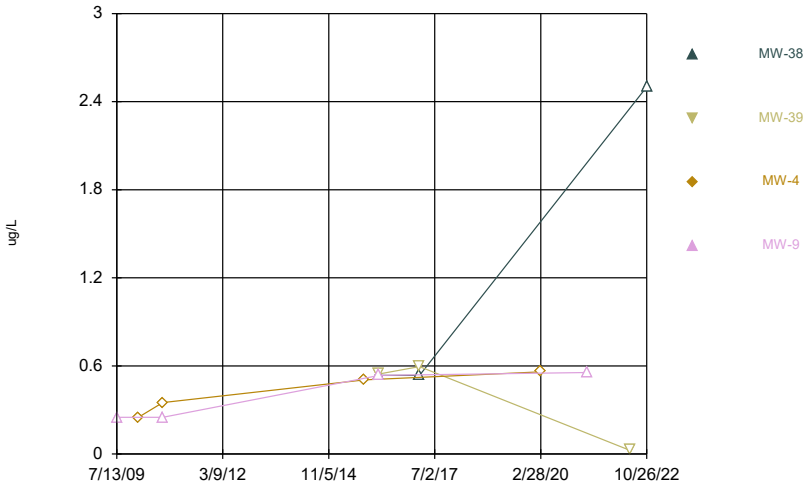
Time Series



Constituent: 2,4,5-TP [Silvex] [2C] Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

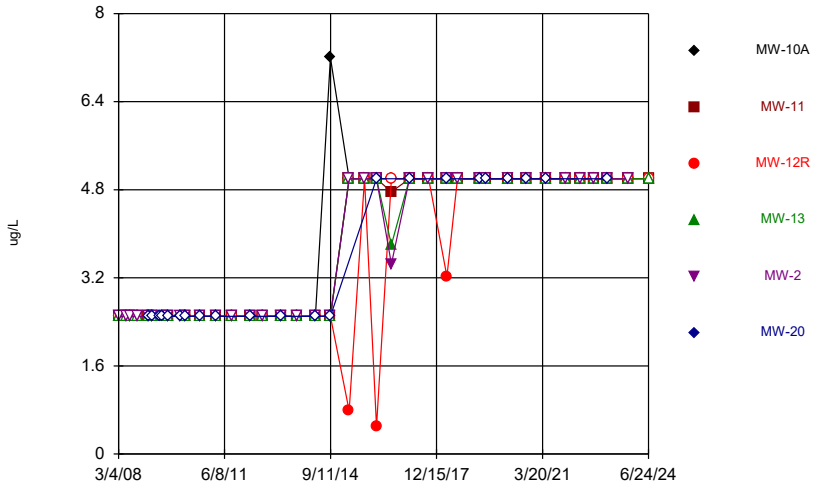
Time Series



Constituent: 2,4,5-TP [Silvex] [2C] Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

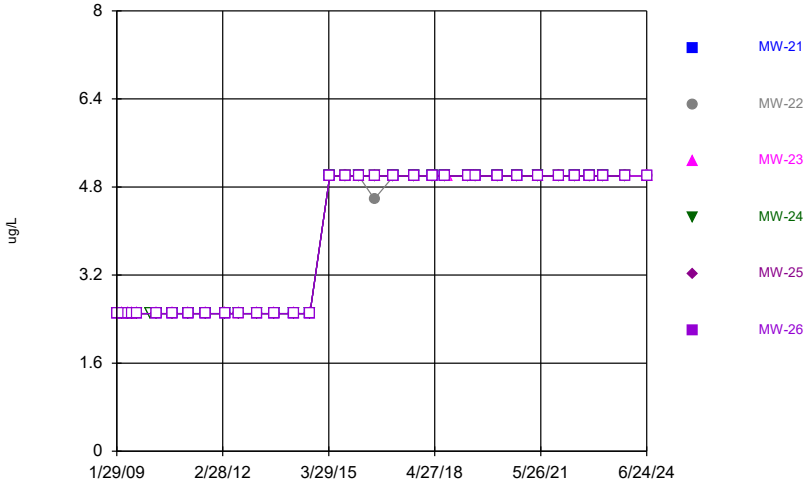
Time Series



Constituent: 2-Butanone Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

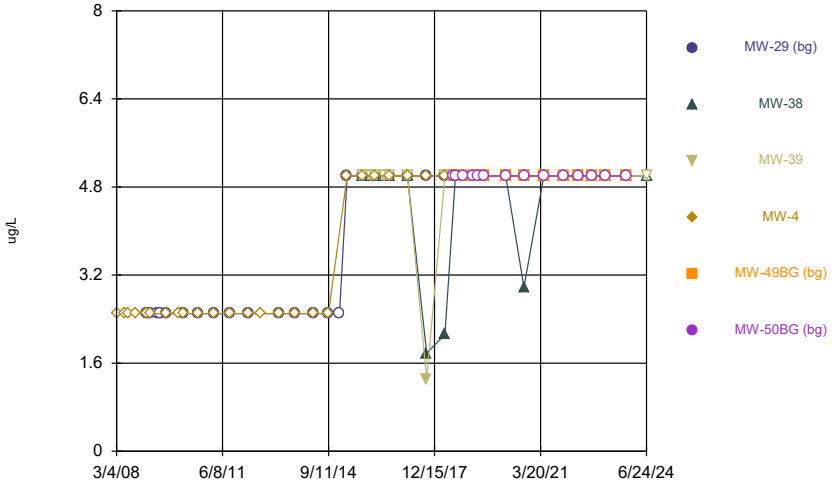
Time Series



Constituent: 2-Butanone Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

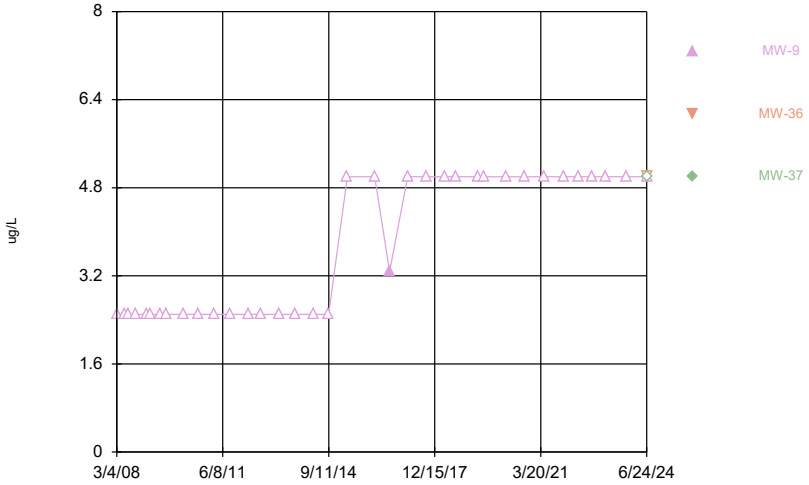
Time Series



Constituent: 2-Butanone Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

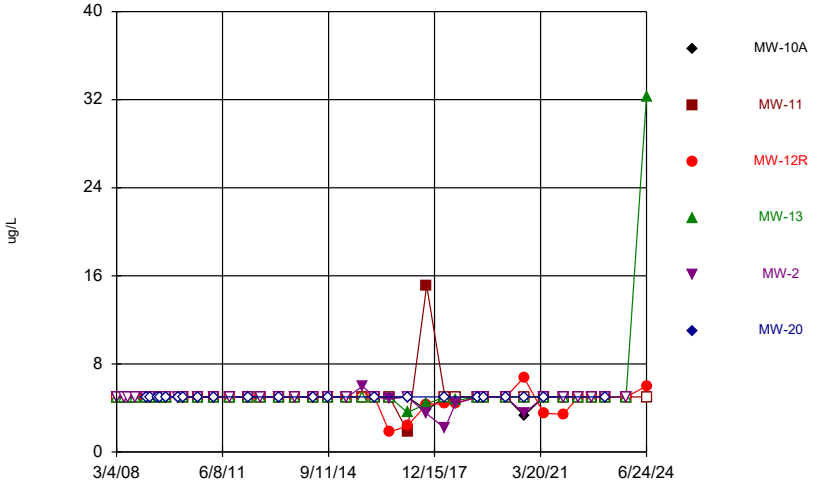
Time Series



Constituent: 2-Butanone Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

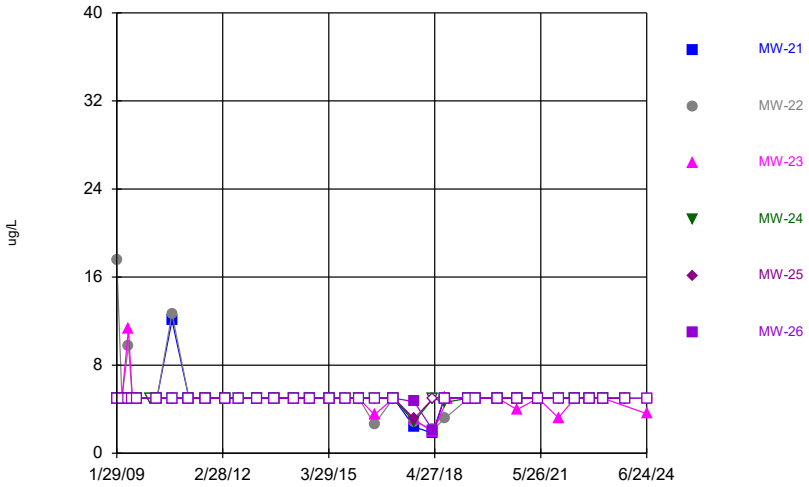
Time Series



Constituent: Acetone Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

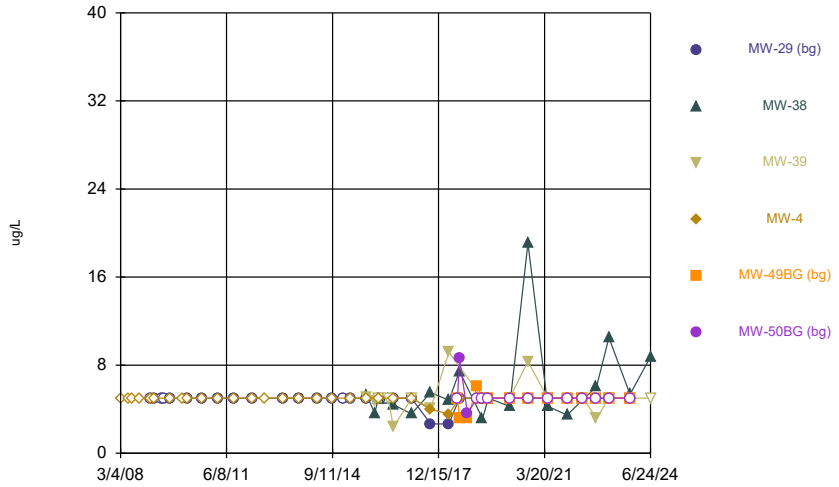
Time Series



Constituent: Acetone Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

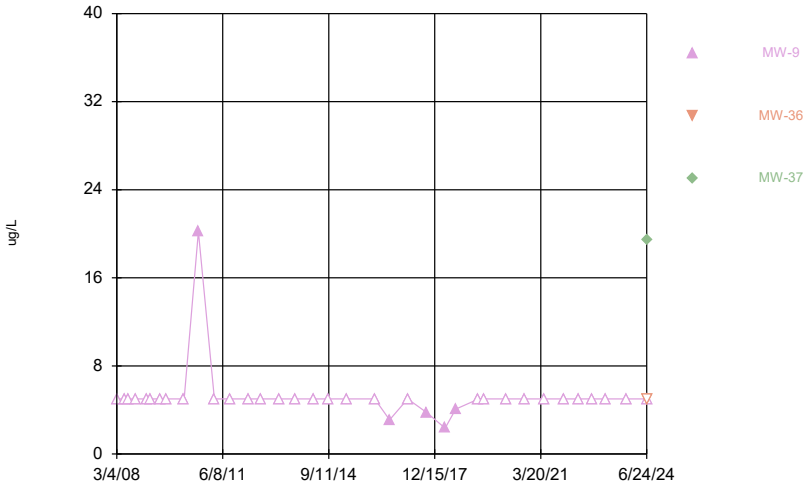
Time Series



Constituent: Acetone Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

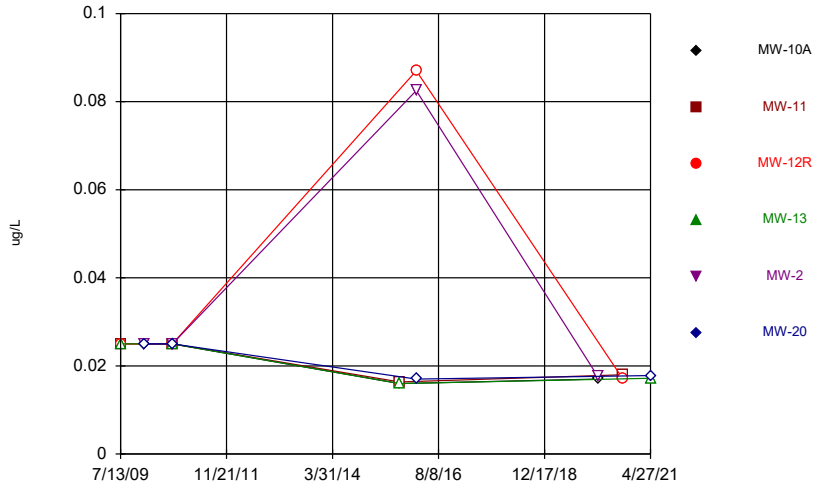
Time Series



Constituent: Acetone Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Aldrin Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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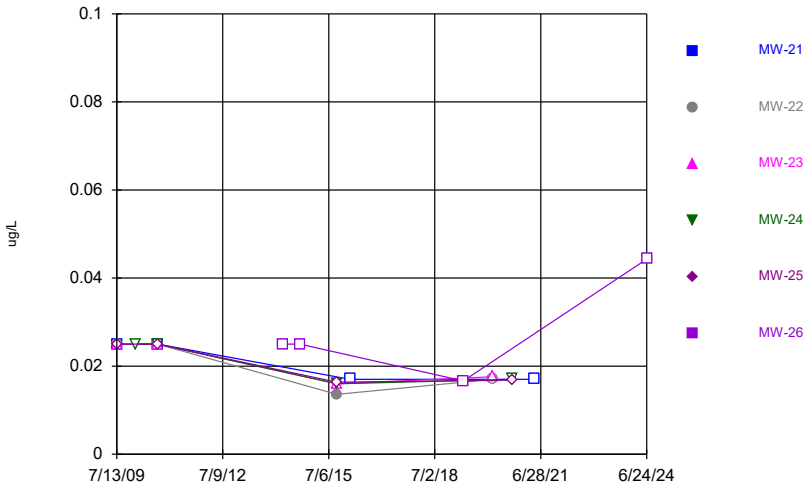
Hollow symbols indicate censored values.

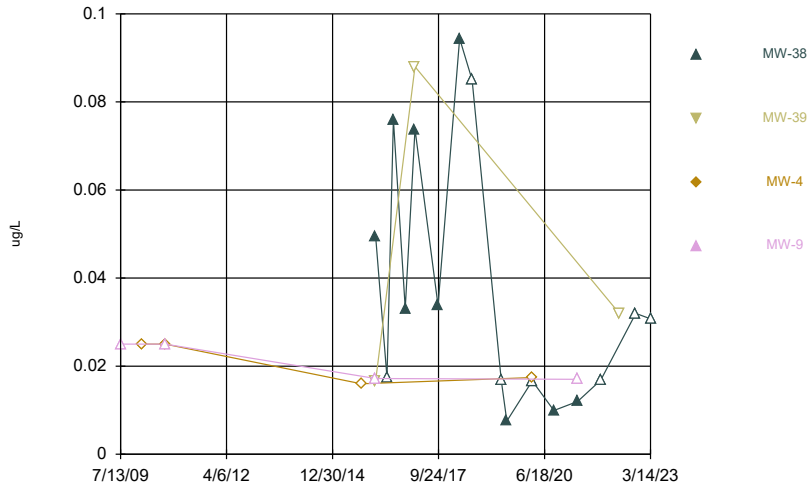
Time Series



Constituent: Aldrin Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

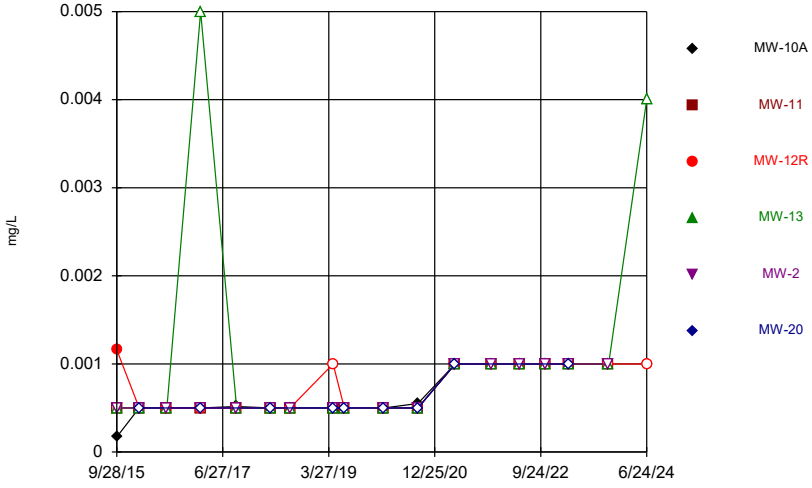
Time Series



Constituent: Aldrin Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

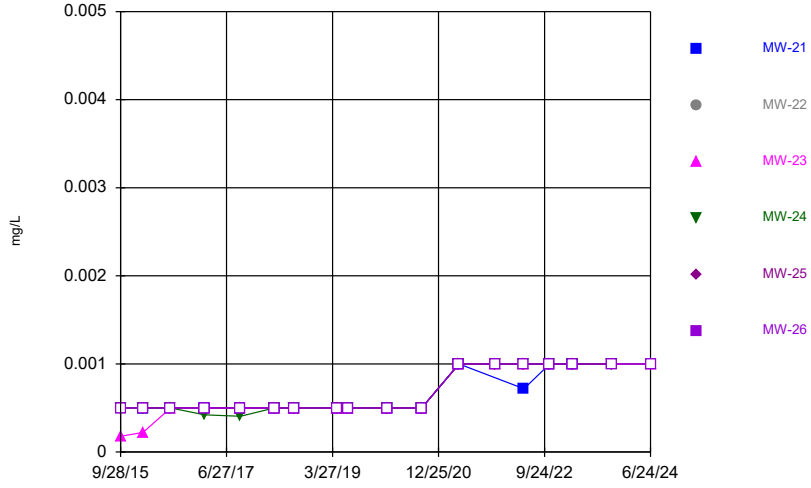
Time Series



Constituent: Antimony Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

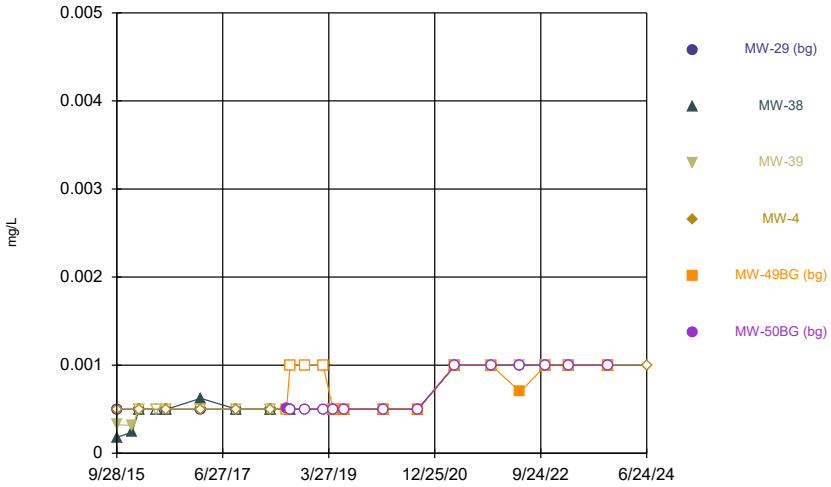
Time Series



Constituent: Antimony Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

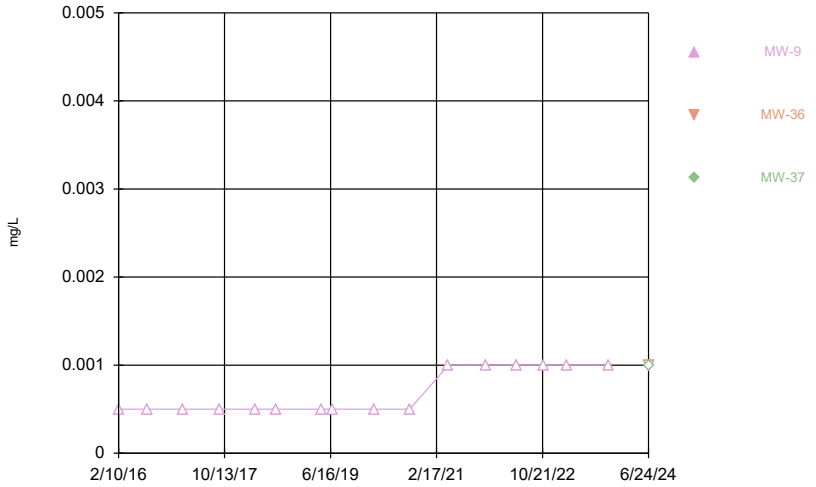
Time Series



Constituent: Antimony Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

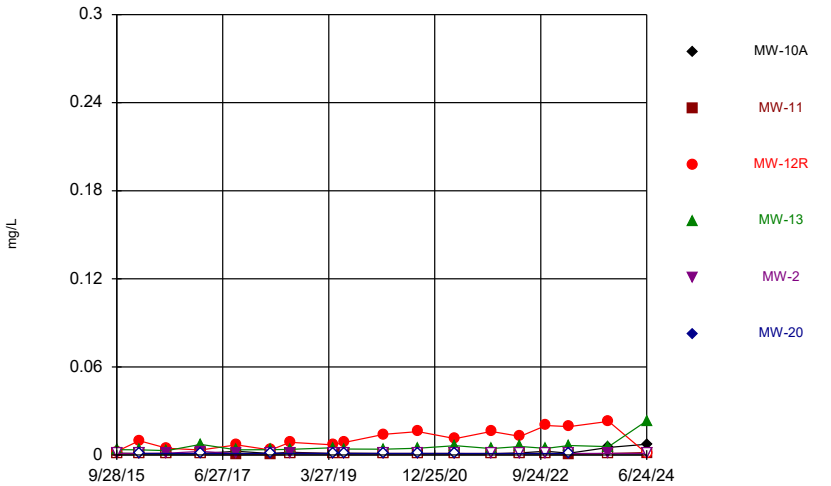
Time Series



Constituent: Antimony Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

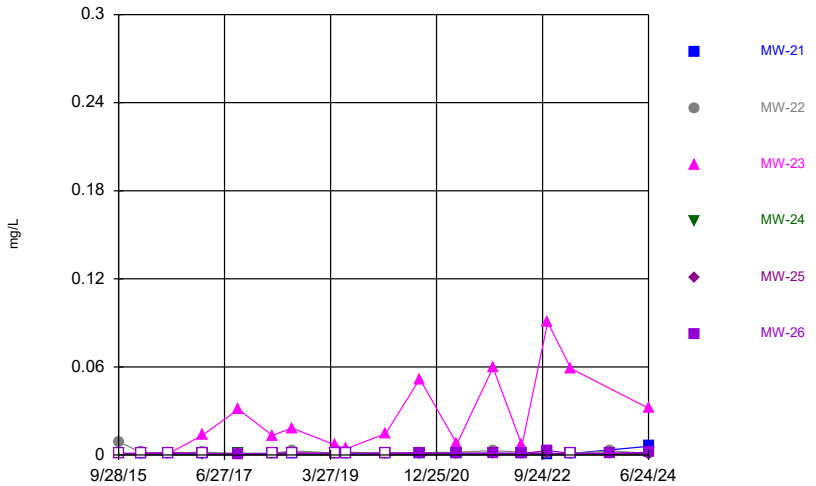
Time Series



Constituent: Arsenic Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

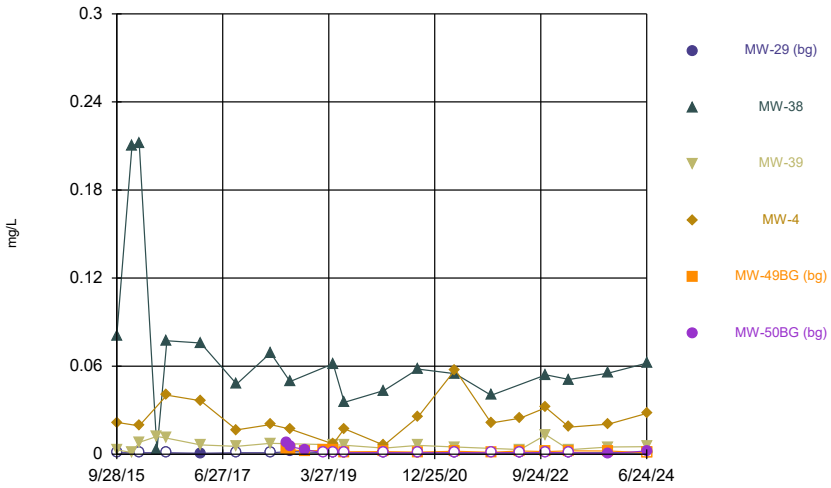
Time Series



Constituent: Arsenic Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

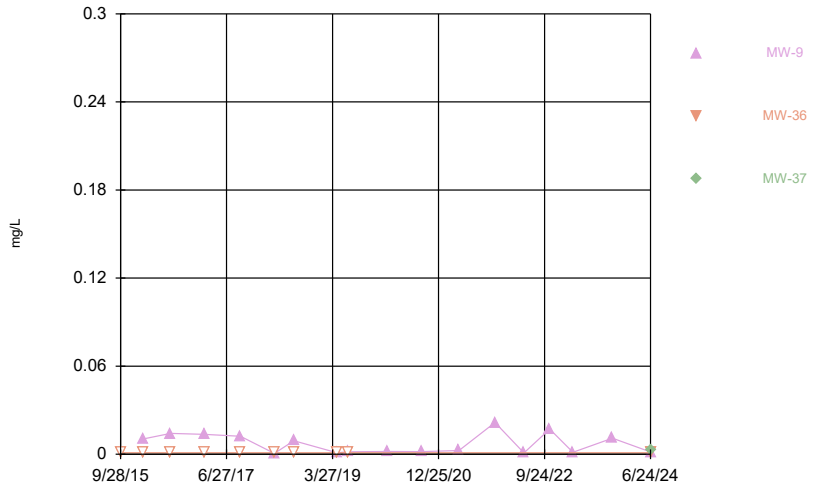
Time Series



Constituent: Arsenic Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

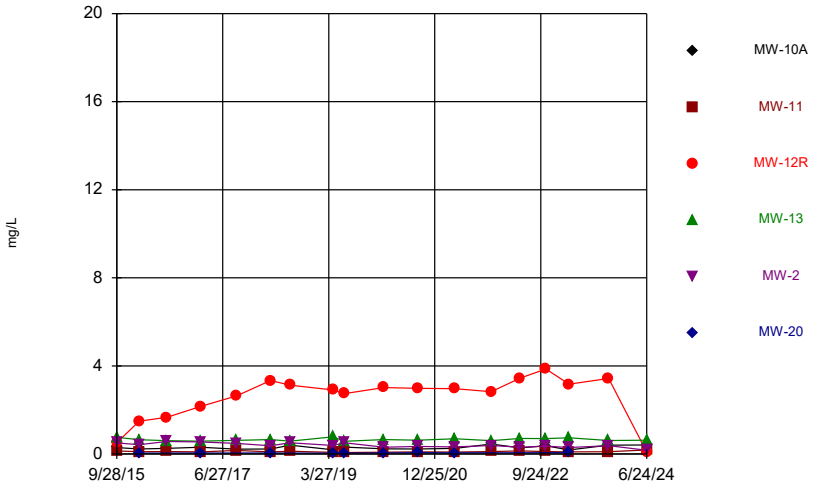
Time Series



Constituent: Arsenic Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

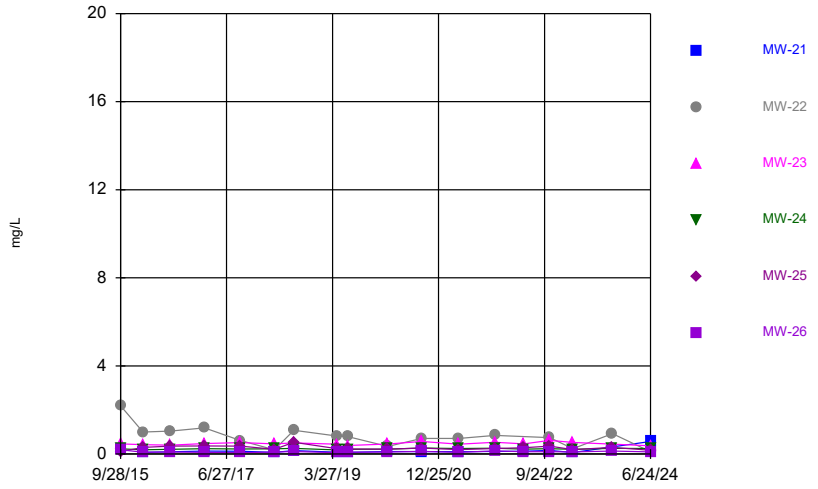
Time Series



Constituent: Barium Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

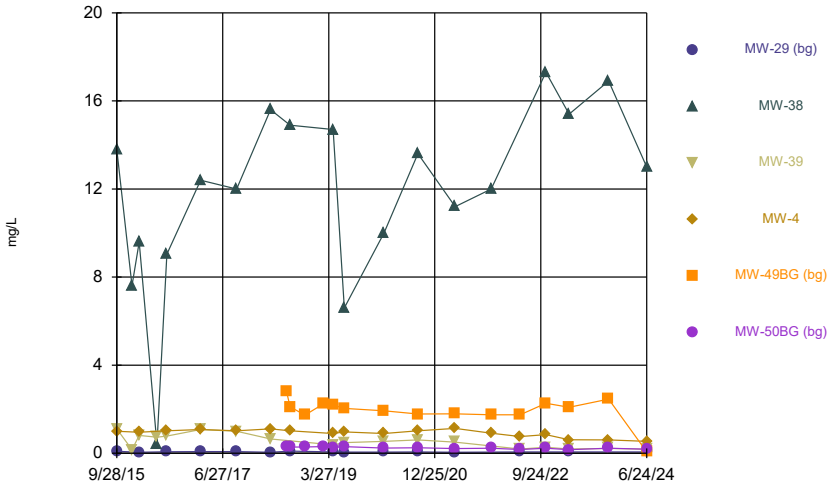
Time Series



Constituent: Barium Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Time Series



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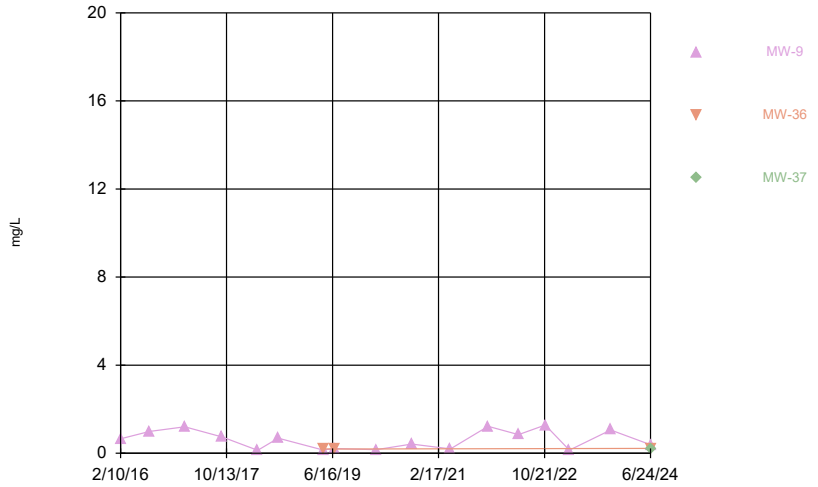
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

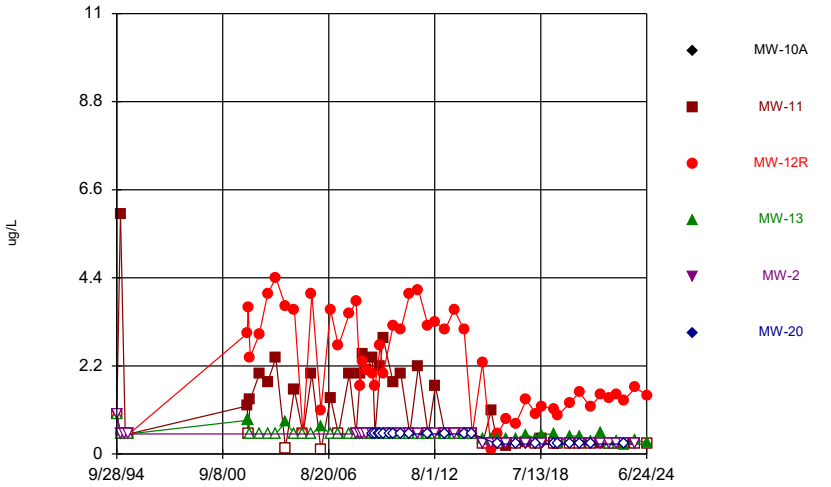
Time Series



Constituent: Barium Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

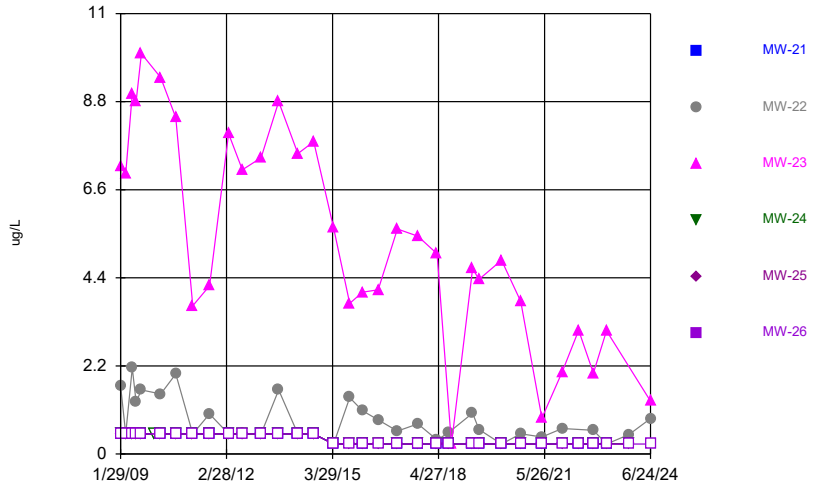
Time Series



Constituent: Benzene Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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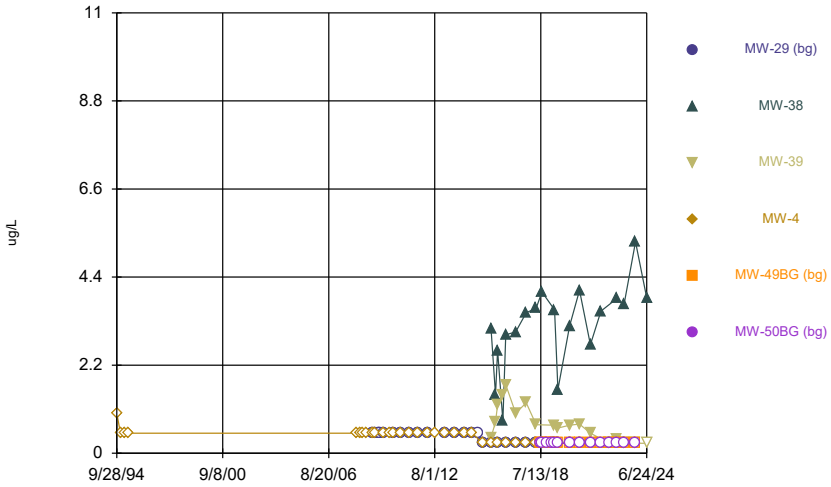
Time Series



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Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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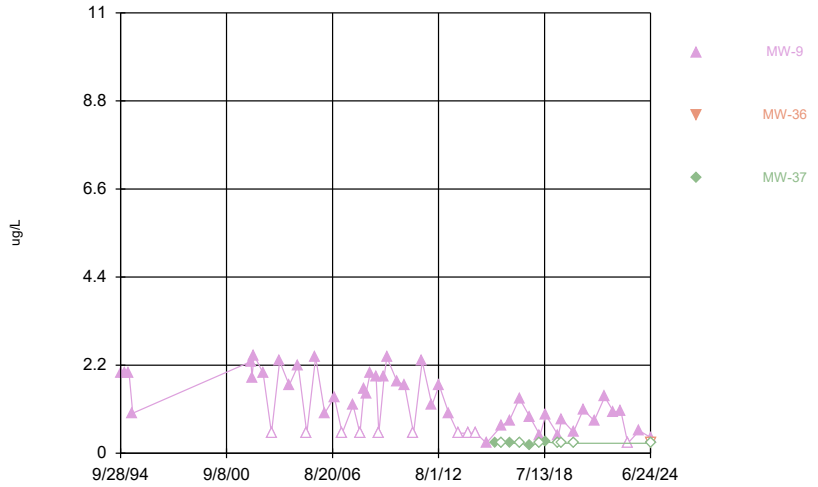
Time Series



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Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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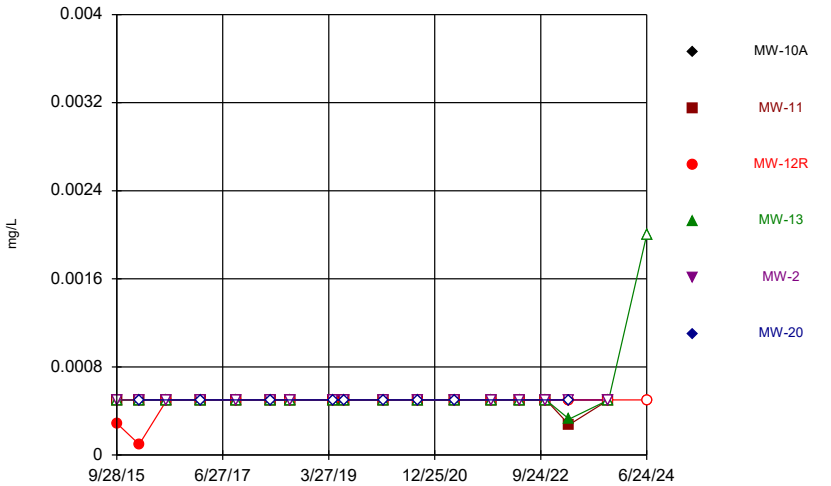
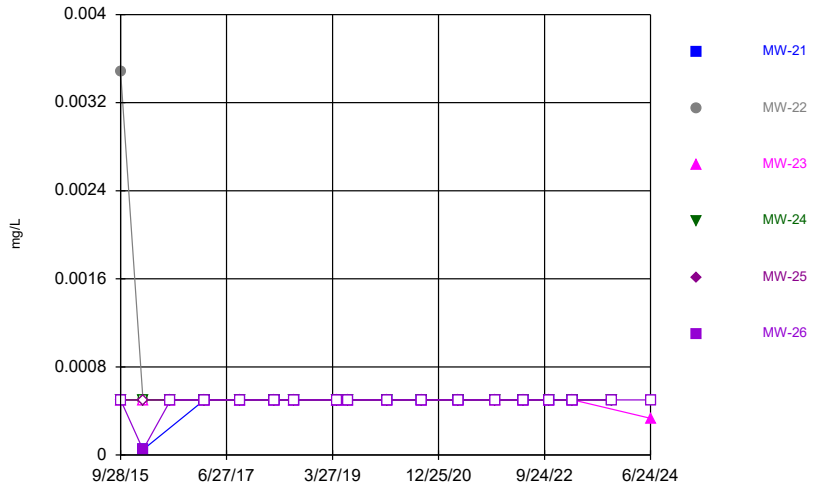


Constituent: Beryllium Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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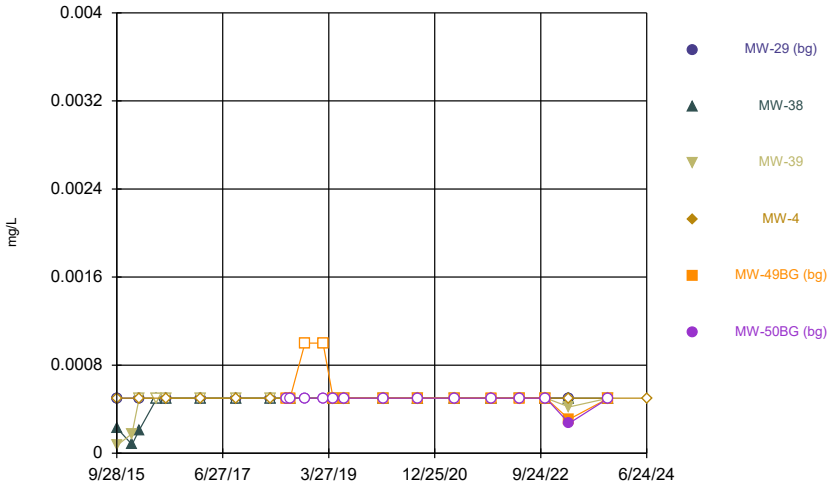
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Beryllium Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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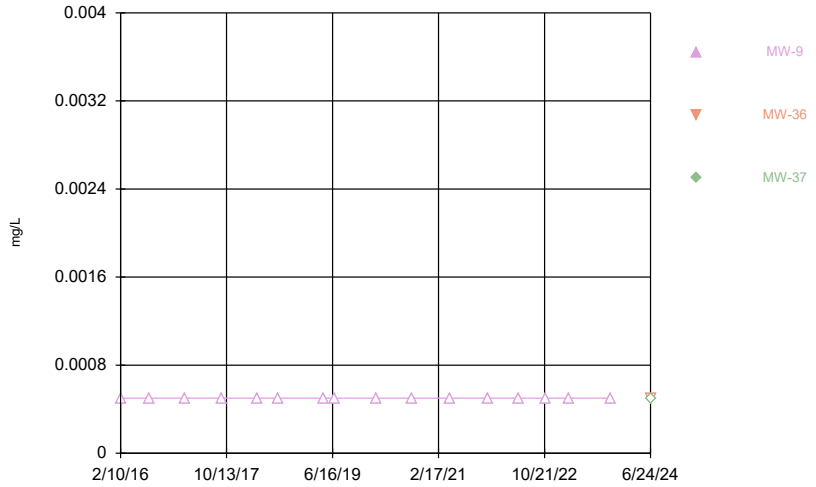

Constituent: Beryllium Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
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Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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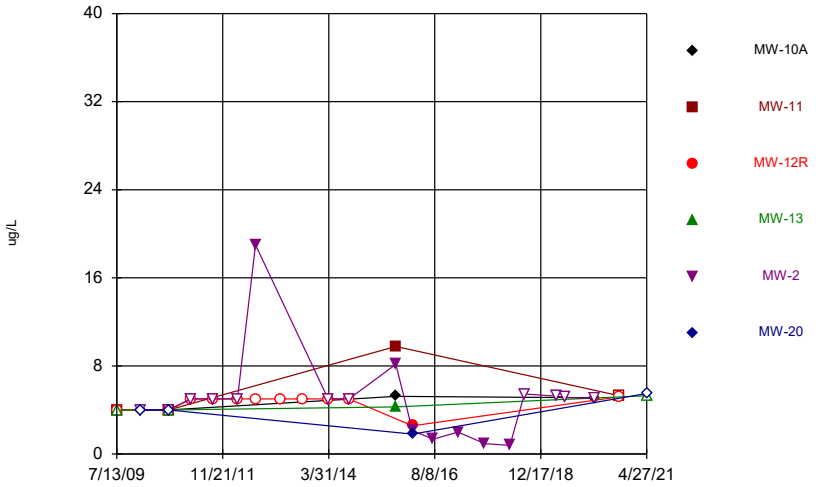
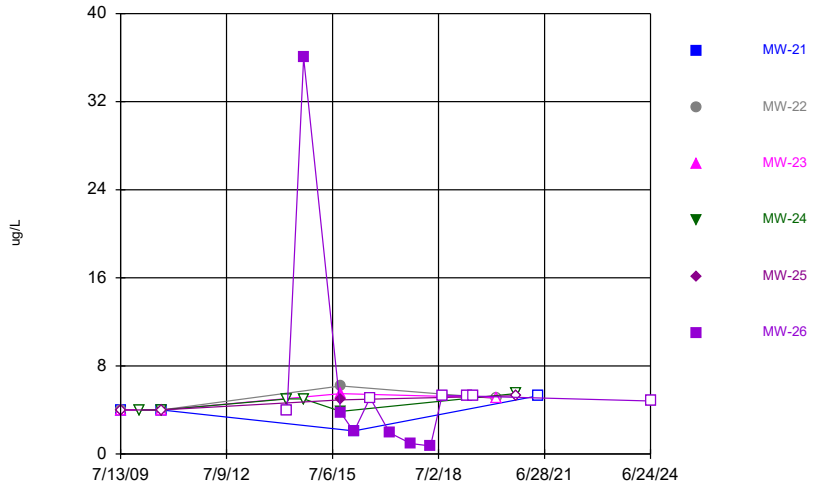


Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

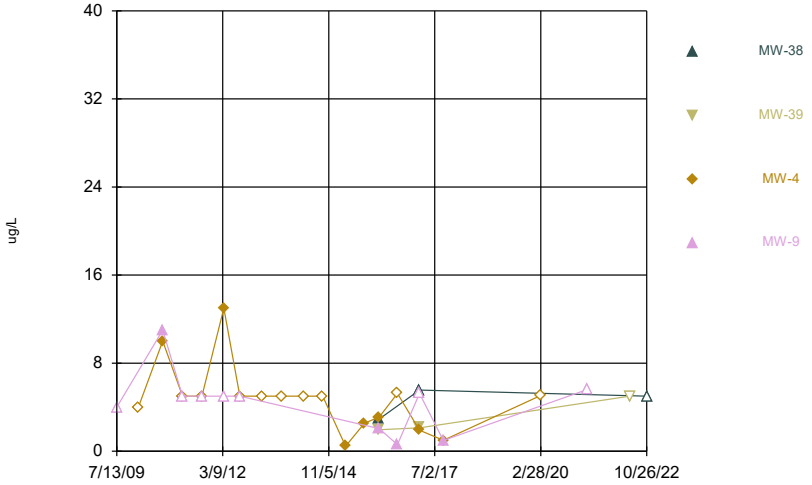
Time Series



Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

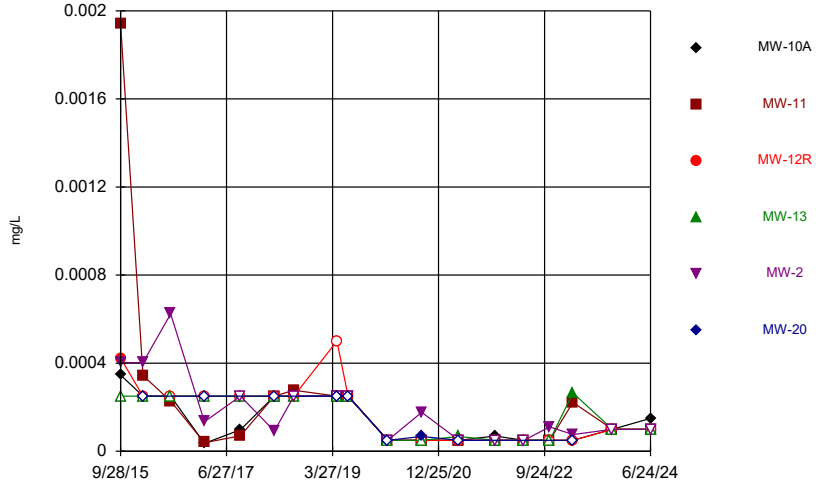
Time Series



Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

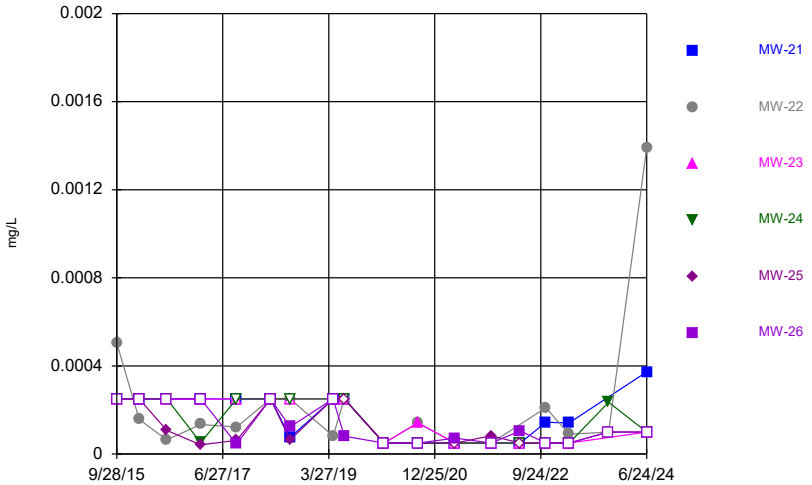
Time Series



Constituent: Cadmium Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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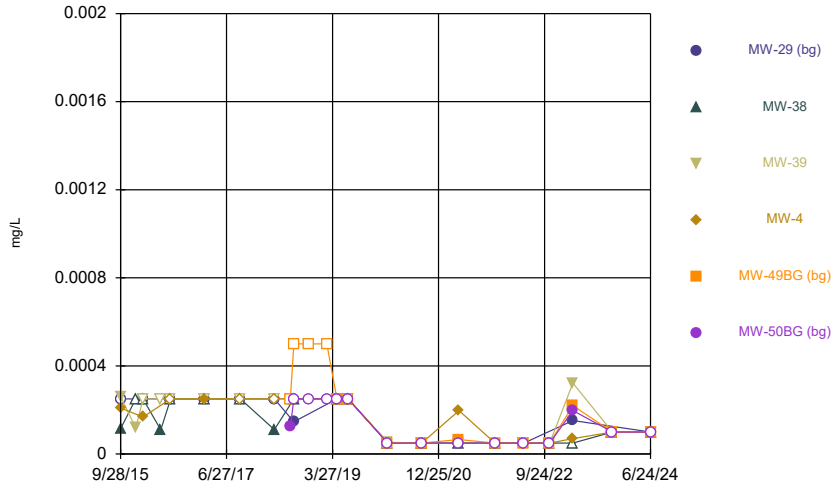
Time Series



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Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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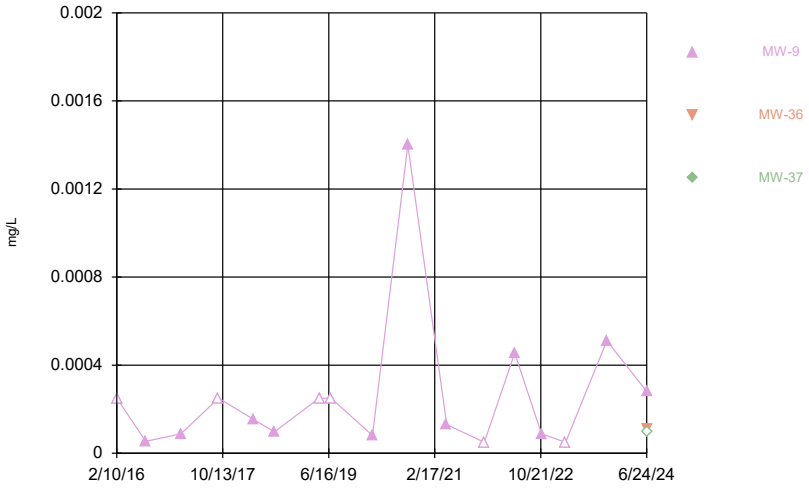
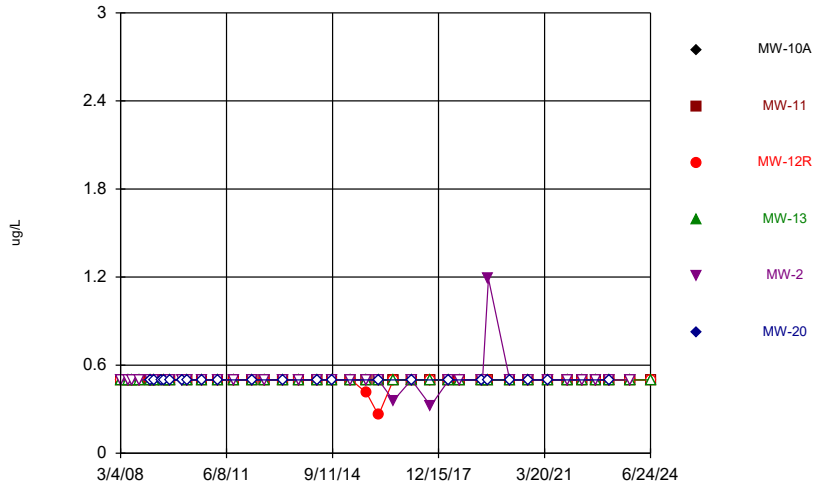


Constituent: Cadmium Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

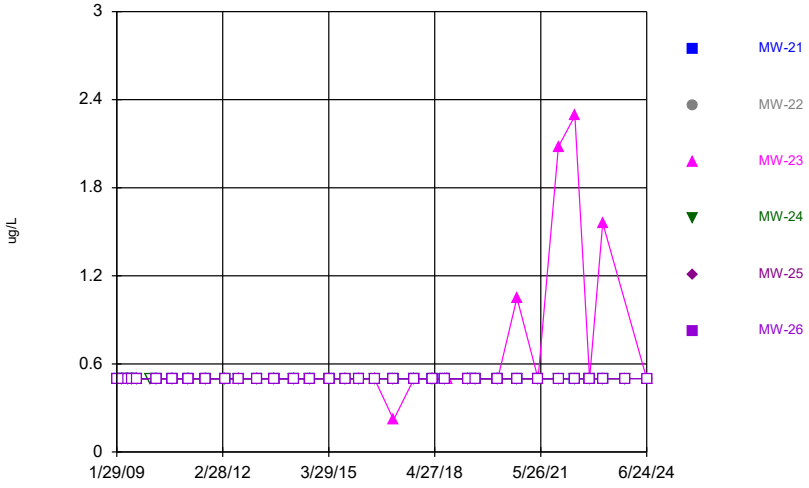
Time Series



Constituent: Carbon Disulfide Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

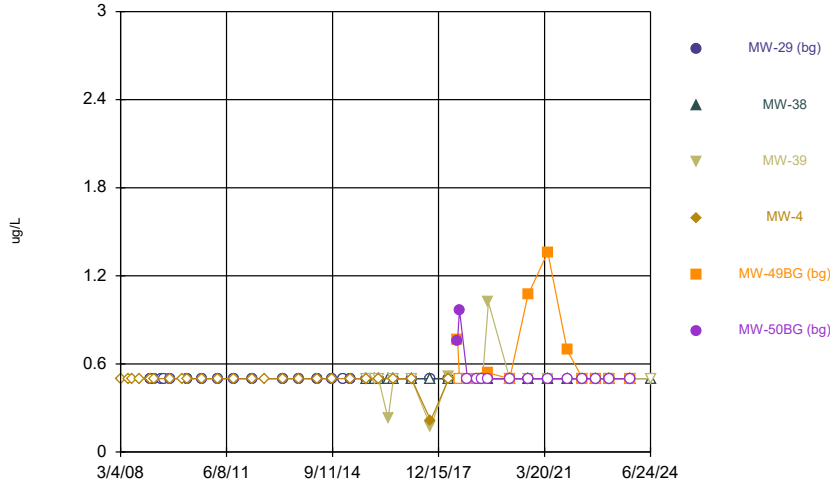
Time Series



Constituent: Carbon Disulfide Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Carbon Disulfide Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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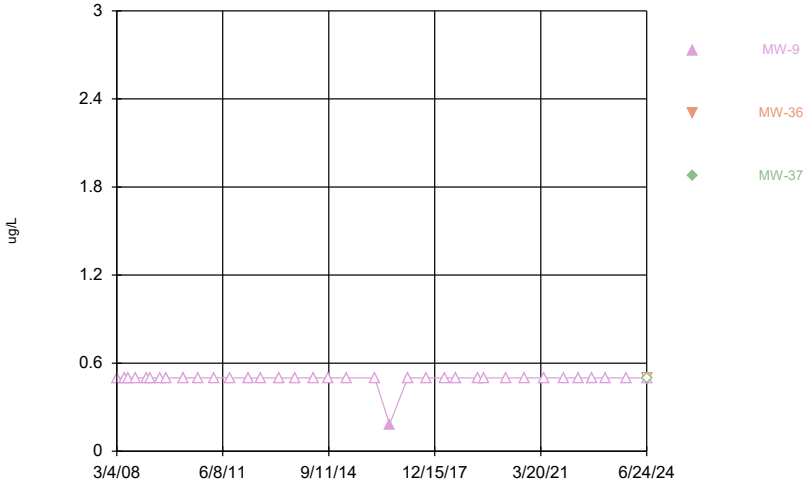

Constituent: Carbon Disulfide Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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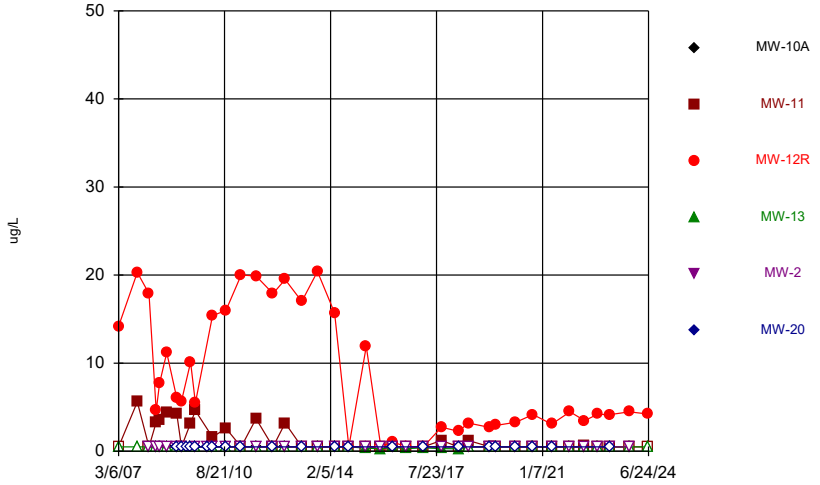
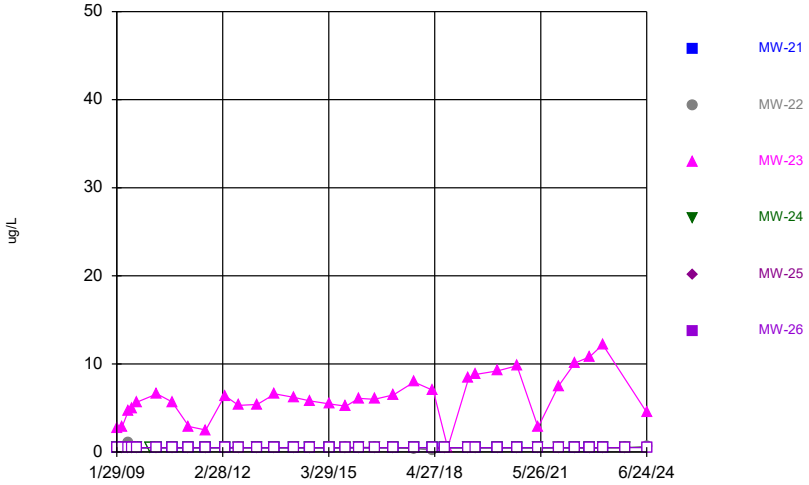


Constituent: Chlorobenzene Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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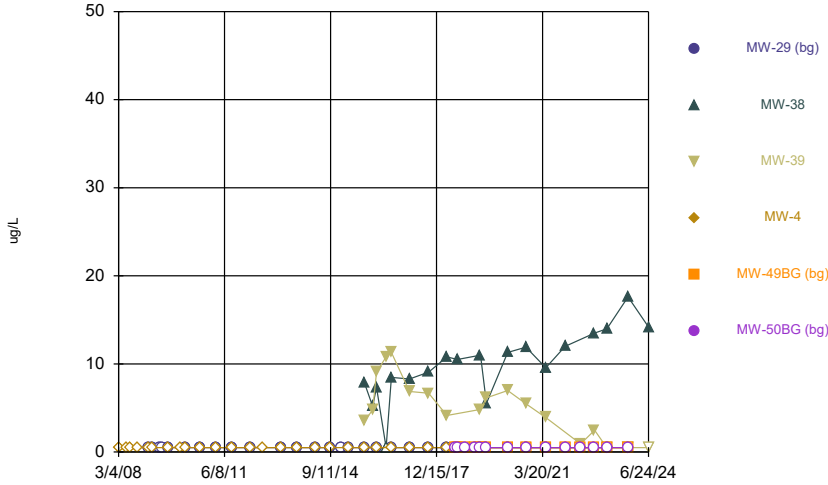

Constituent: Chlorobenzene Analysis Run 10/30/2024 2:24 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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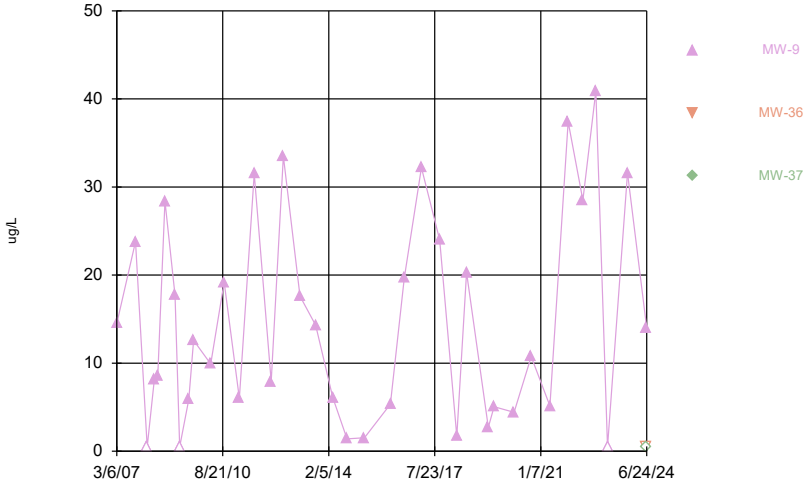

Constituent: Chlorobenzene Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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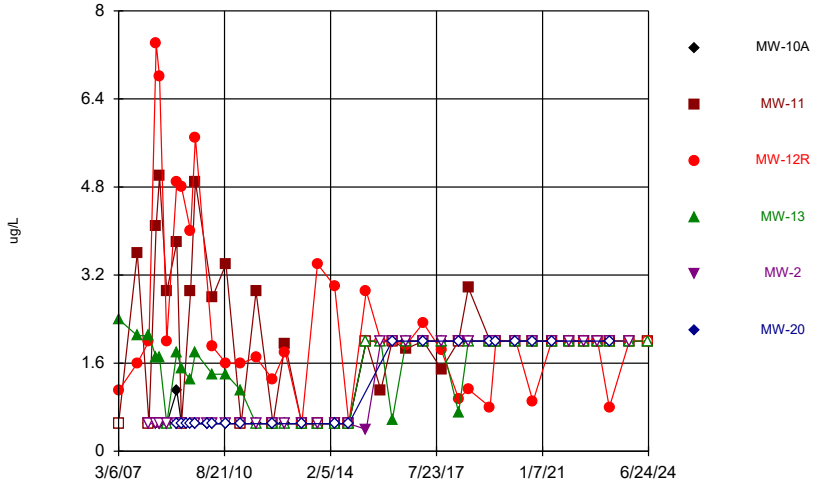

Constituent: Chloroethane Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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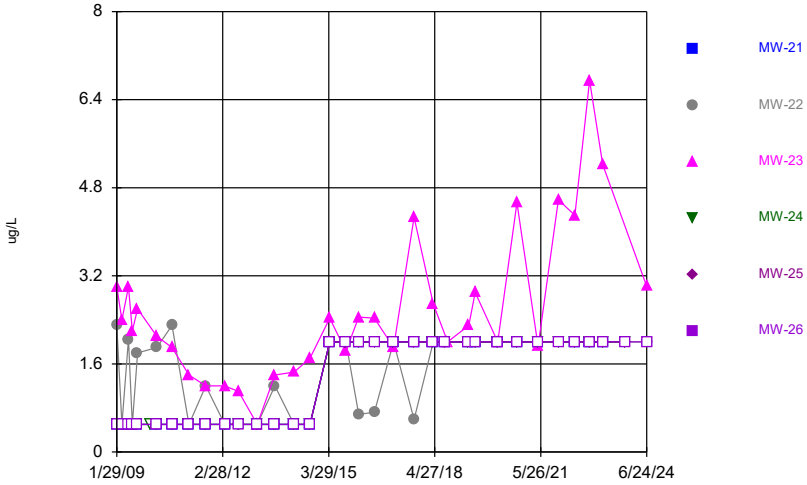
Time Series



Constituent: Chloroethane Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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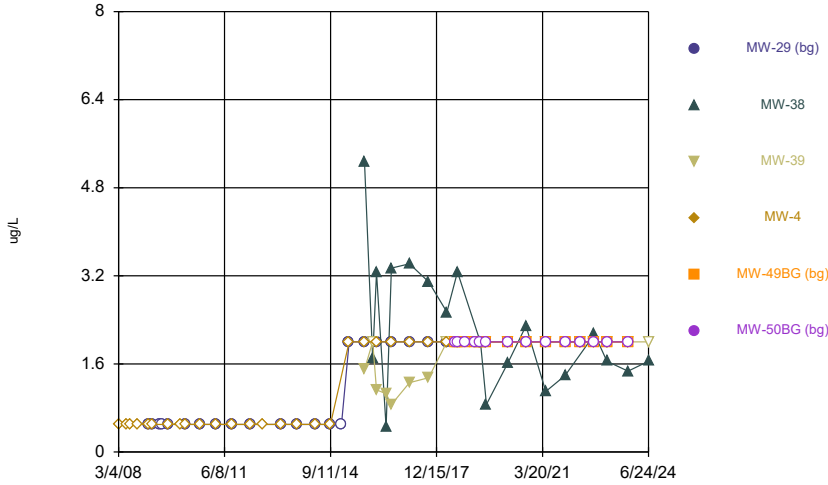

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Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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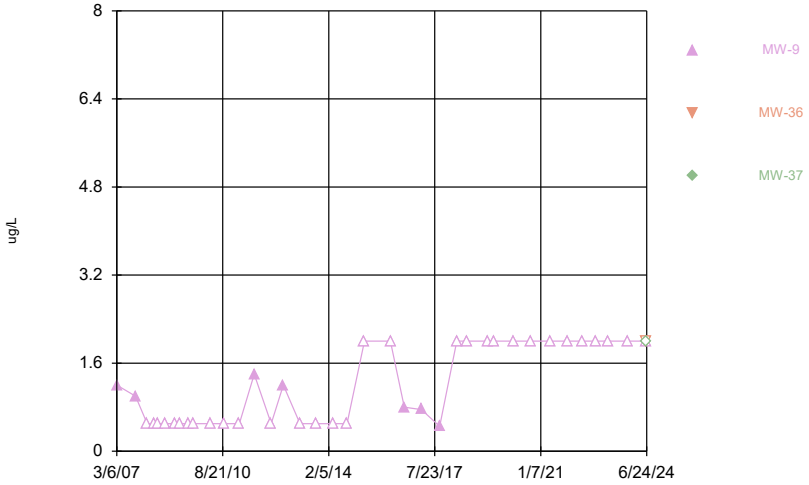

Constituent: Chloroethane Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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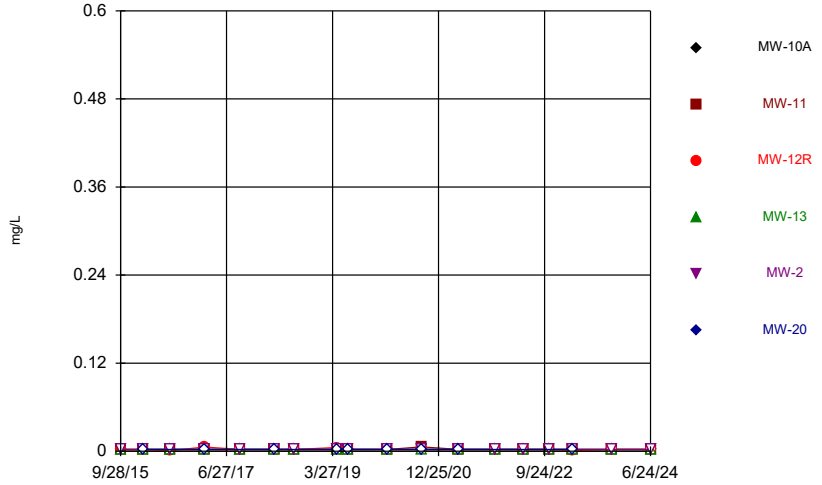
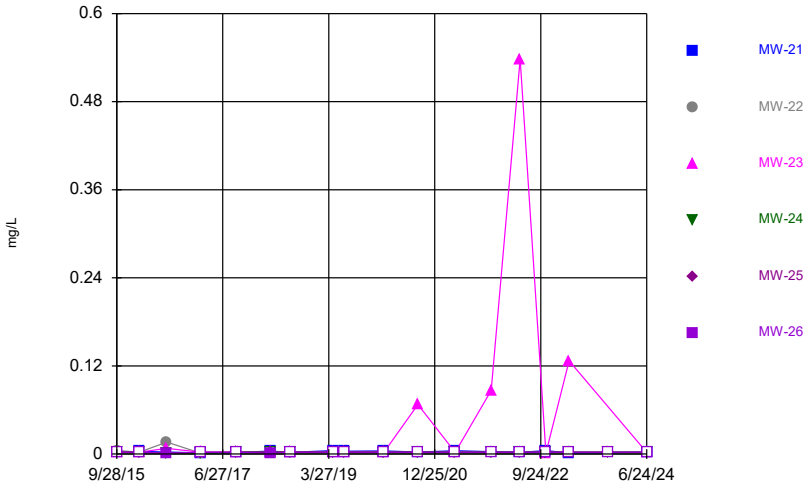
Time Series



Constituent: Chromium Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

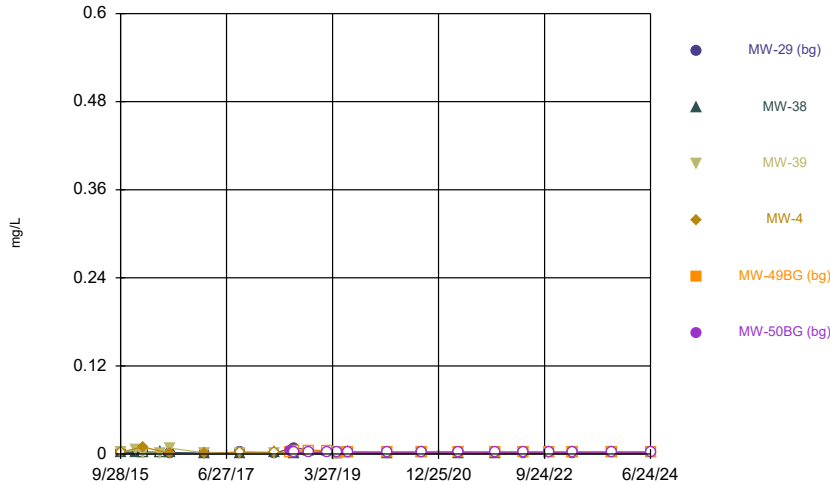
Time Series



Constituent: Chromium Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

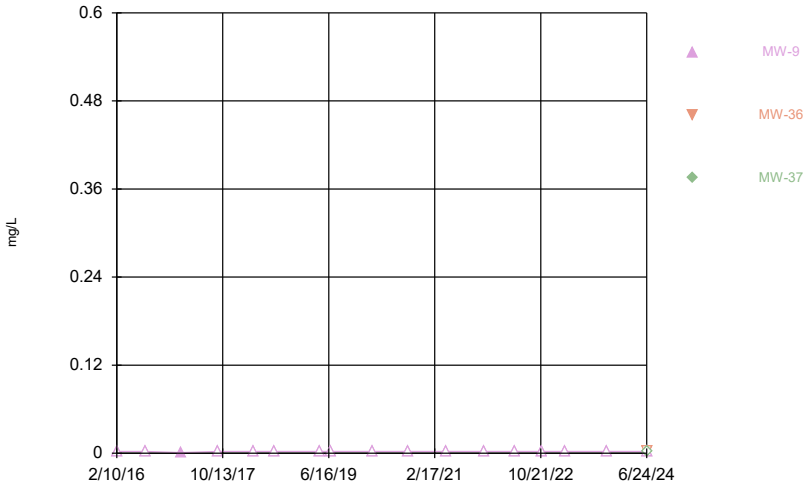
Time Series



Constituent: Chromium Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Chromium Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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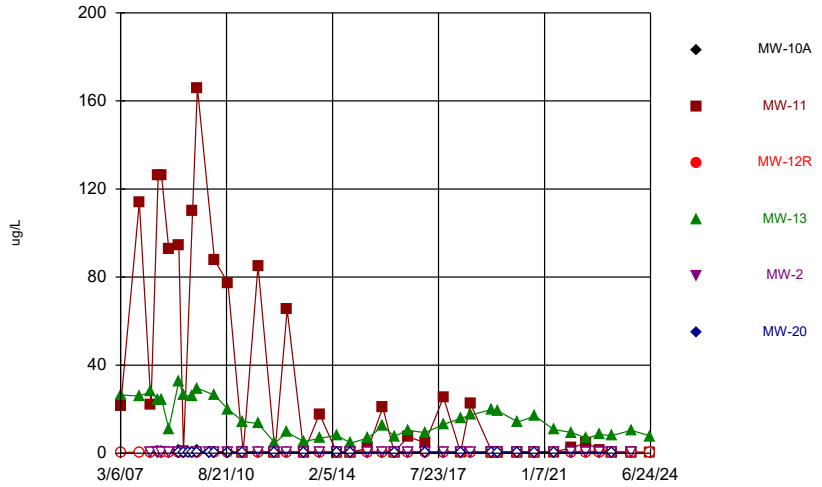

Constituent: cis-1,2-Dichloroethene Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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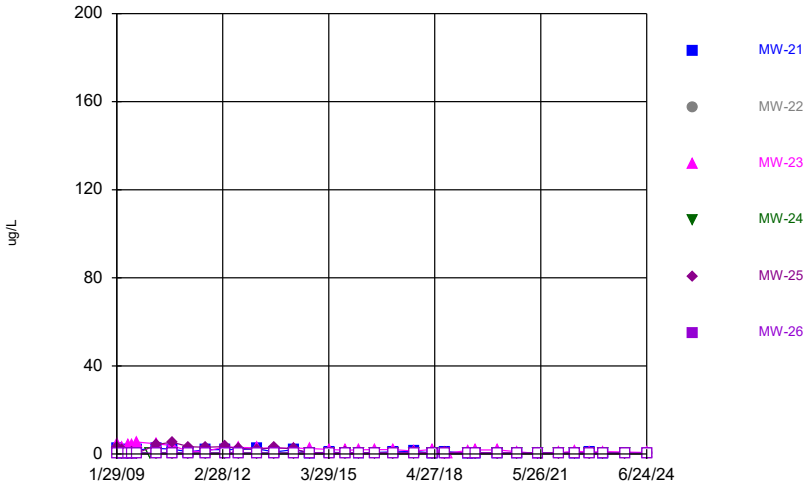
Hollow symbols indicate censored values.

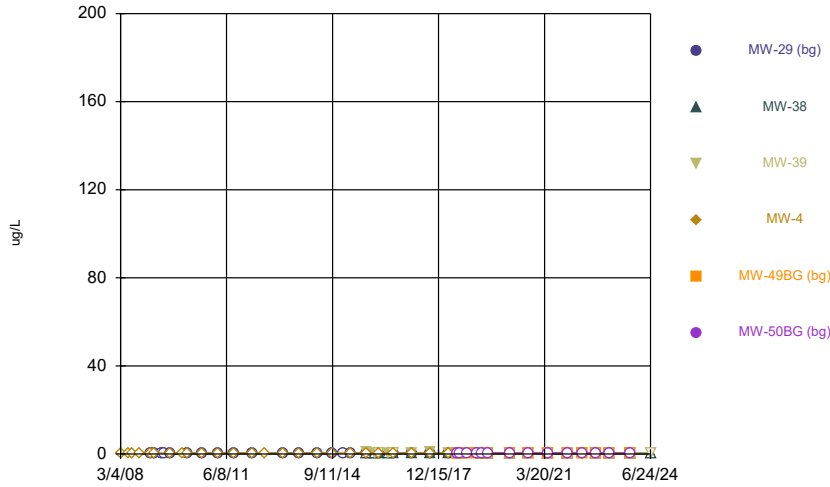
Time Series



Constituent: cis-1,2-Dichloroethene Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

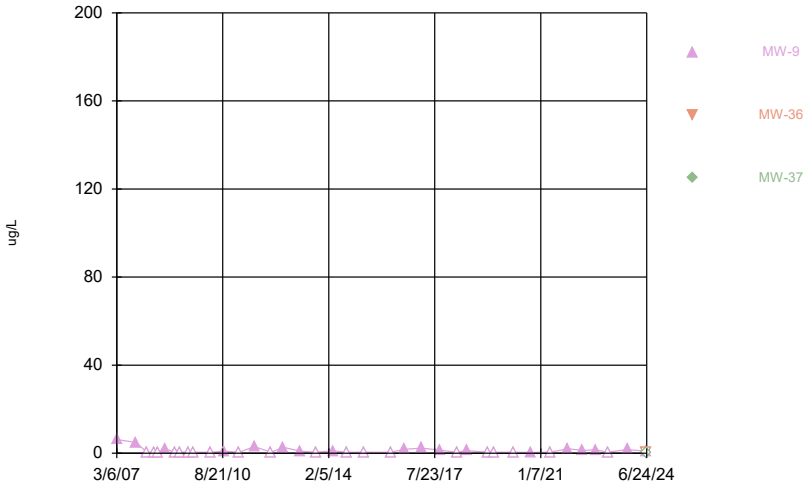
Time Series



Constituent: cis-1,2-Dichloroethene Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

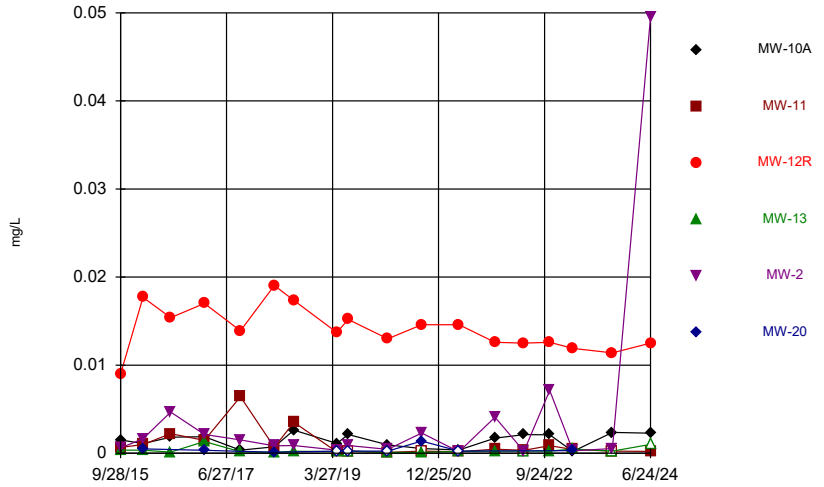
Time Series



Constituent: cis-1,2-Dichloroethene Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

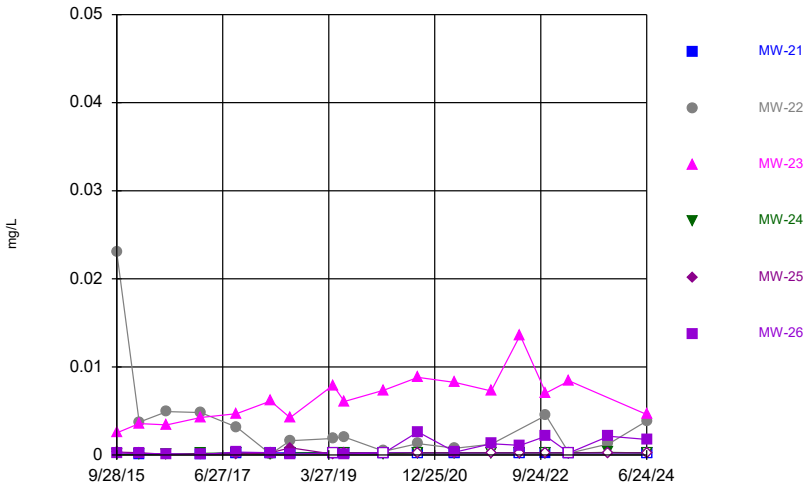
Time Series



Constituent: Cobalt Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

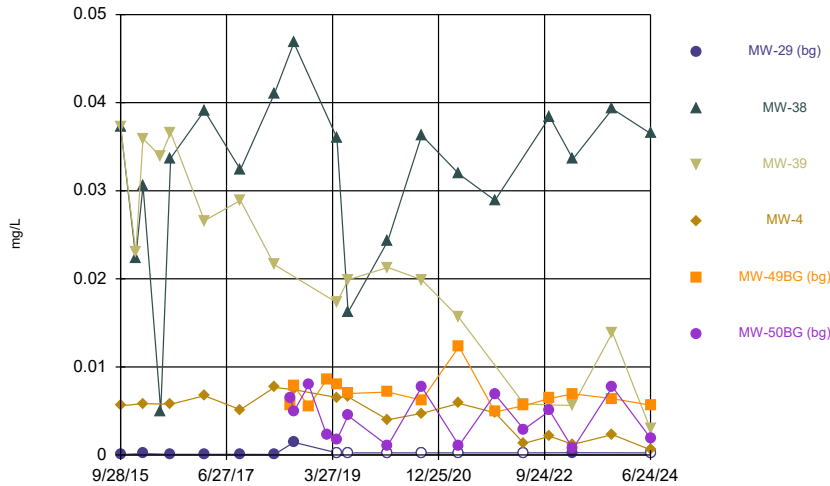
Time Series



Constituent: Cobalt Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

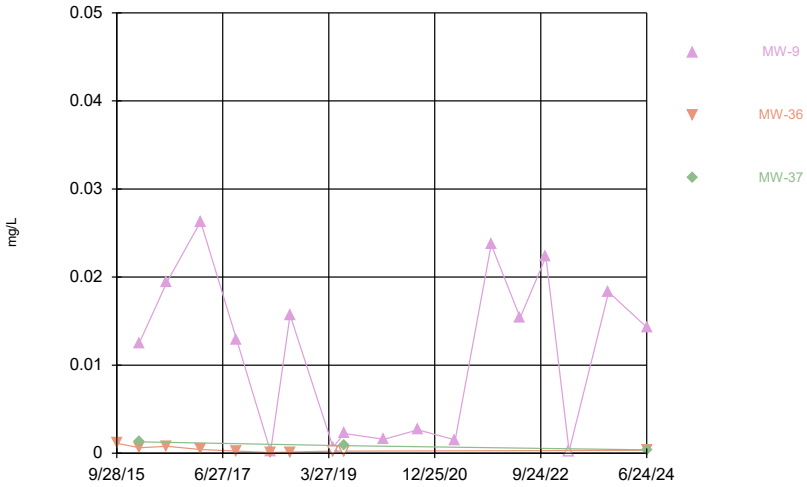
Time Series



Constituent: Cobalt Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

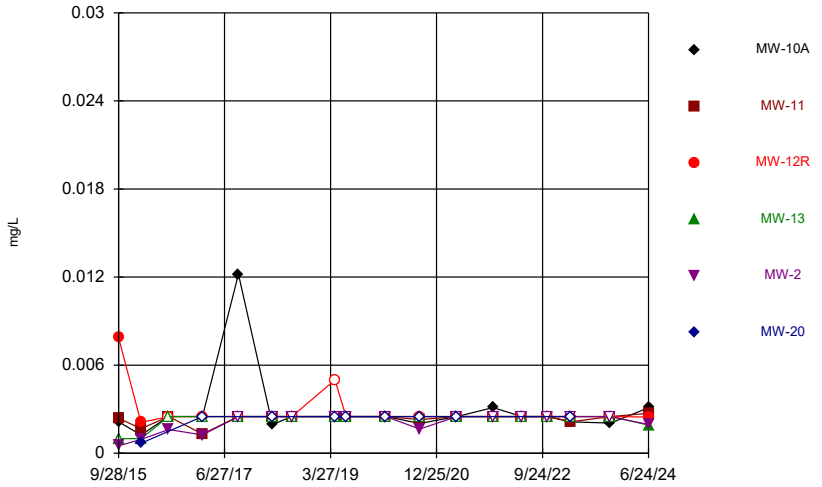
Time Series



Constituent: Cobalt Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

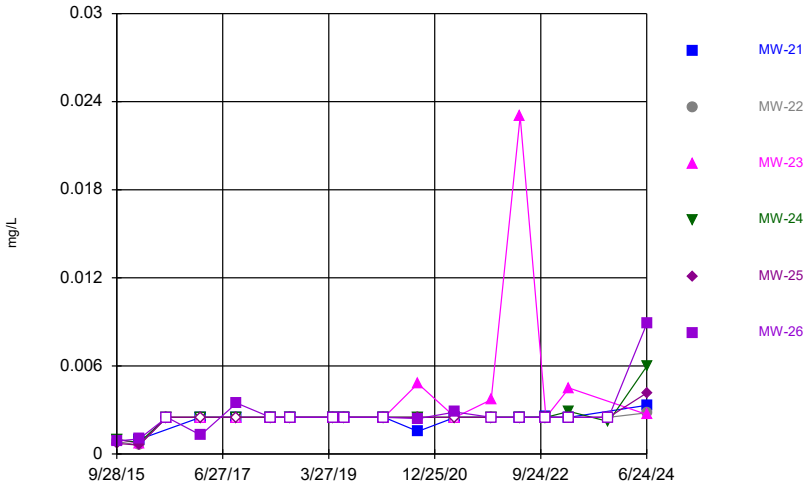
Time Series



Constituent: Copper Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

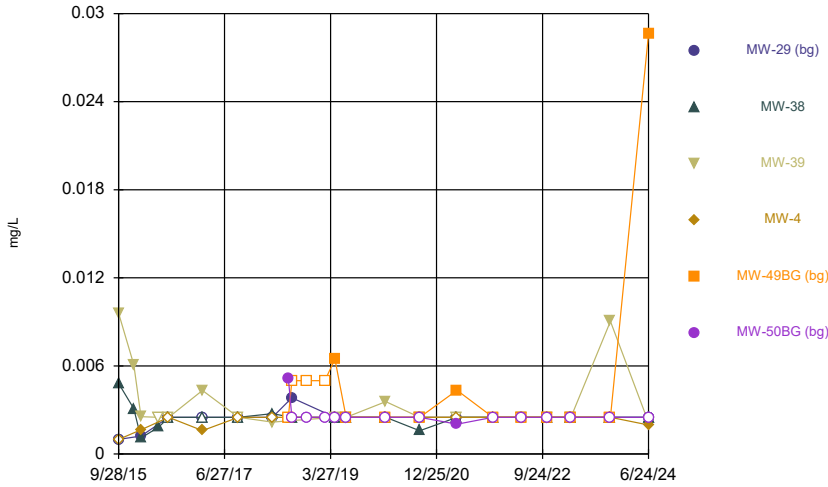
Time Series



Constituent: Copper Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

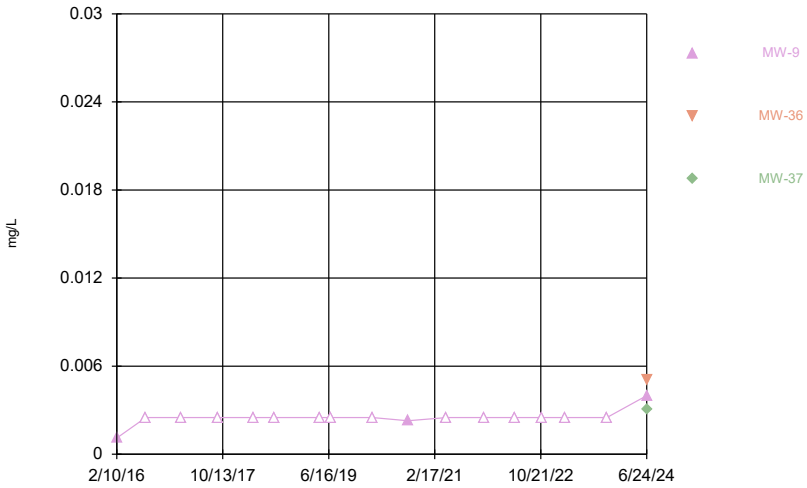
Time Series



Constituent: Copper Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

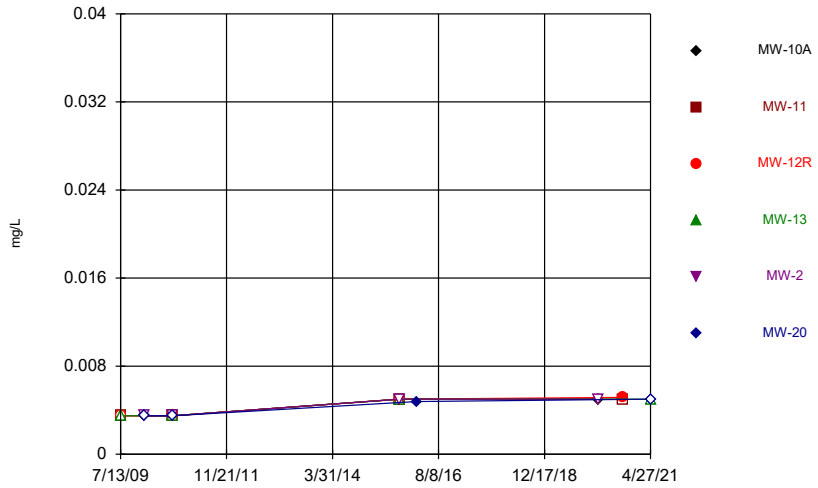
Time Series



Constituent: Copper Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

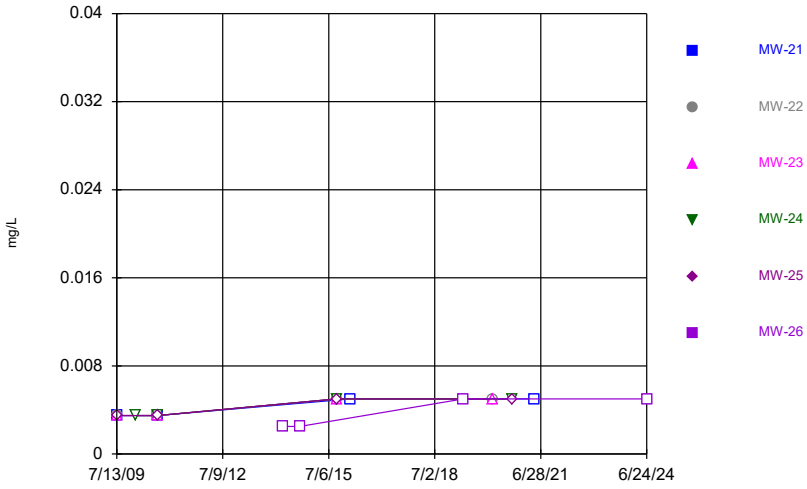
Time Series



Constituent: Cyanide Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

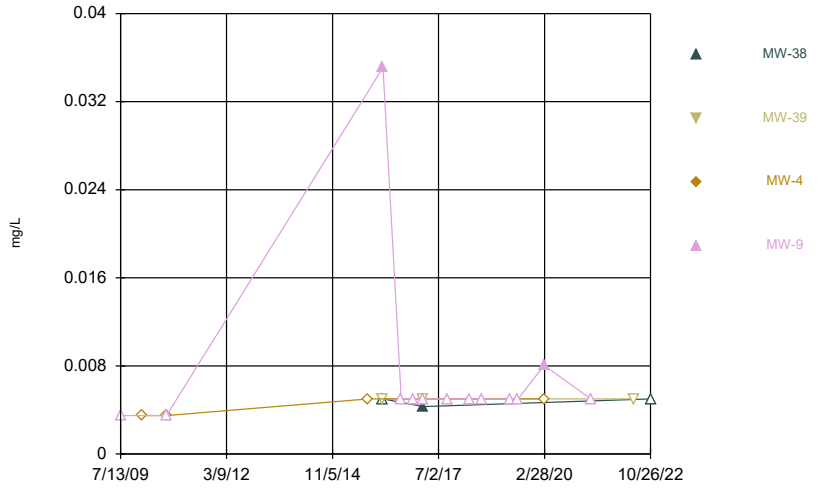
Time Series



Constituent: Cyanide Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

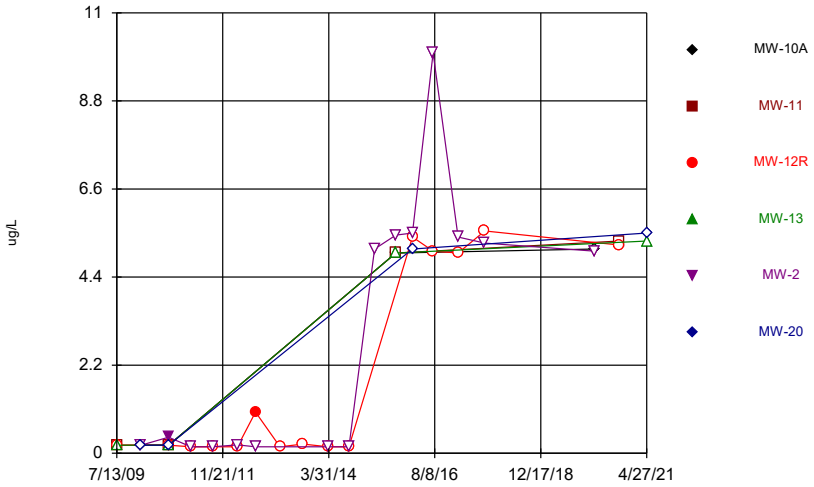
Time Series



Constituent: Cyanide Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

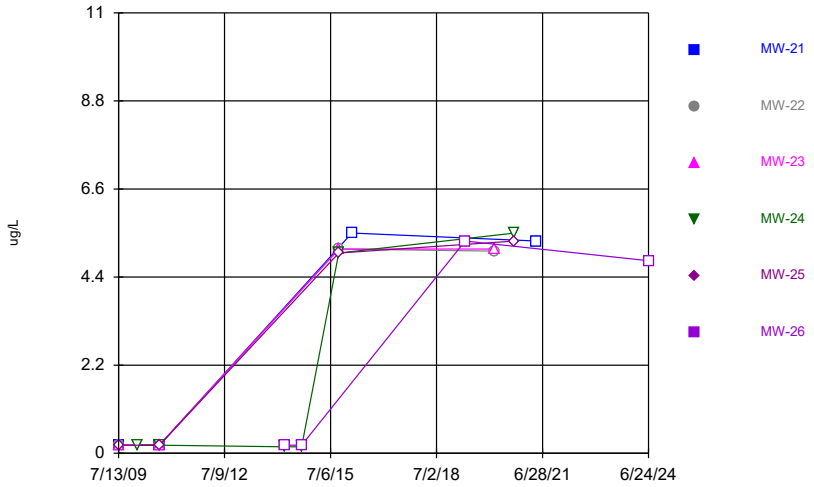
Time Series



Constituent: Dimethoate Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

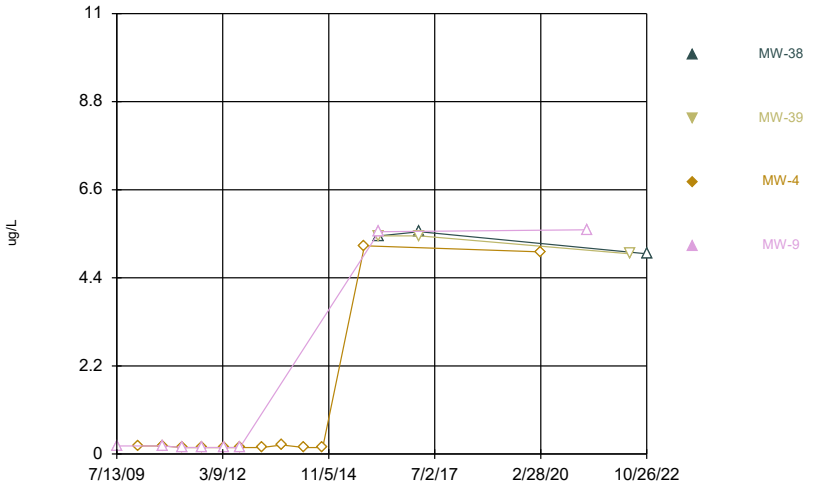
Time Series



Constituent: Dimethoate Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

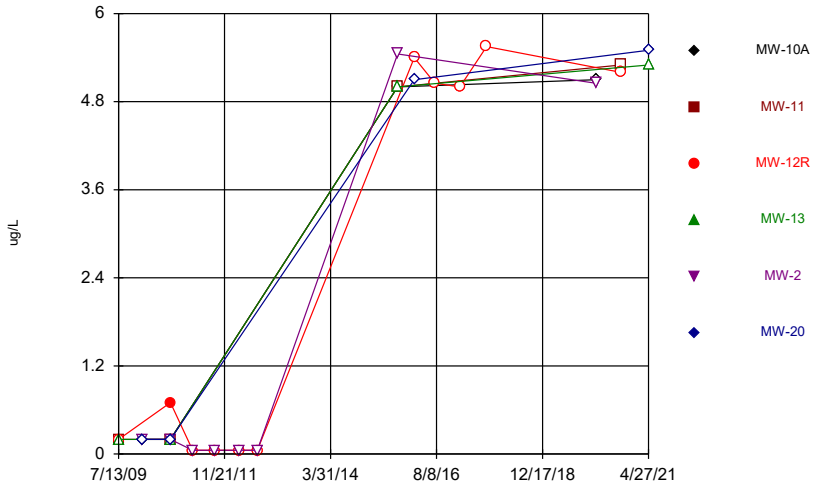
Time Series



Constituent: Dimethoate Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

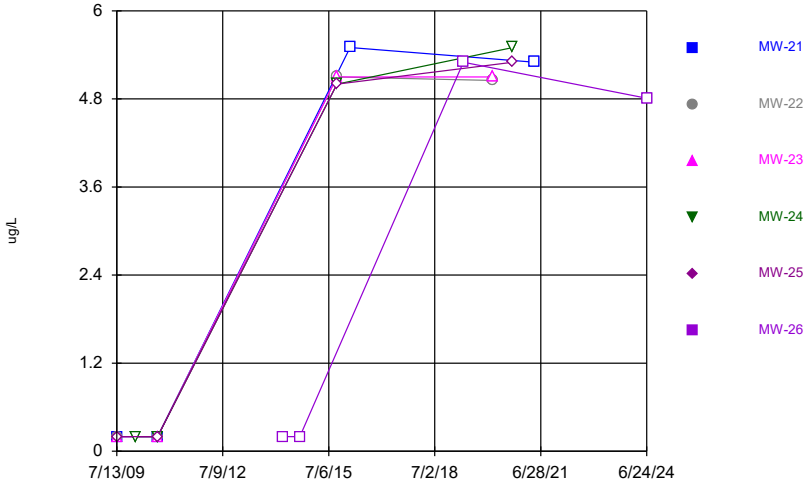
Time Series



Constituent: Disulfoton Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

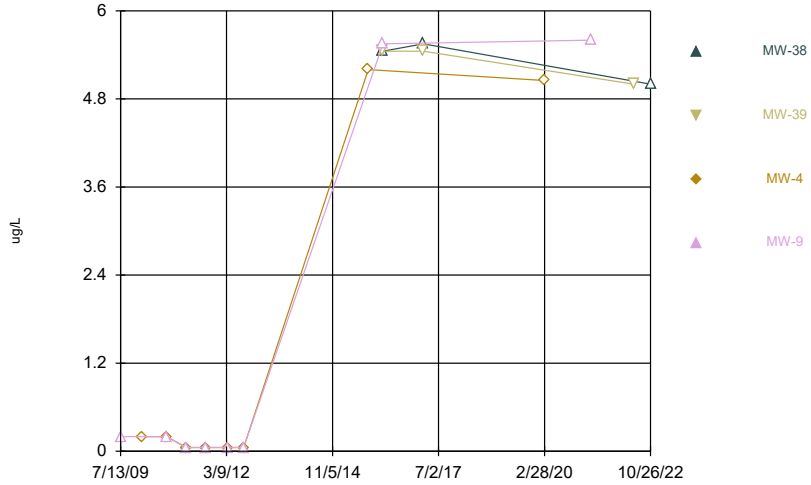
Time Series



Constituent: Disulfoton Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

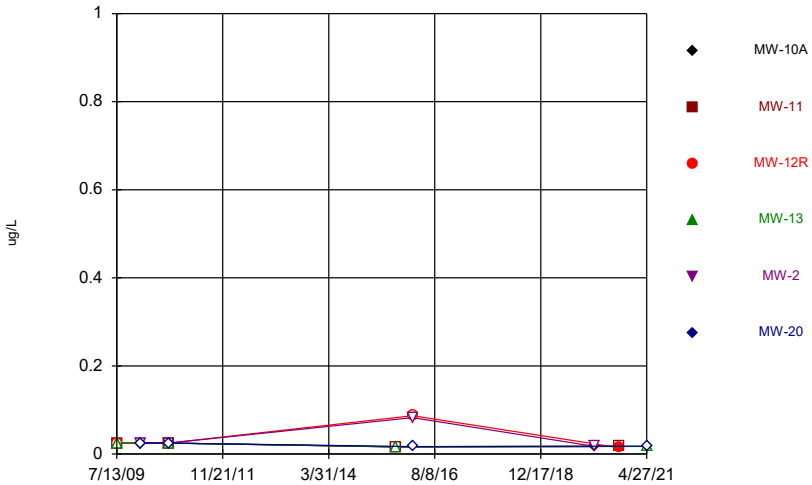
Time Series



Constituent: Disulfoton Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

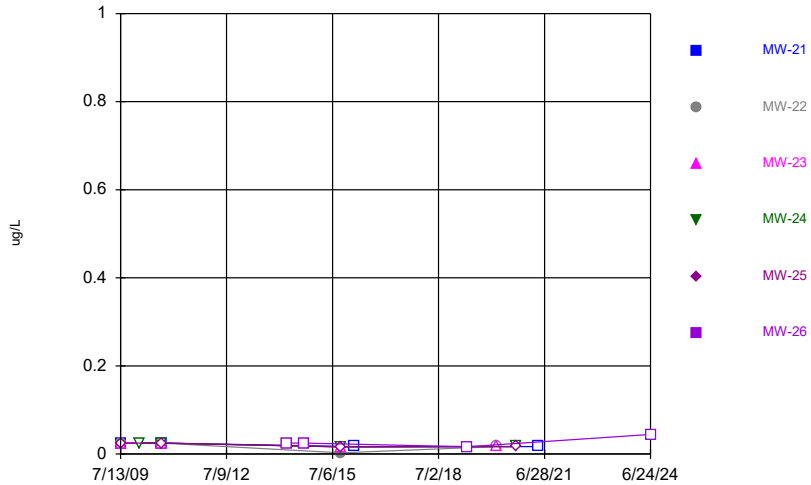
Time Series



Constituent: Endosulfan I Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Endosulfan I Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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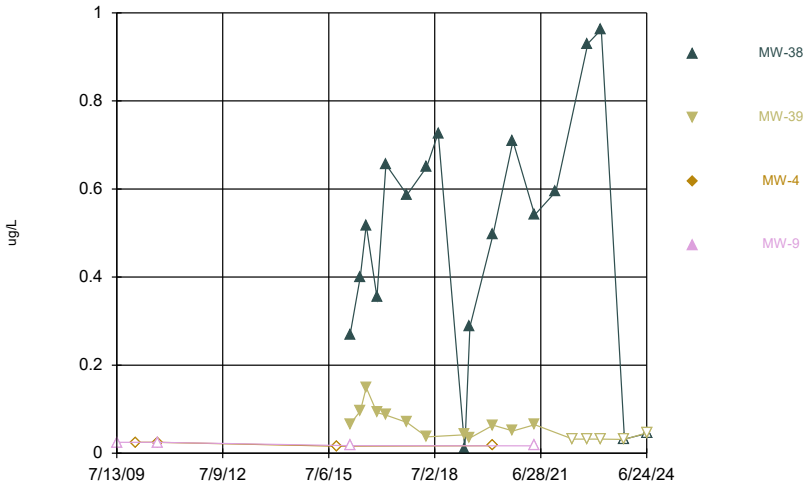
Time Series



Constituent: Endosulfan I Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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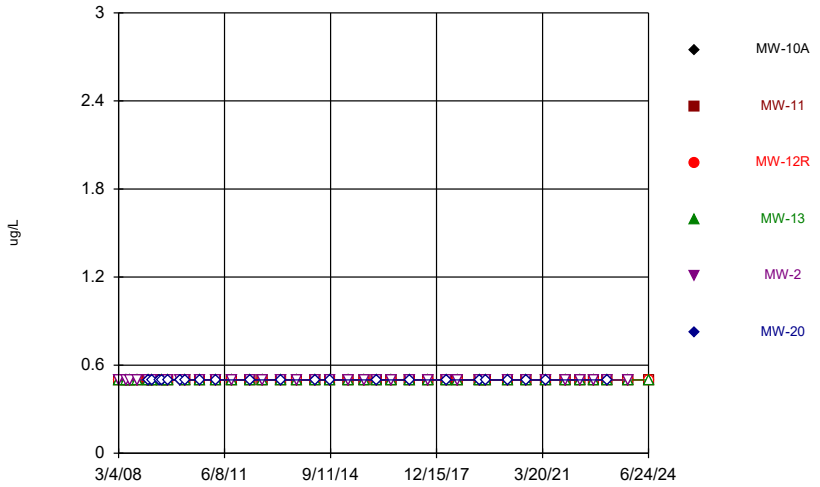
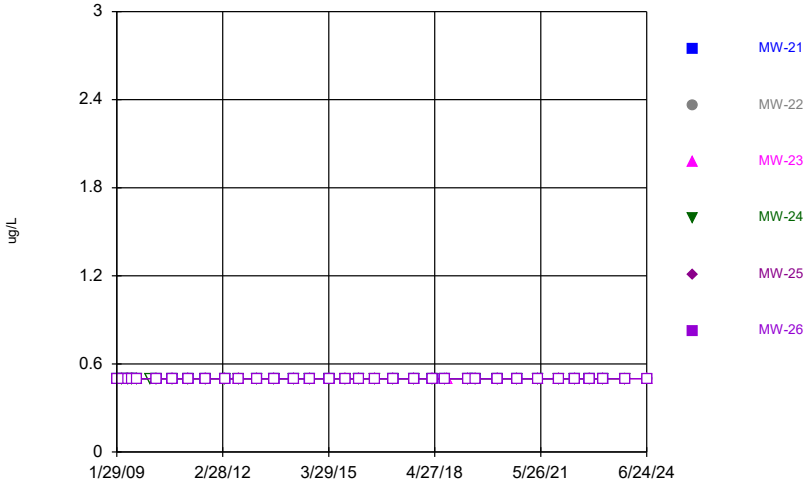
Time Series



Constituent: Ethylbenzene Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

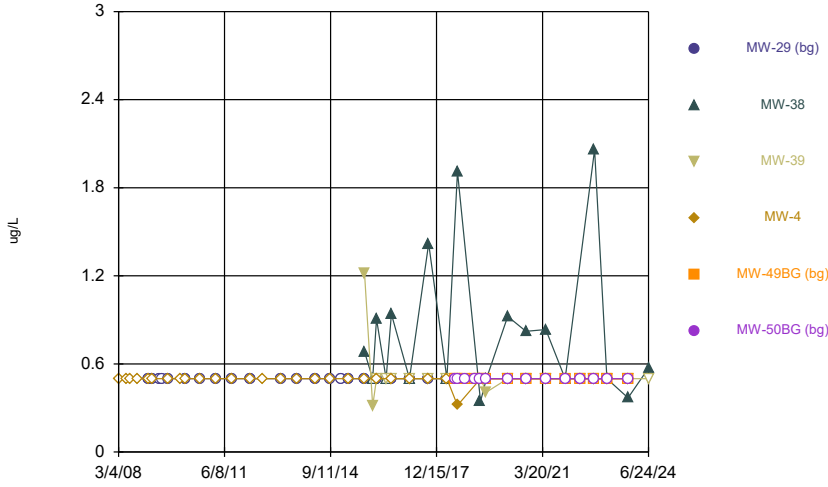
Time Series



Constituent: Ethylbenzene Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

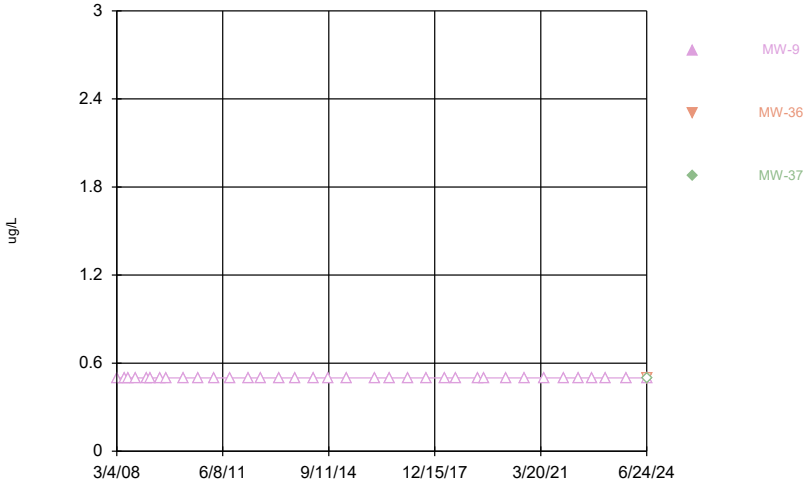
Time Series



Constituent: Ethylbenzene Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Ethylbenzene Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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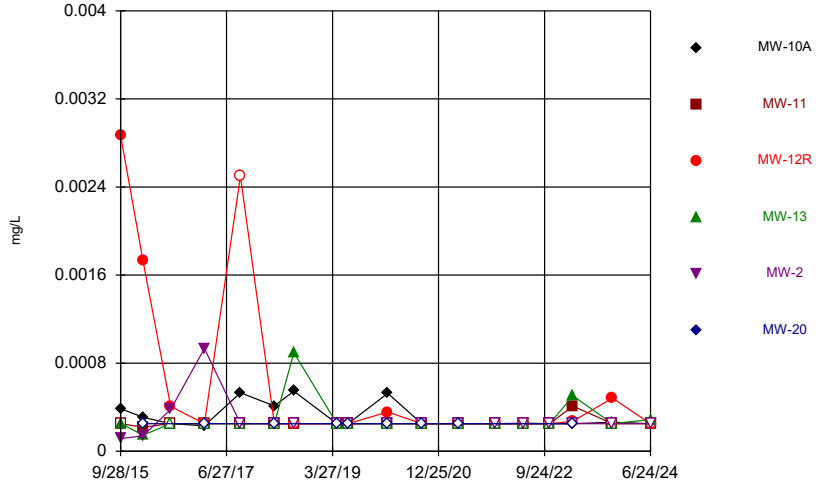
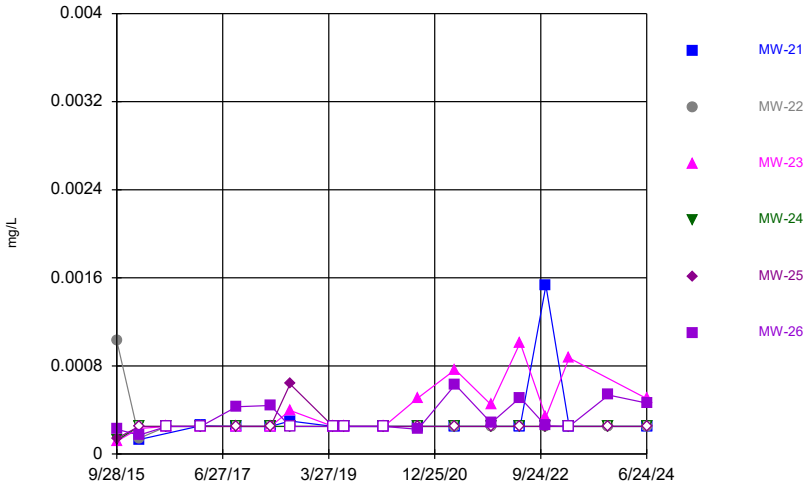
Time Series



Constituent: Lead Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

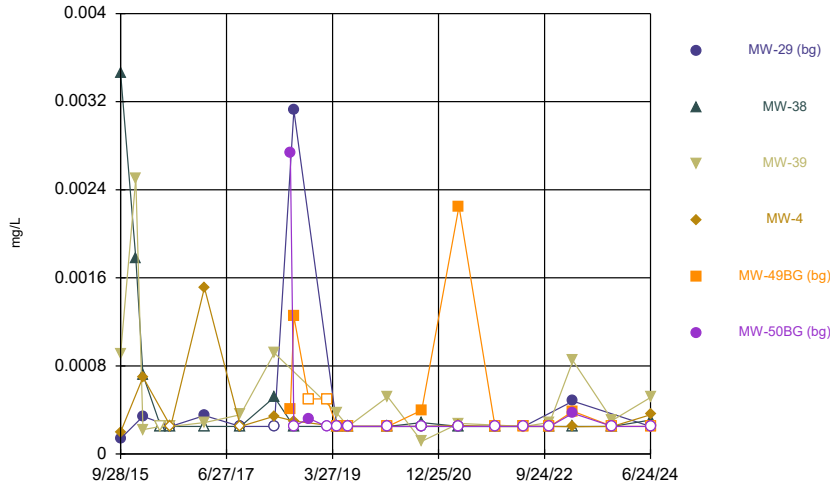
Time Series



Constituent: Lead Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

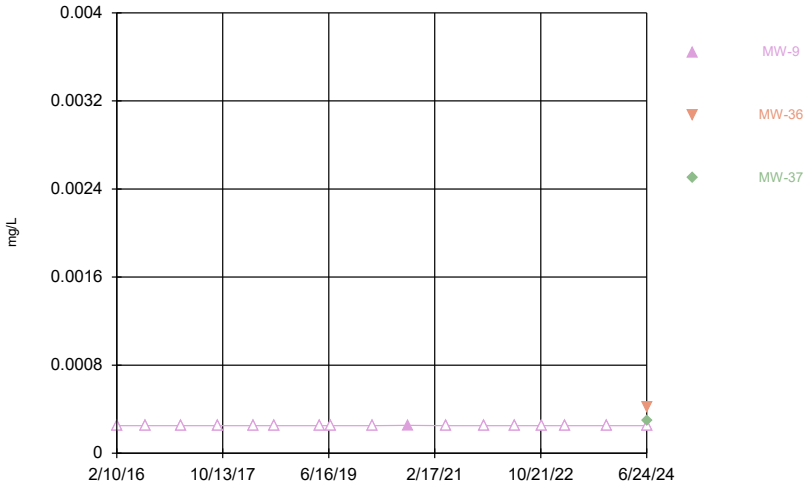
Time Series



Constituent: Lead Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

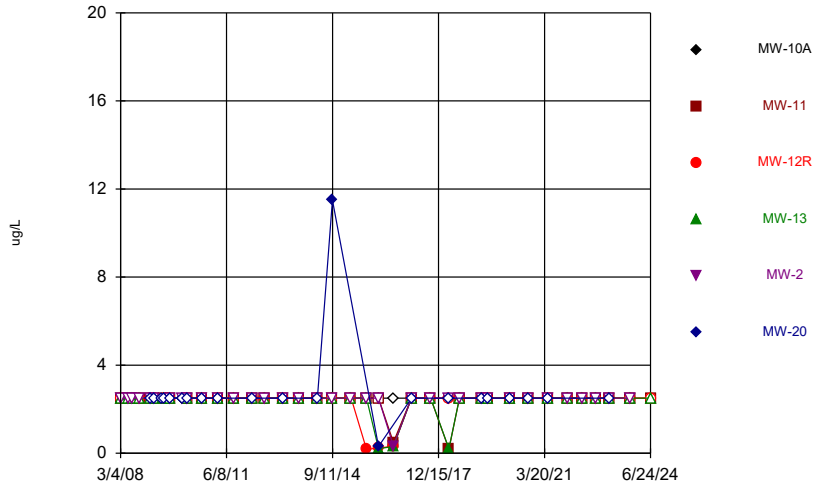
Time Series



Constituent: Lead Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

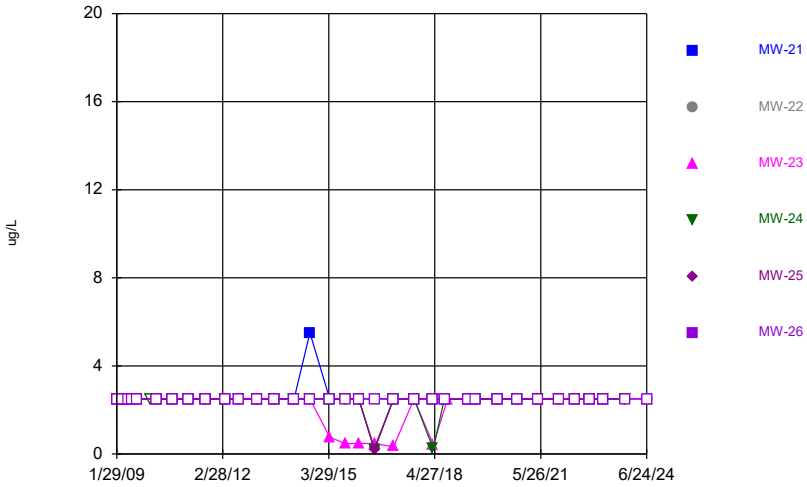
Time Series



Constituent: Methylene Chloride Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

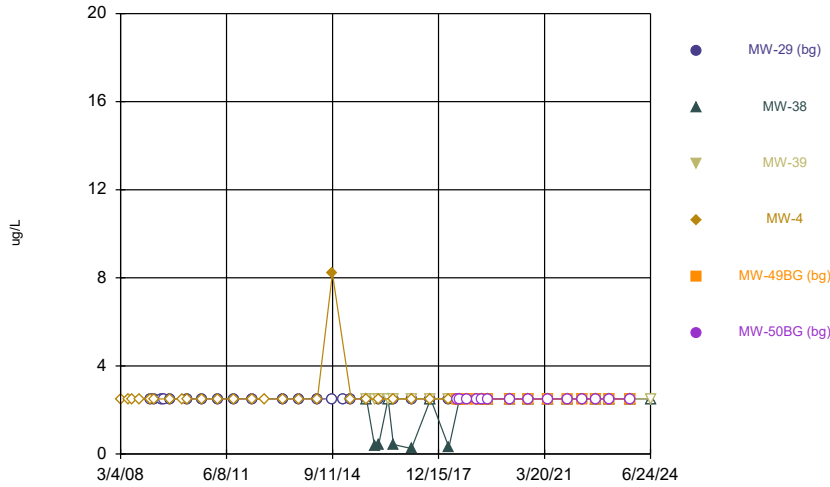
Time Series



Constituent: Methylene Chloride Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

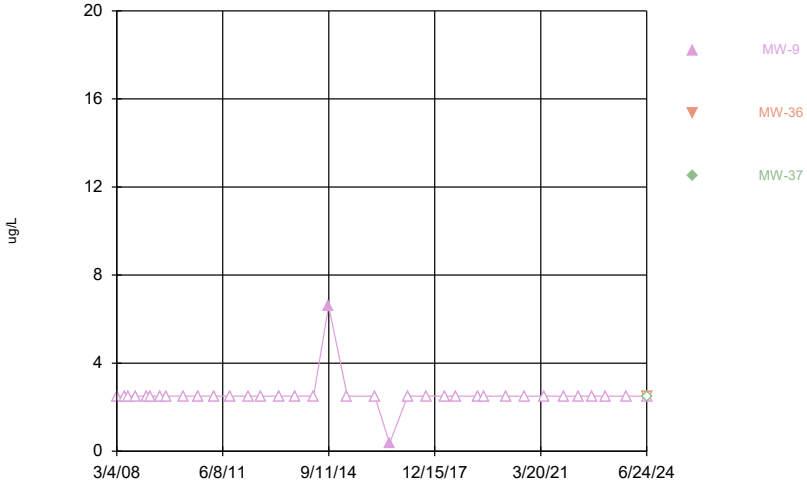
Time Series



Constituent: Methylene Chloride Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

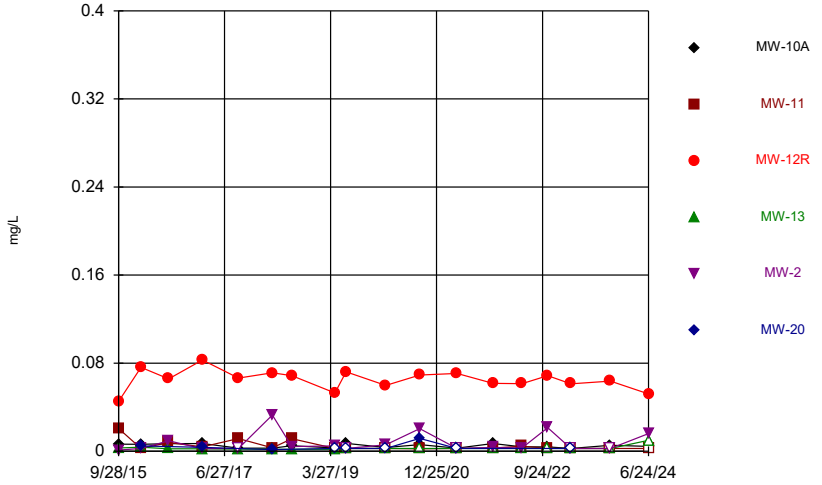
Time Series



Constituent: Methylene Chloride Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

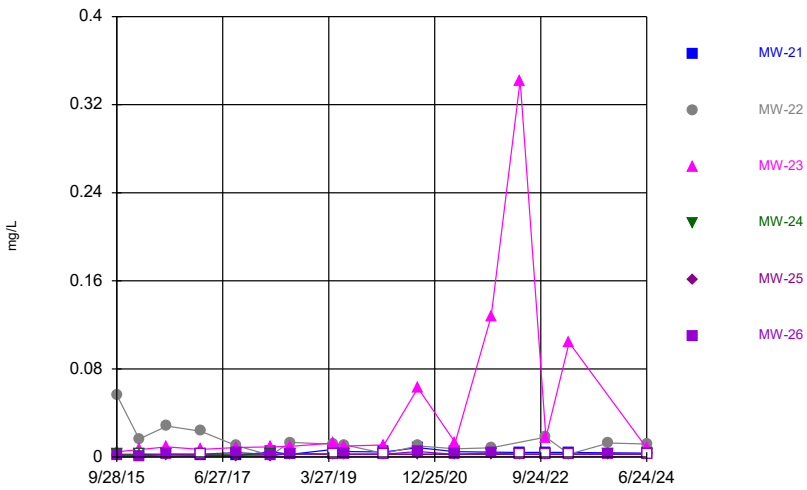
Time Series



Constituent: Nickel Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

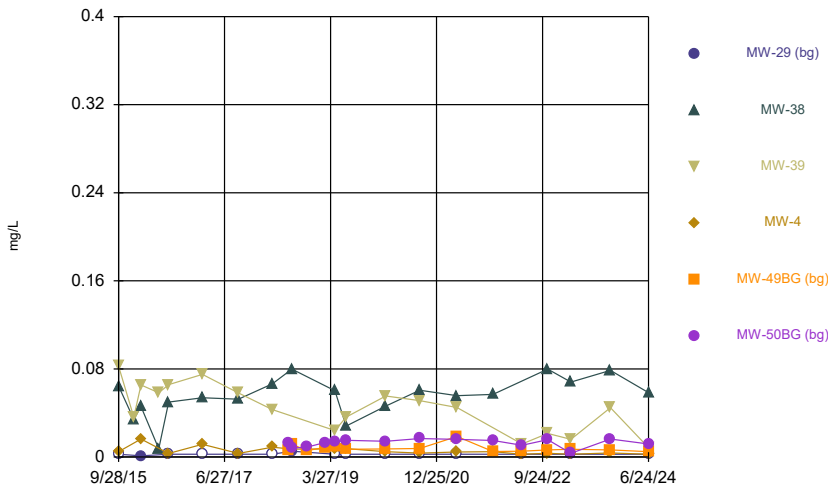
Time Series



Constituent: Nickel Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

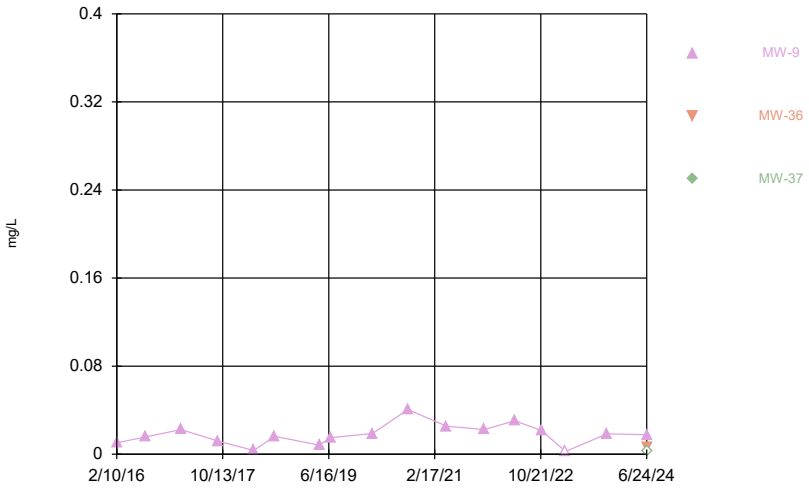
Time Series



Constituent: Nickel Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

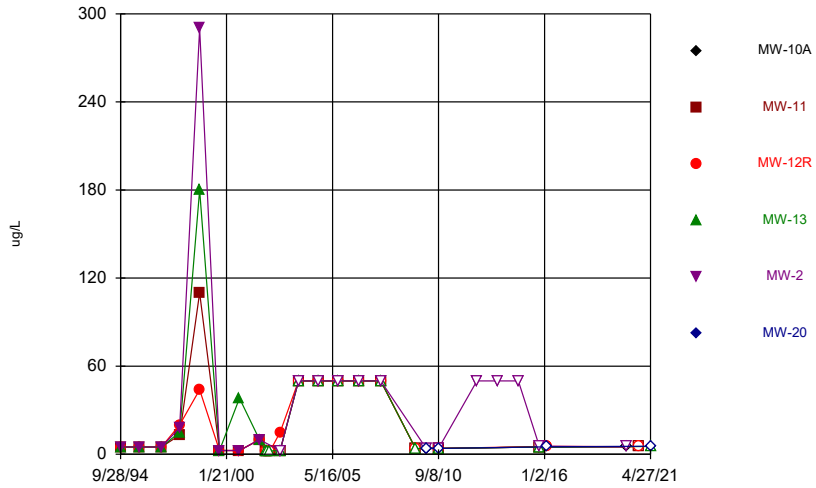
Time Series



Constituent: Nickel Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

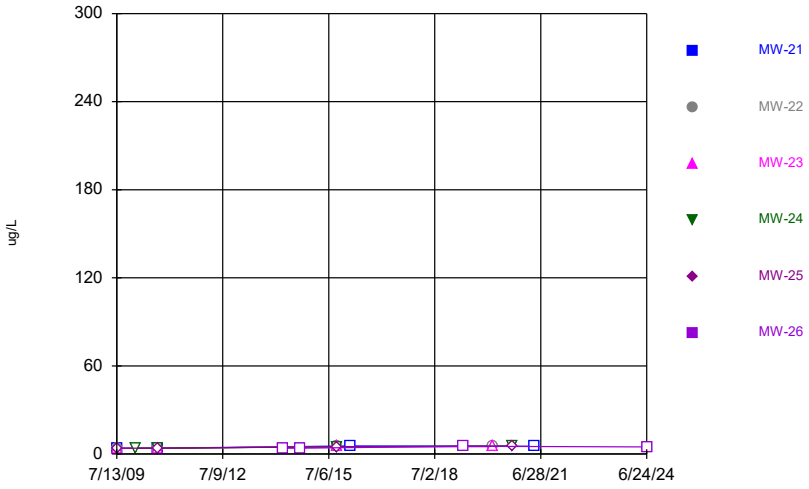
Time Series



Constituent: Phenol Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

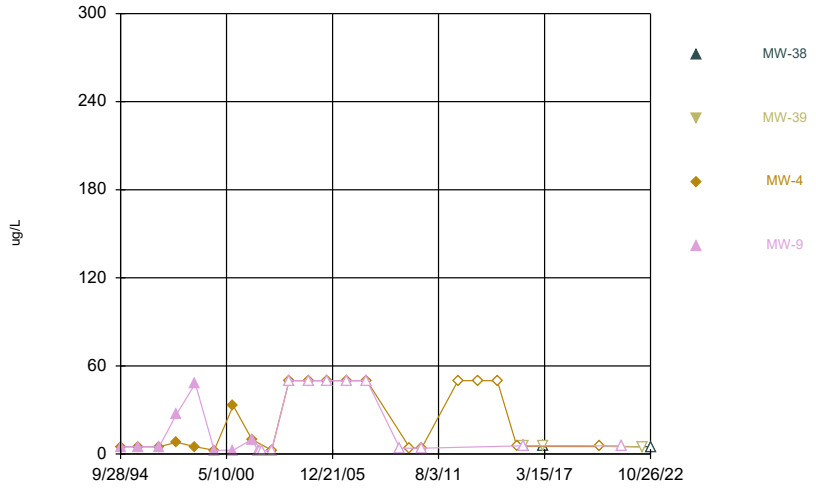
Time Series



Constituent: Phenol Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

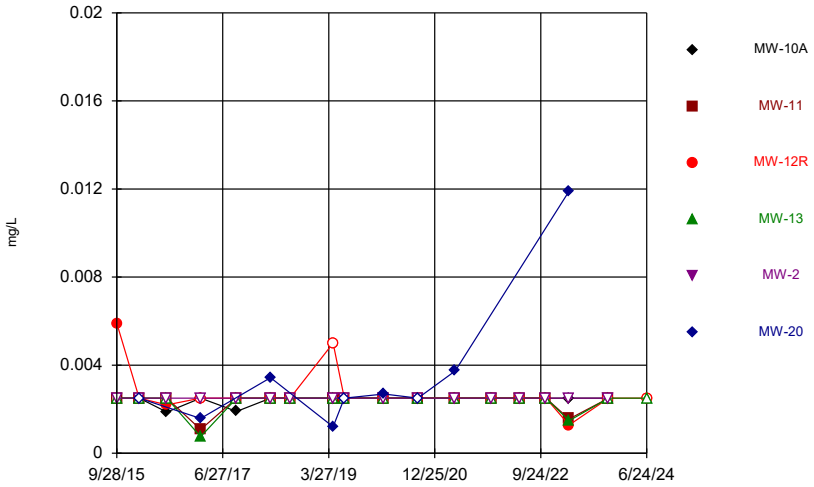
Time Series



Constituent: Phenol Analysis Run 10/30/2024 2:25 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

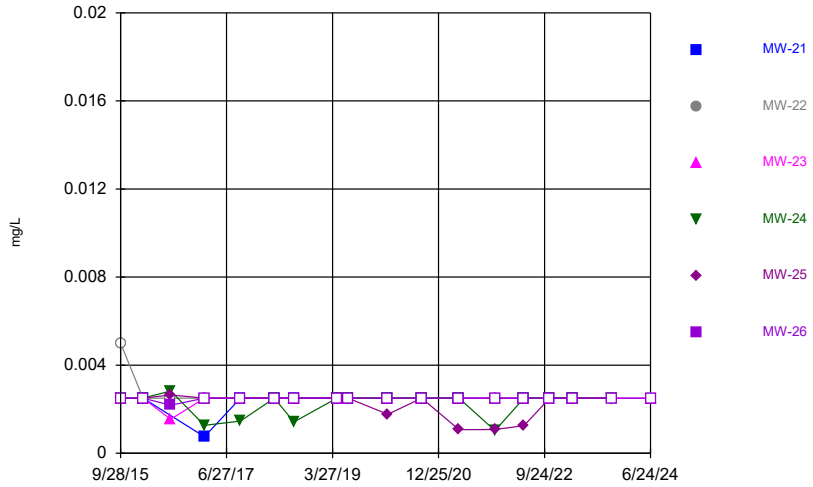
Time Series



Constituent: Selenium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Selenium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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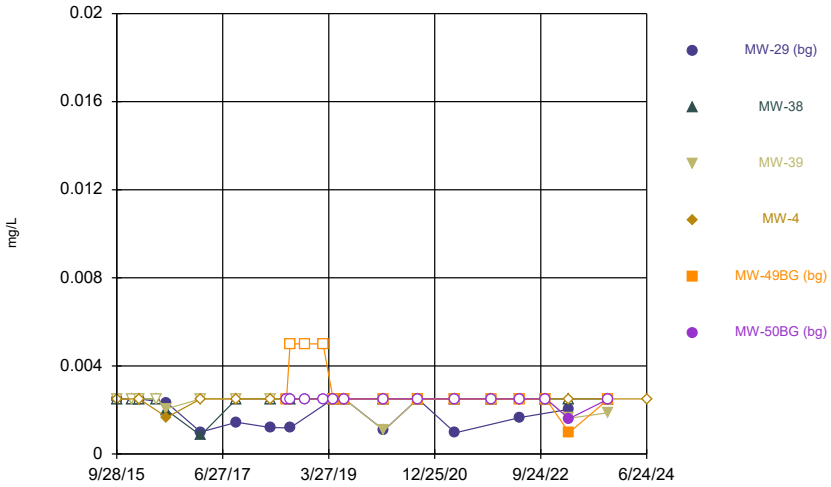
Time Series



Constituent: Selenium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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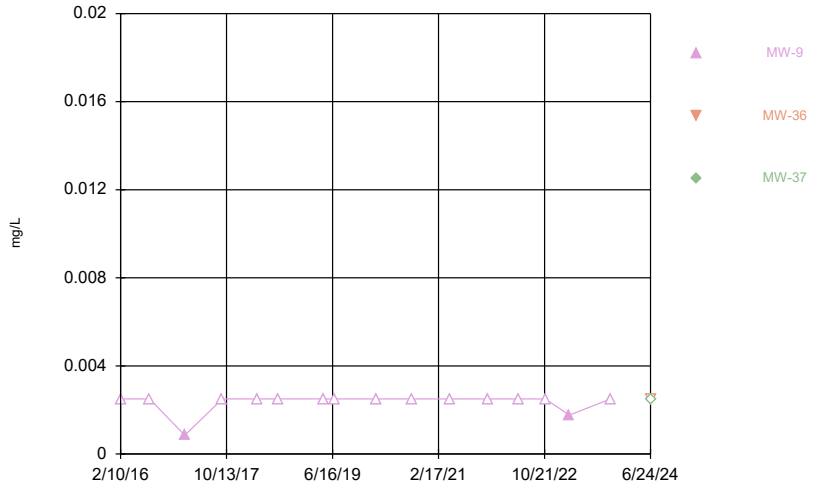
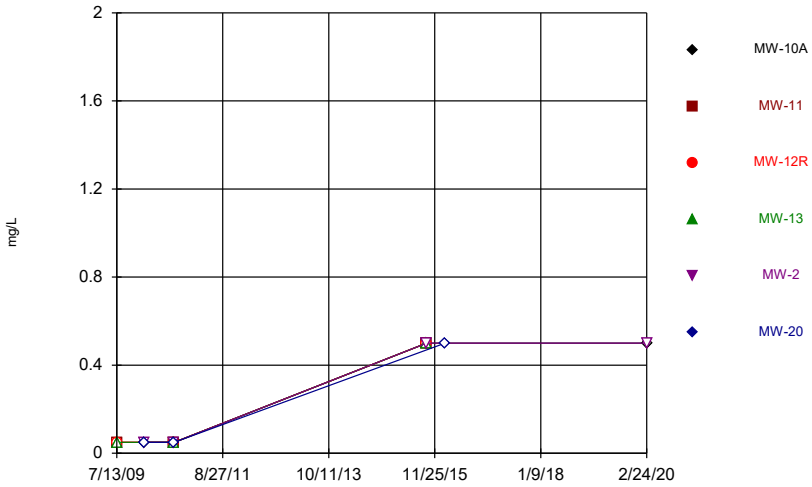


Constituent: Selenium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

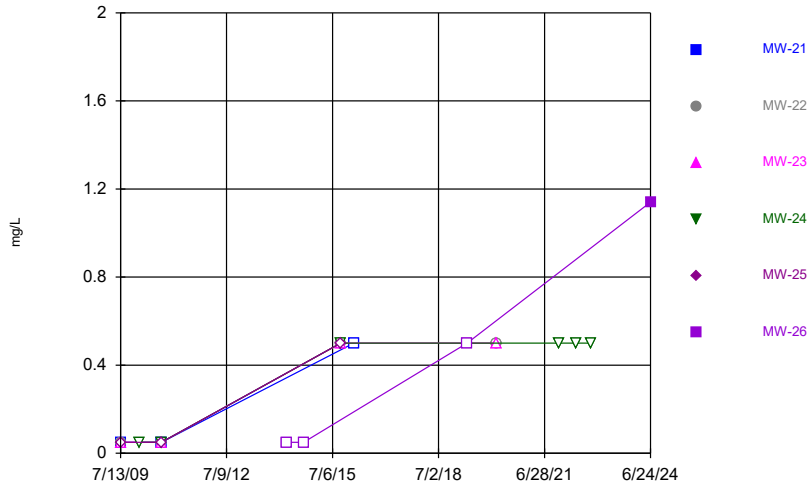
Time Series



Constituent: Sulfide Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Sulfide Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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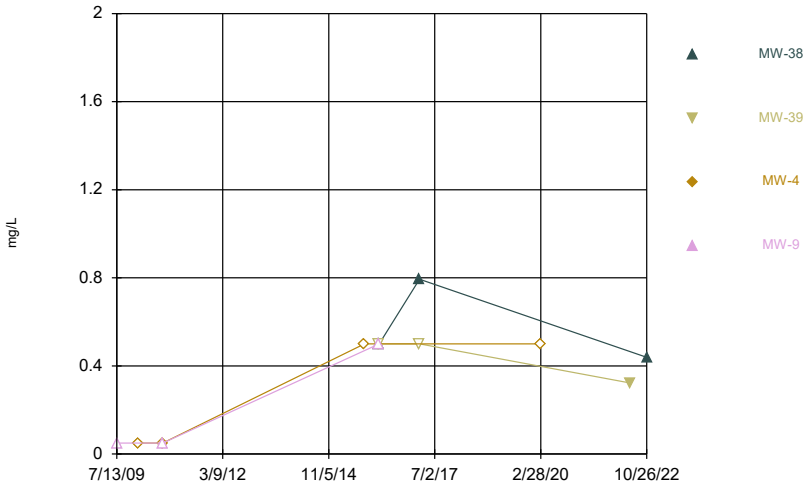

Constituent: Sulfide Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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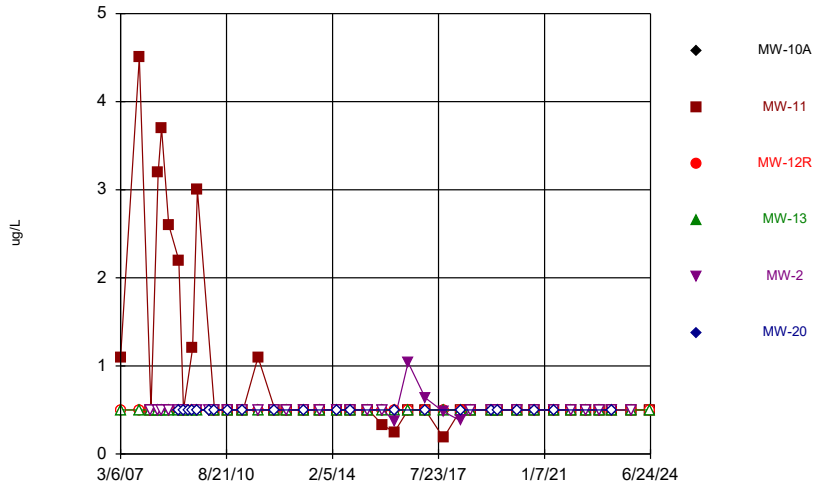
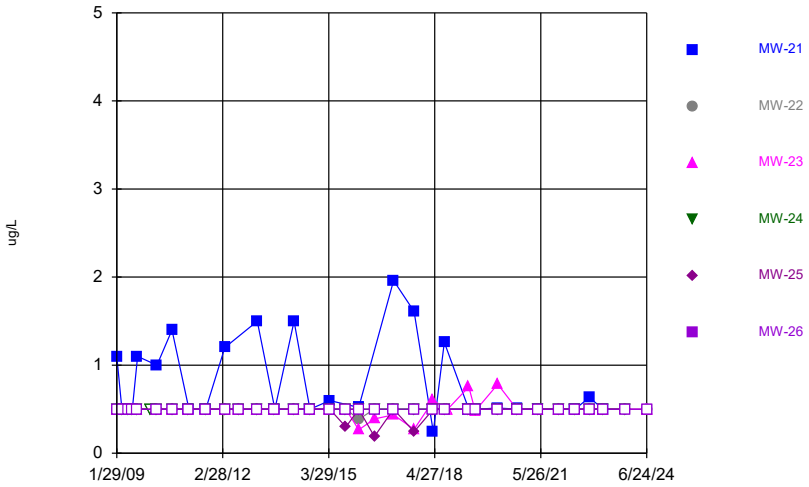


Constituent: Tetrachloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

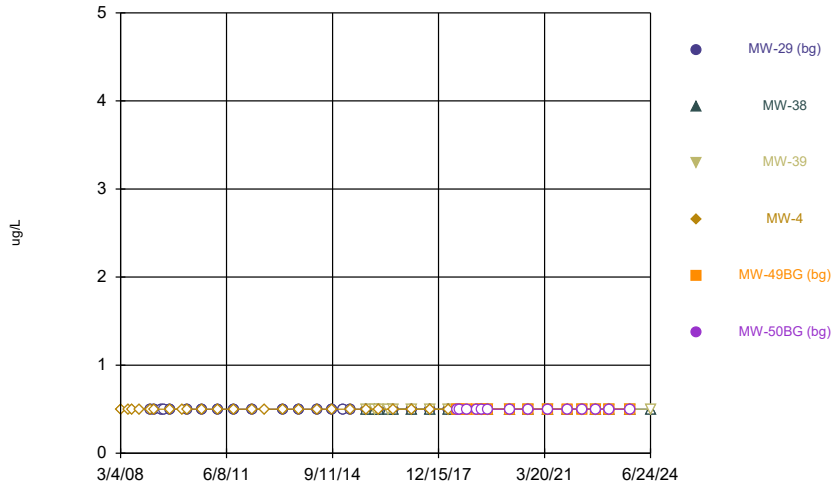
Time Series



Constituent: Tetrachloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Tetrachloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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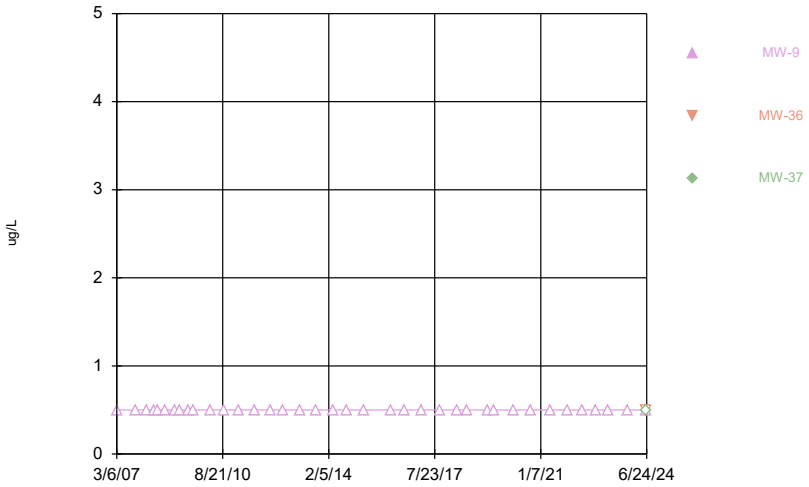

Constituent: Tetrachloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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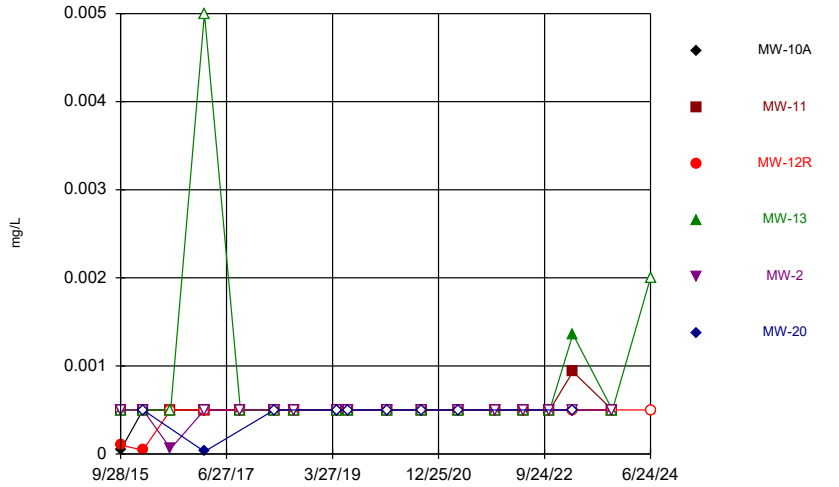
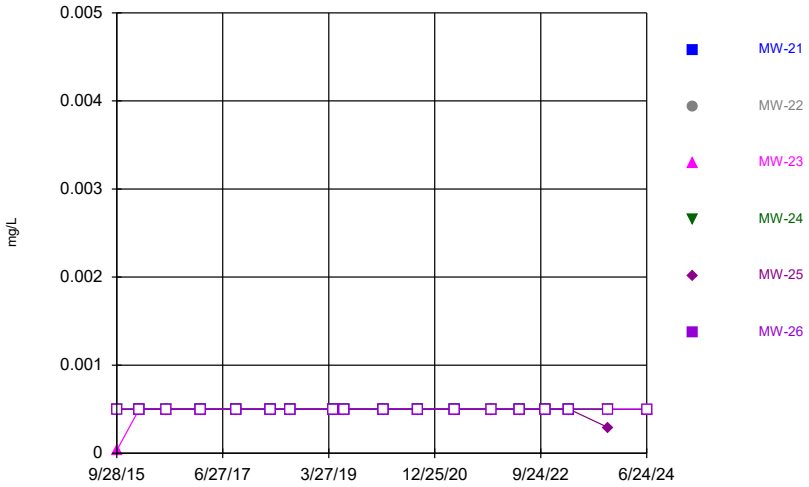


Constituent: Thallium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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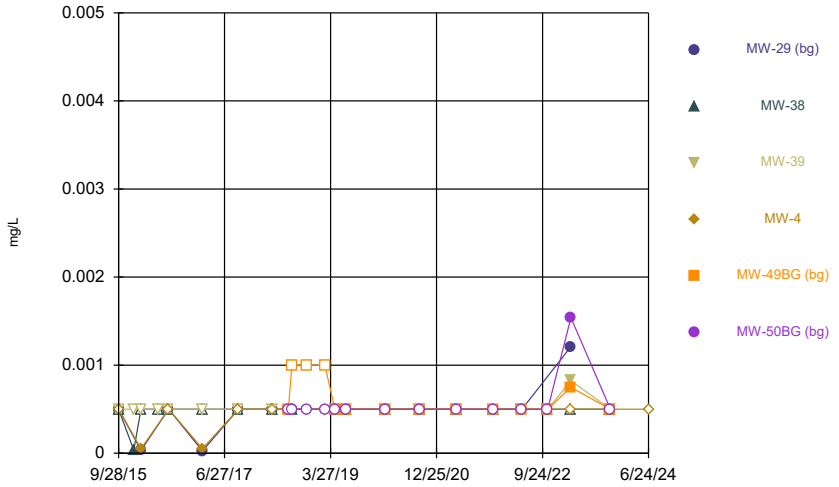
Time Series



Constituent: Thallium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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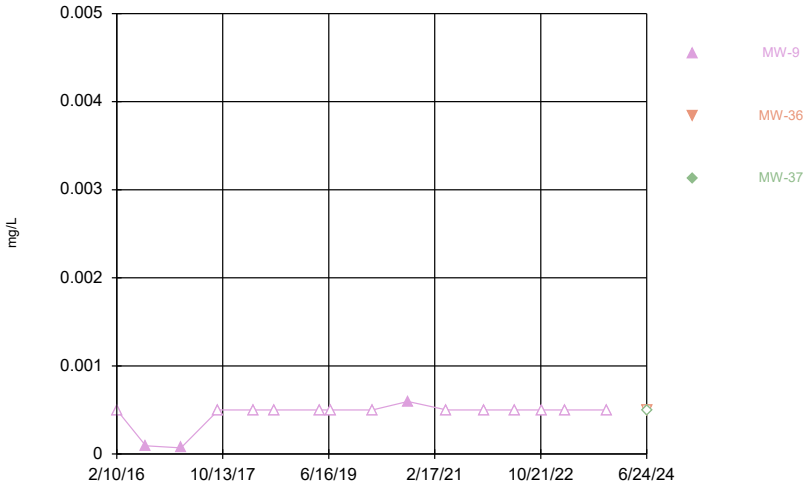

Constituent: Thallium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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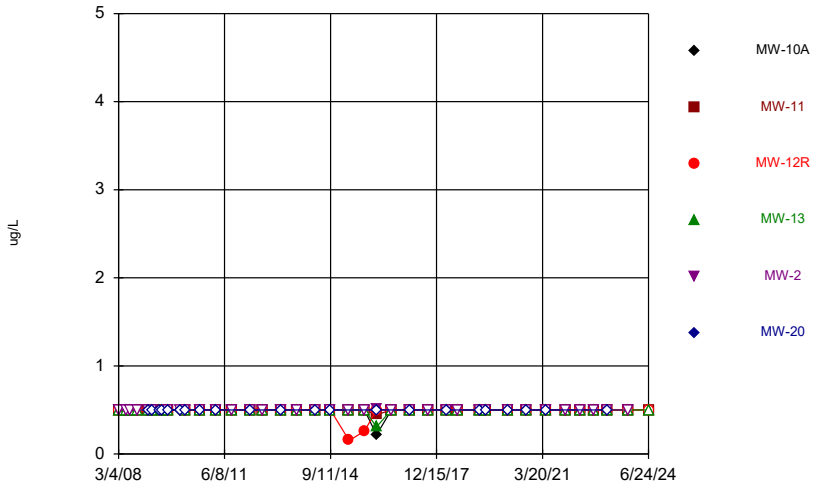
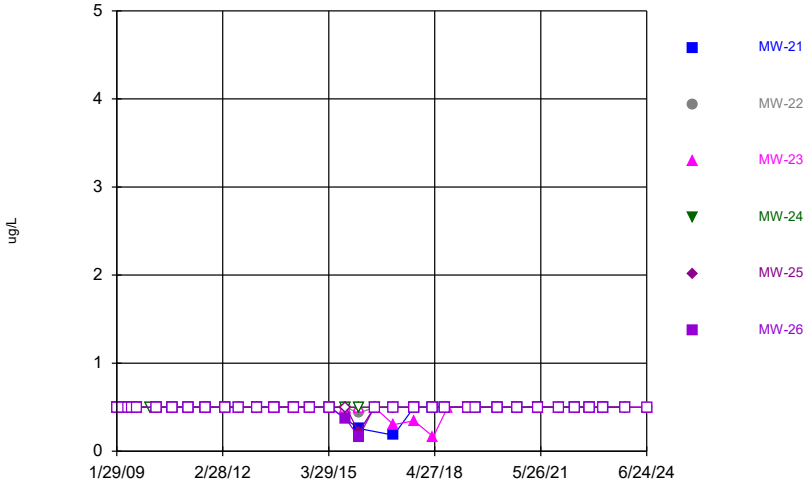


Constituent: Toluene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

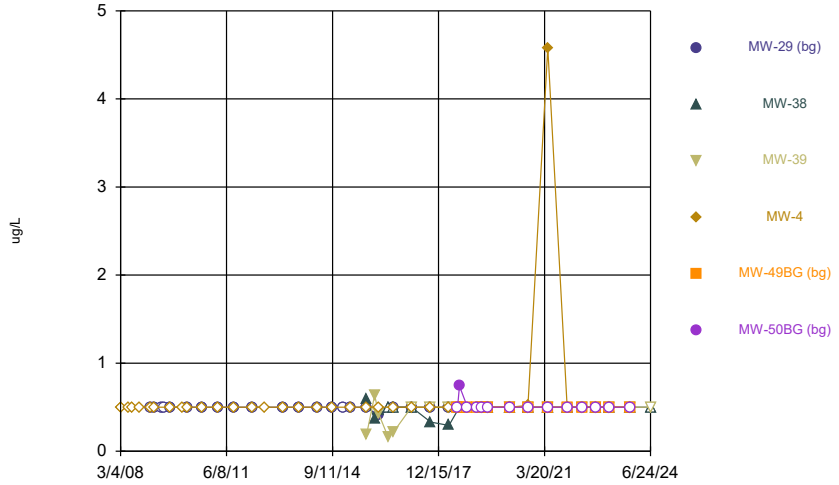
Time Series



Constituent: Toluene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Toluene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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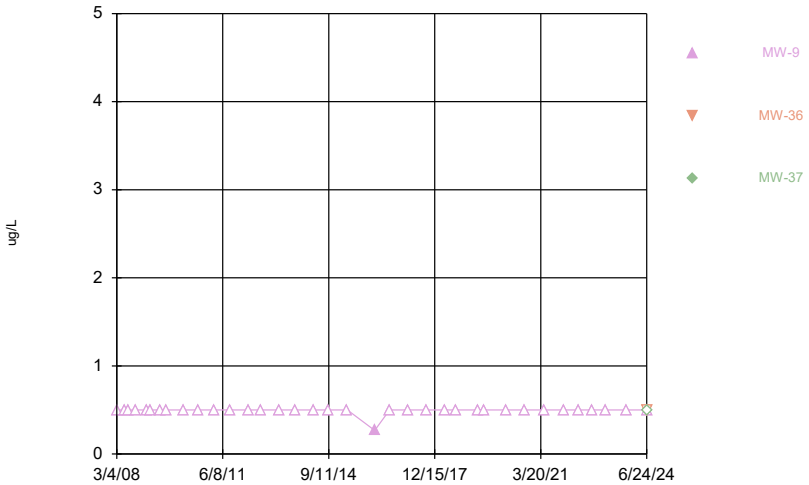

Constituent: Toluene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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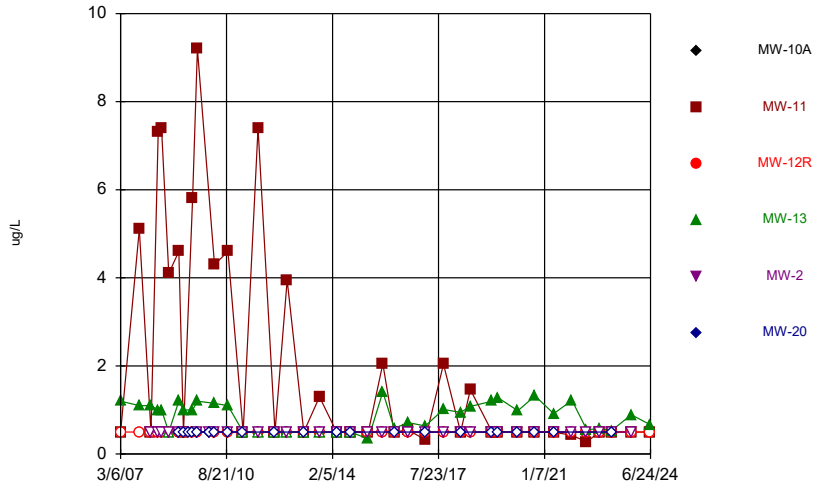
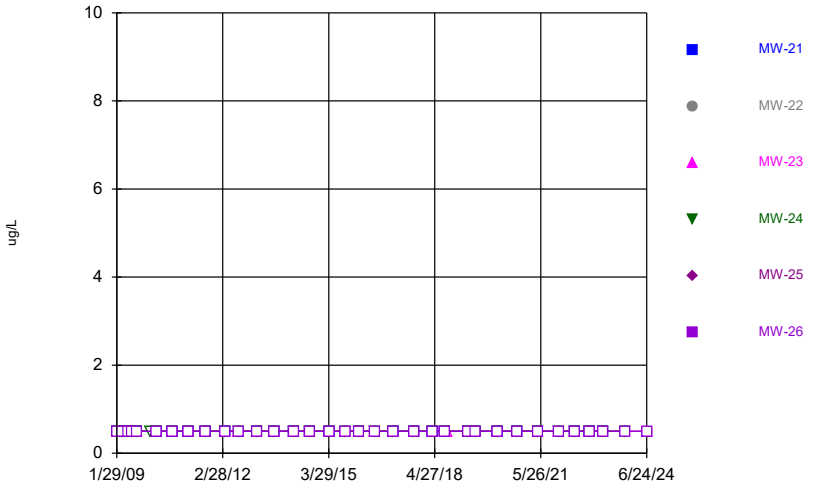
Time Series



Constituent: trans-1,2-Dichloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: trans-1,2-Dichloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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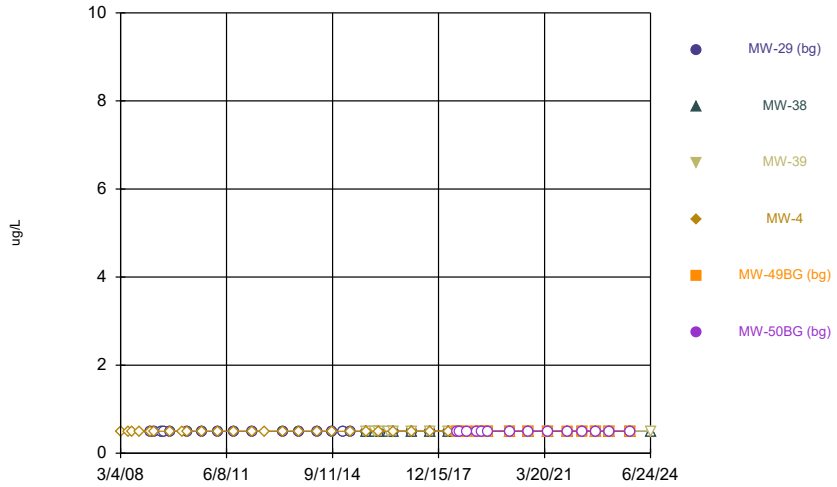
Time Series



Constituent: trans-1,2-Dichloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
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Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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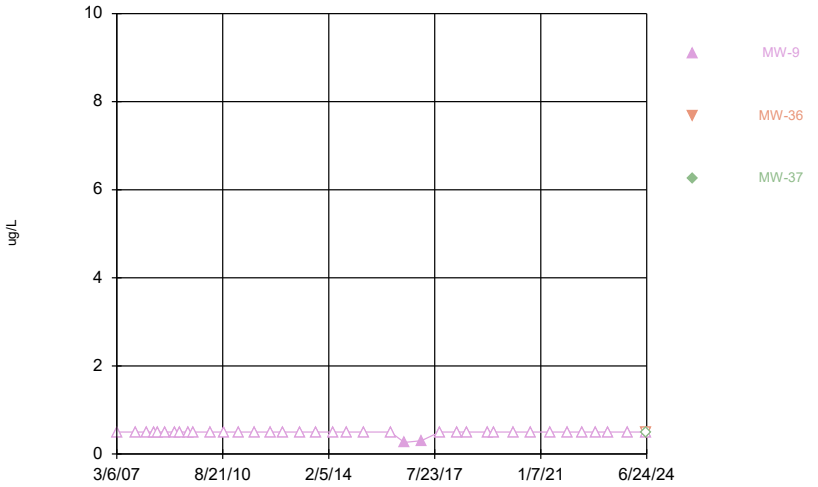

Constituent: trans-1,2-Dichloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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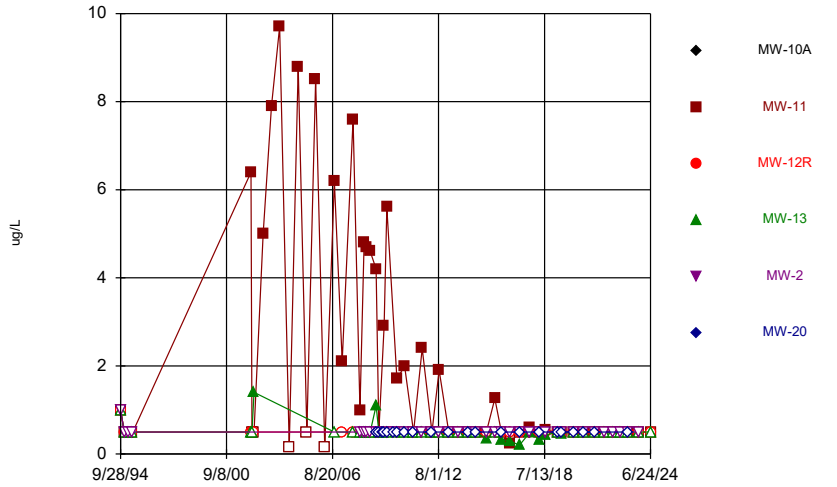

Constituent: Trichloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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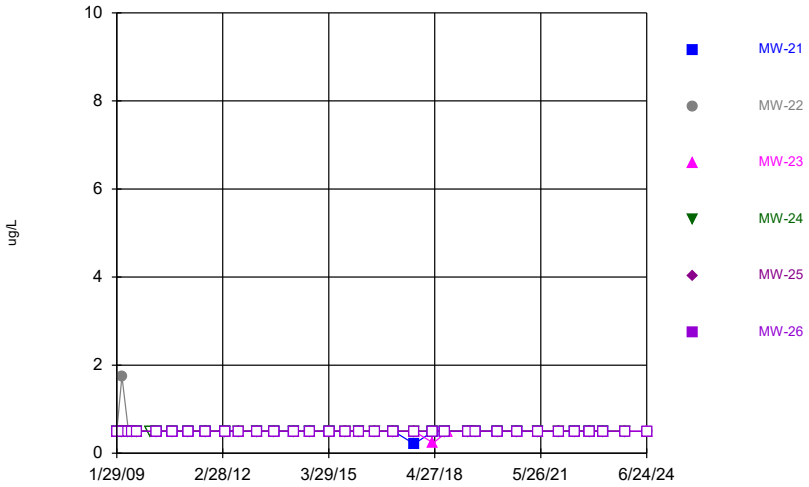

Constituent: Trichloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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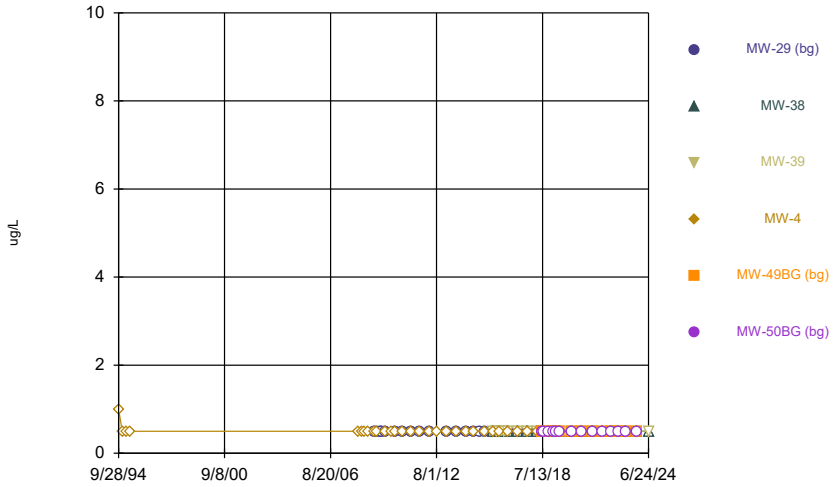

Constituent: Trichloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
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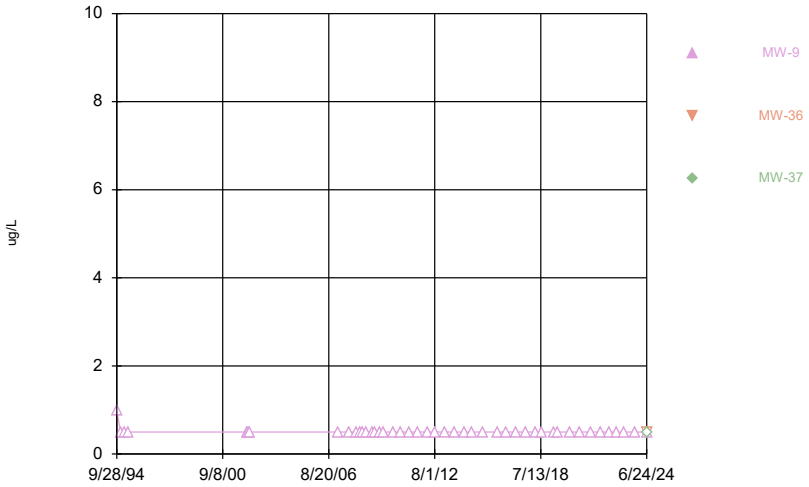
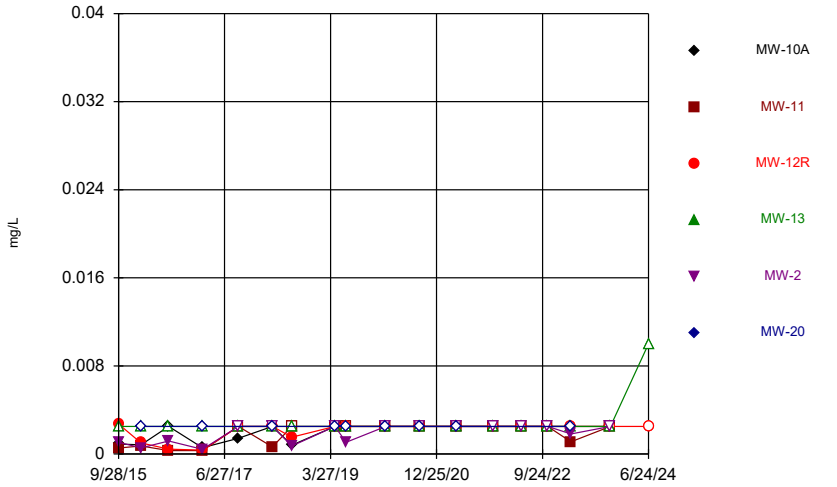
Time Series



Constituent: Trichloroethene Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

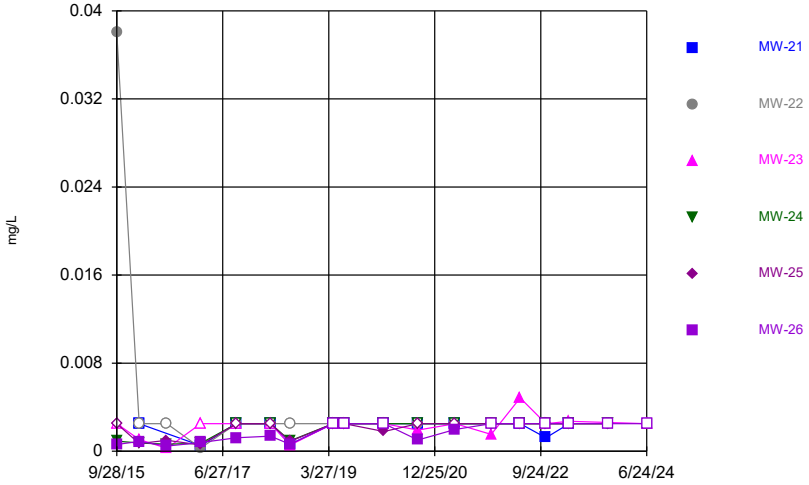
Time Series



Constituent: Vanadium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

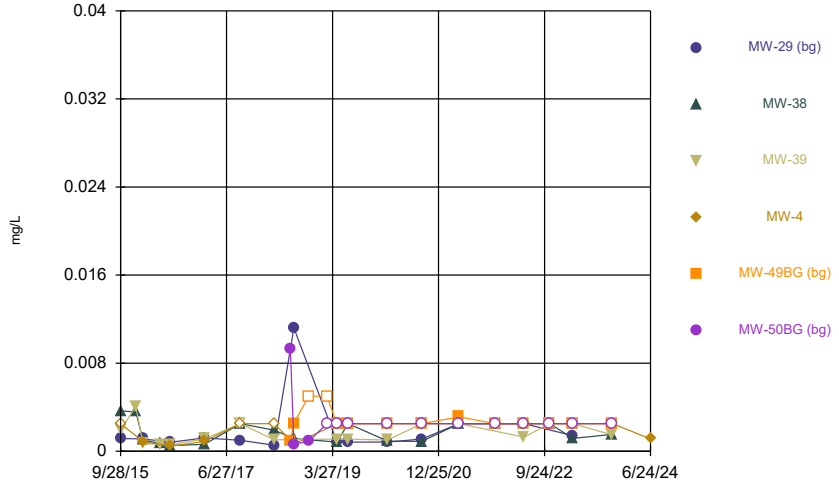
Time Series



Constituent: Vanadium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

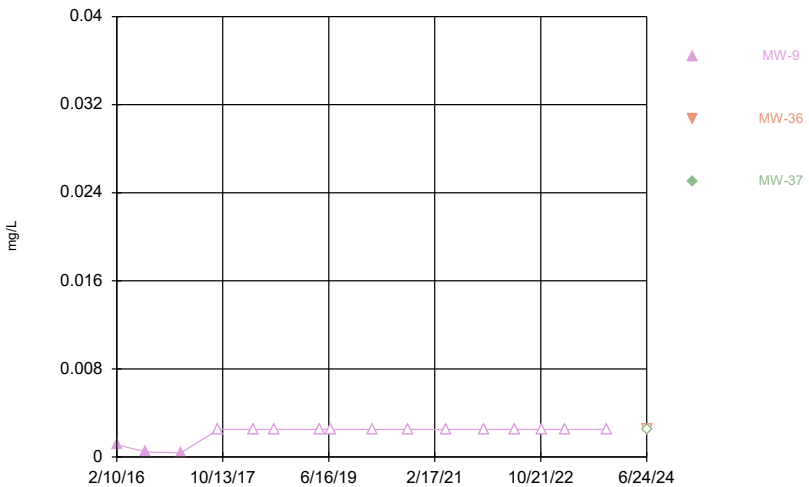
Time Series



Constituent: Vanadium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

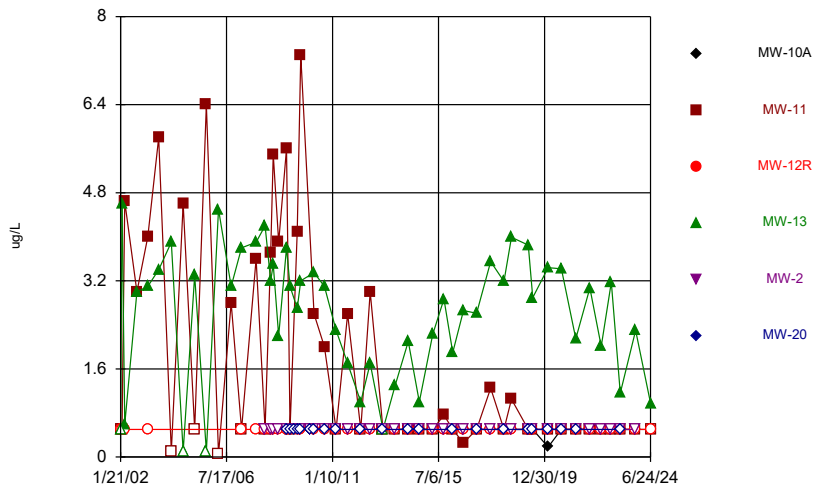
Time Series



Constituent: Vanadium Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

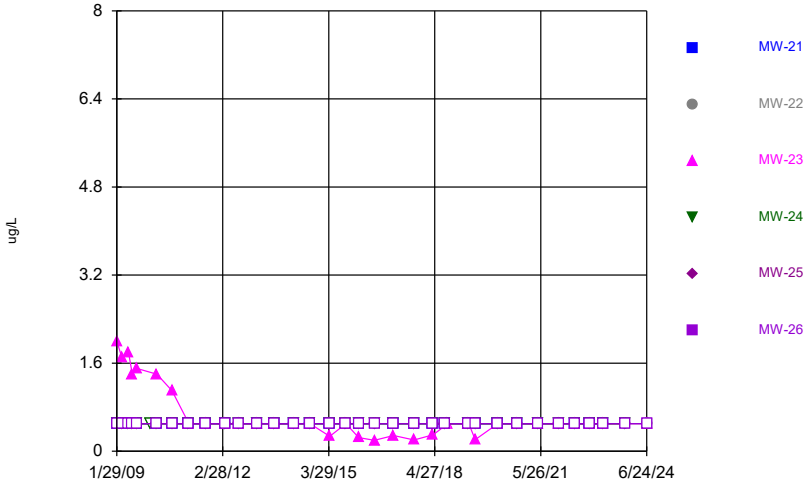
Time Series



Constituent: Vinyl Chloride Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

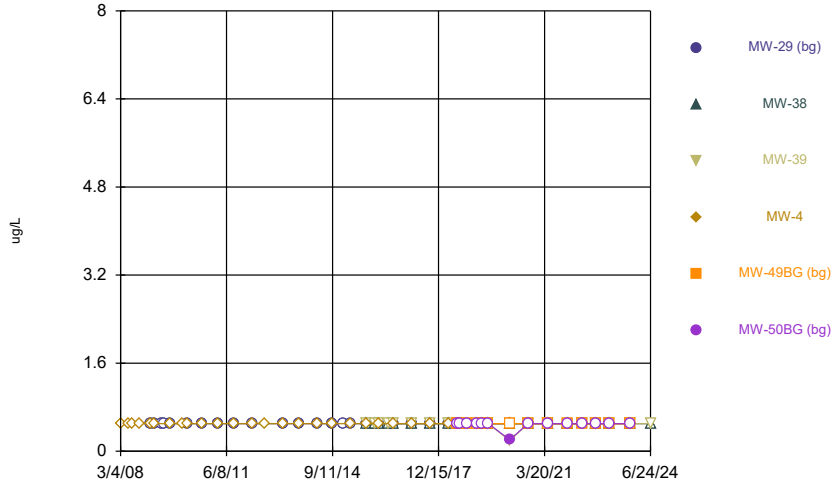
Time Series



Constituent: Vinyl Chloride Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

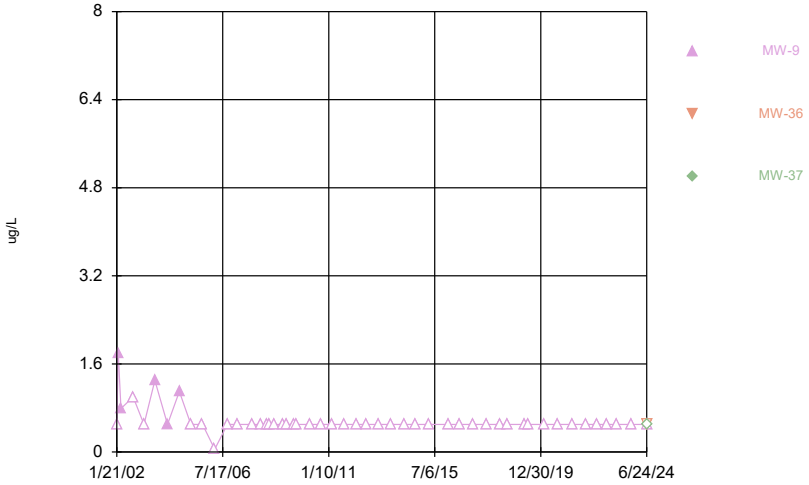
Time Series



Constituent: Vinyl Chloride Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

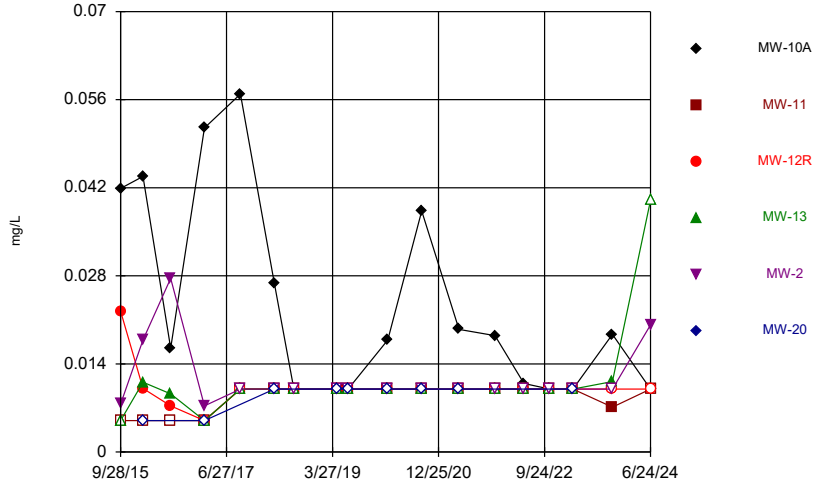
Time Series



Constituent: Vinyl Chloride Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

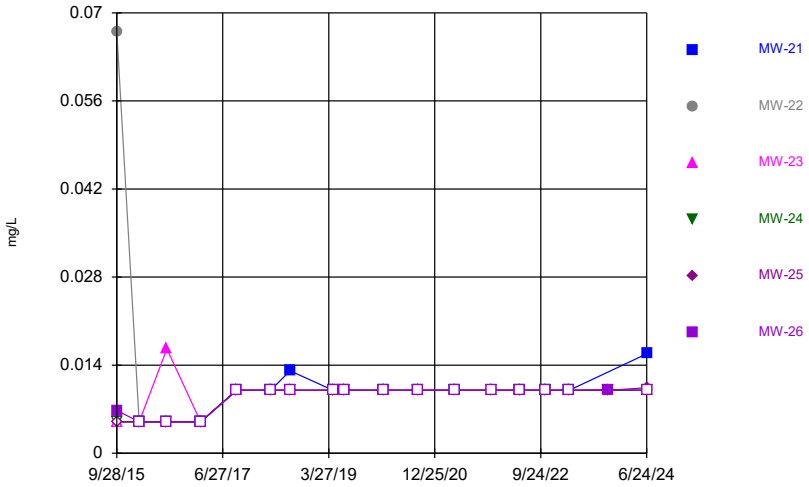
Time Series



Constituent: Zinc Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

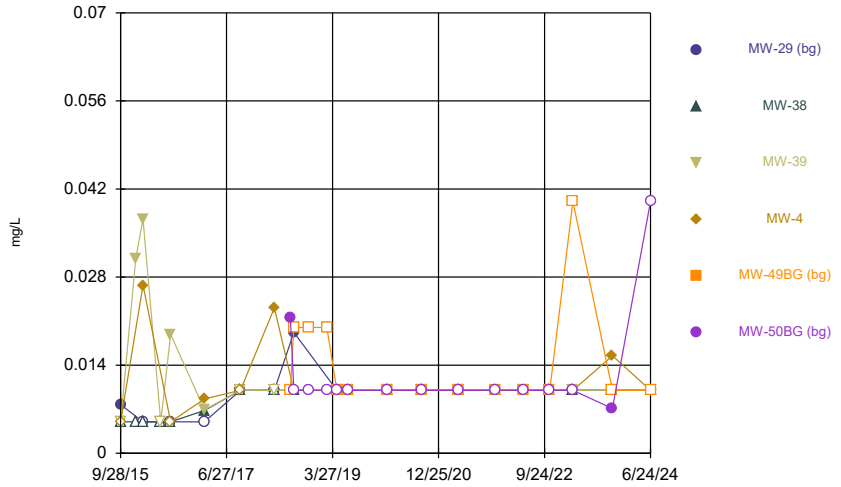
Time Series



Constituent: Zinc Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

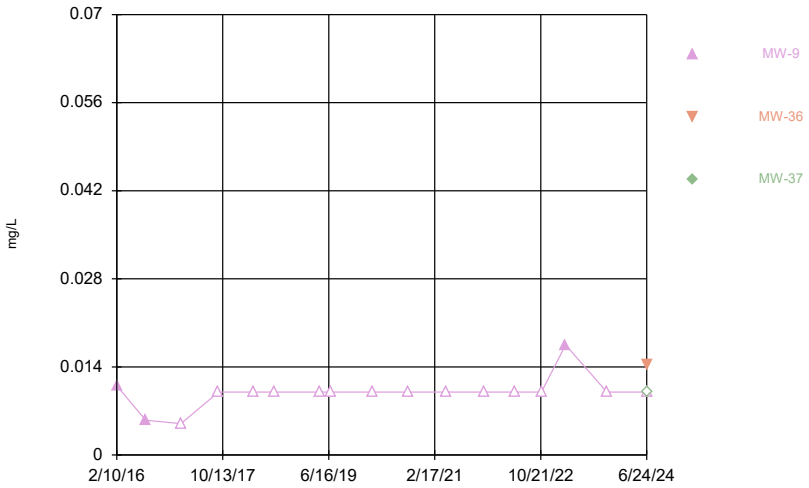
Time Series



Constituent: Zinc Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Zinc Analysis Run 10/30/2024 2:26 PM View: 2024SSN - Time Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Outlier Tests Summary Table and Graphs

WaterTable BG Outlier Analysis

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master Printed 11/1/2024, 11:34 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Arsenic (mg/L)	**MW-29,MW-50BG**	**Yes**	**0.00768,0.00522**	**n/a w/combined bg**	**OH**	**NaN**	**30**	**0.001482**	**0.001473**	**n/a**	**n/a**
Barium (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	NP (nrm)/OH	NaN	30	0.1528	0.09589	unknown	ShapiroWilk
Cadmium (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	OH	NaN	30	0.0001556	0.00009087	n/a	n/a
Chromium (mg/L)	**MW-29,MW-50BG**	**Yes**	**0.00832**	**n/a w/combined bg**	**NP (nrm)/OH**	**NaN**	**30**	**0.002478**	**0.001305**	**unknown**	**ShapiroWilk**
Cobalt (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	NP (nrm)/OH	NaN	30	0.002231	0.002748	unknown	ShapiroWilk
Copper (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	OH	NaN	30	0.002525	0.0006672	n/a	n/a
Lead (mg/L)	**MW-29,MW-50BG**	**Yes**	**0.00014,0.00312,0.00048,0.00273**	**n/a w/combined bg**	**NP (nrm)/OH**	**NaN**	**30**	**0.0004452**	**0.0006784**	**unknown**	**ShapiroWilk**
Nickel (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	NP (nrm)/OH	NaN	30	0.00771	0.00584	unknown	ShapiroWilk
Zinc (mg/L)	**MW-29,MW-50BG**	**Yes**	**0.04**	**n/a w/combined bg**	**OH**	**NaN**	**30**	**0.01102**	**0.006363**	**n/a**	**n/a**

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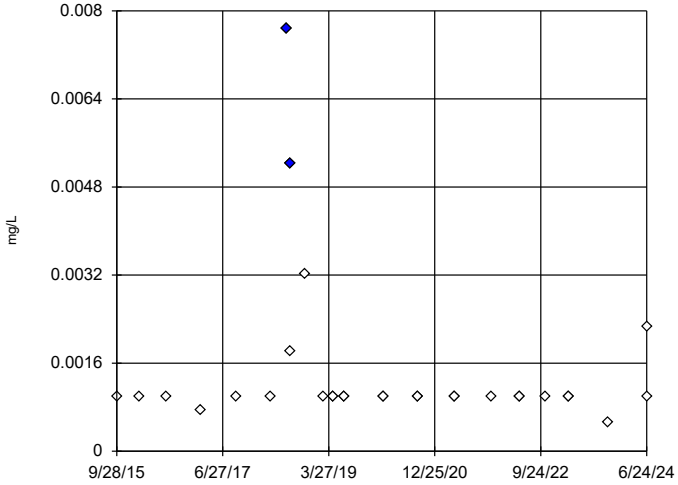
Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

Statistical outliers are drawn as solid.
Outliers per Ohio method.

Constituent: Arsenic Analysis Run 11/1/2024 11:32 AM View: 2024SSN - Outliers WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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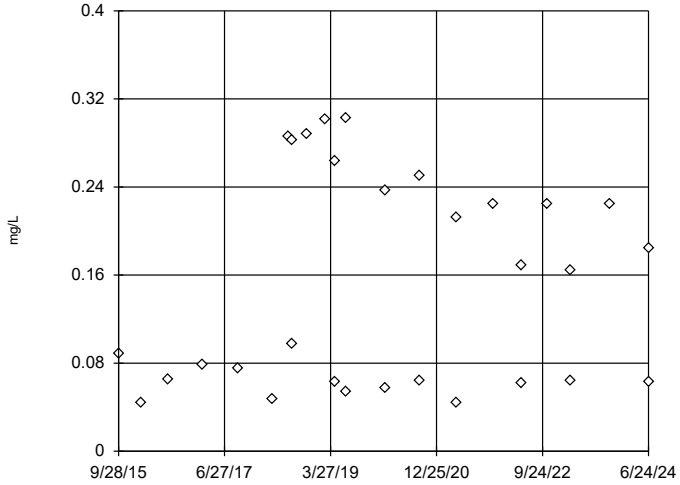
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 14.11, low cutoff = 0.001085, based on IQR multiplier of 3.

Constituent: Barium Analysis Run 11/1/2024 11:32 AM View: 2024SSN - Outliers WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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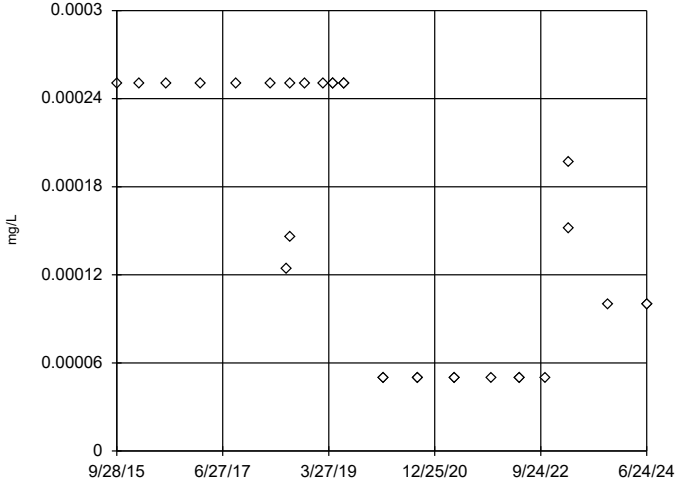
Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

No statistical outliers.

Constituent: Cadmium Analysis Run 11/1/2024 11:32 AM View: 2024SSN - Outliers WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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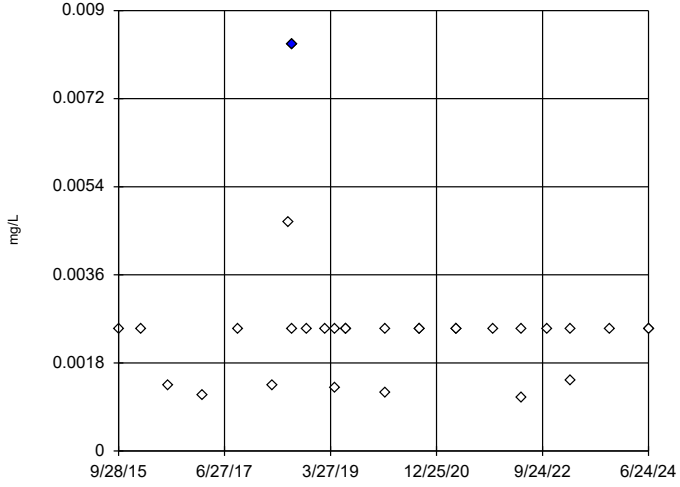
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

Outlier is drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.005779, low cutoff = 0.000818, based on IQR multiplier of 3.

Constituent: Chromium Analysis Run 11/1/2024 11:32 AM View: 2024SSN - Outliers WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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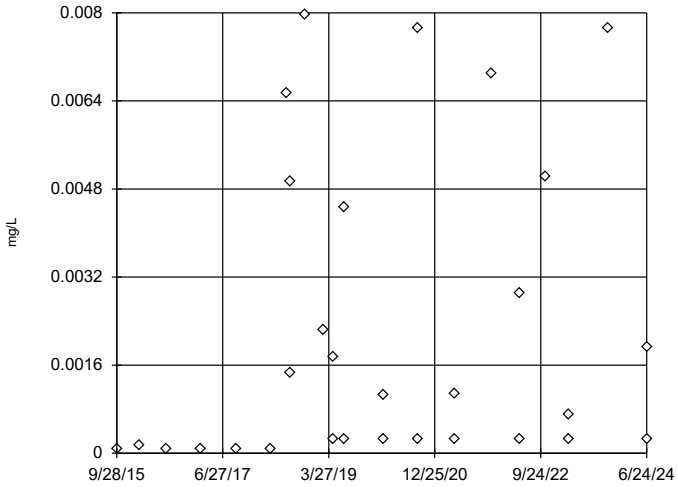
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 31.07, low cutoff = 3.8e-8, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 11/1/2024 11:32 AM View: 2024SSN - Outliers WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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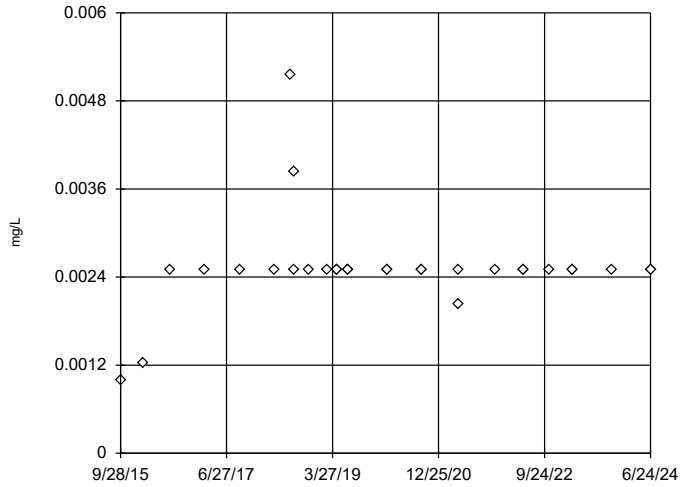
Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

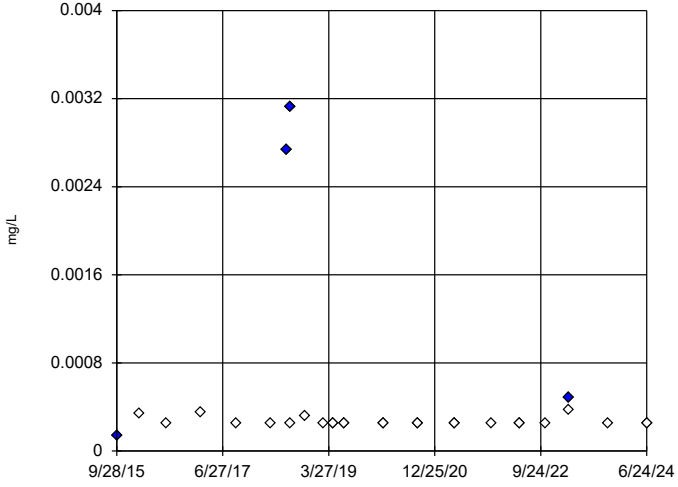
No statistical outliers.

Constituent: Copper Analysis Run 11/1/2024 11:32 AM View: 2024SSN - Outliers WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

Outliers are drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.0004173, low cutoff = 0.0001702, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 11/1/2024 11:32 AM View: 2024SSN - Outliers WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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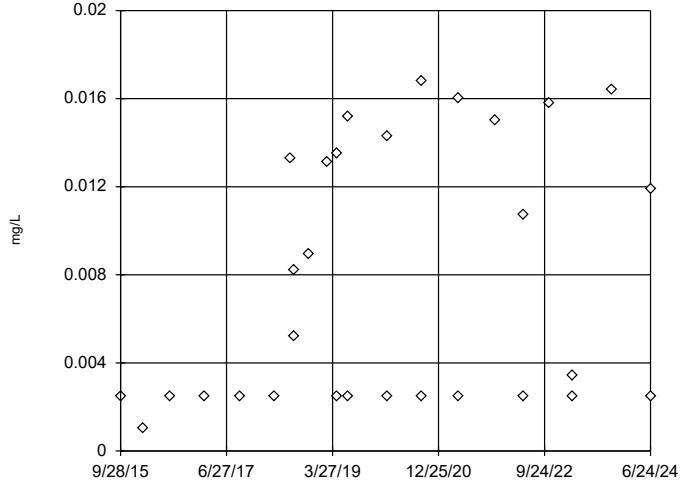
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 2.385, low cutoff = 0.00001456, based on IQR multiplier of 3.

Constituent: Nickel Analysis Run 11/1/2024 11:32 AM View: 2024SSN - Outliers WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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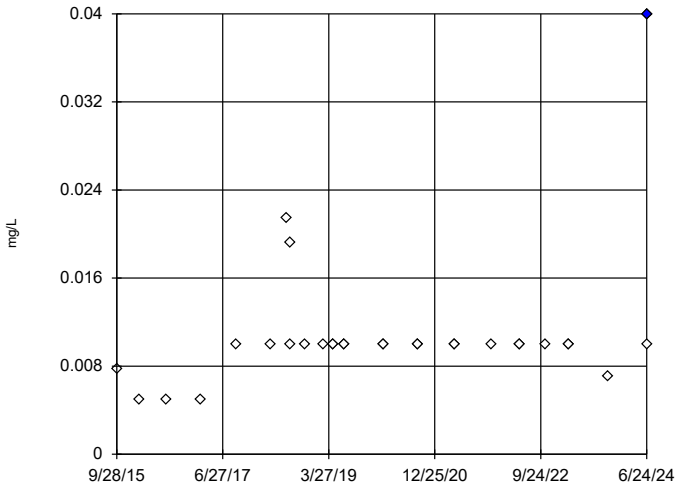
Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Zinc Analysis Run 11/1/2024 11:32 AM View: 2024SSN - Outliers WaterTable

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Bedrock BG Outlier Analysis

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master Printed 10/31/2024, 10:45 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Arsenic (mg/L)	MW-49BG (bg)	No	n/a	n/a	EPA/OH	0.05	15	0.002114	0.0006376	normal	ShapiroWilk
Barium (mg/L)	**MW-49BG (bg)**	**Yes**	**0.059**	**6/24/2024**	**Dixon/OH**	**0.05**	**15**	**1.932**	**0.5993**	**normal**	**ShapiroWilk**
Cadmium (mg/L)	**MW-49BG (bg)**	**Yes**	**0.0005,0.0005,0.0005**	**8/7/2018,11/5/2018,2/21/2019**	**OH**	**NaN**	**15**	**0.0001991**	**0.0001749**	**n/a**	**n/a**
Chromium (mg/L)	MW-49BG (bg)	No	n/a	n/a	OH	NaN	15	0.002847	0.001189	n/a	n/a
Cobalt (mg/L)	**MW-49BG (bg)**	**Yes**	**0.0123**	**4/27/2021**	**Dixon/OH**	**0.05**	**15**	**0.006946**	**0.001801**	**normal**	**ShapiroWilk**
Copper (mg/L)	**MW-49BG (bg)**	**Yes**	**0.0286**	**6/24/2024**	**OH**	**NaN**	**15**	**0.005127**	**0.006631**	**n/a**	**n/a**
Lead (mg/L)	MW-49BG (bg)	No	n/a	n/a	NP (nrm)/OH	NaN	15	0.0005125	0.0005448	unknown	ShapiroWilk
Nickel (mg/L)	**MW-49BG (bg)**	**Yes**	**0.0186**	**4/27/2021**	**Dixon/OH**	**0.05**	**15**	**0.007835**	**0.003464**	**normal**	**ShapiroWilk**

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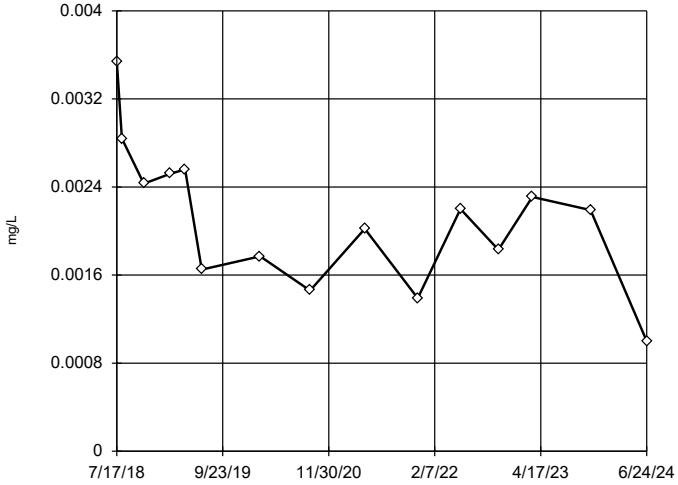
EPA Screening (suspected outliers for Dixon's Test)

MW-49BG (bg)



n = 15

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.002114, std. dev. 0.0006376, critical Tn 2.409

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9824
Critical = 0.901
The distribution was found to be normally distributed.

Constituent: Arsenic Analysis Run 10/31/2024 10:41 AM View: 2024SSN - Outliers Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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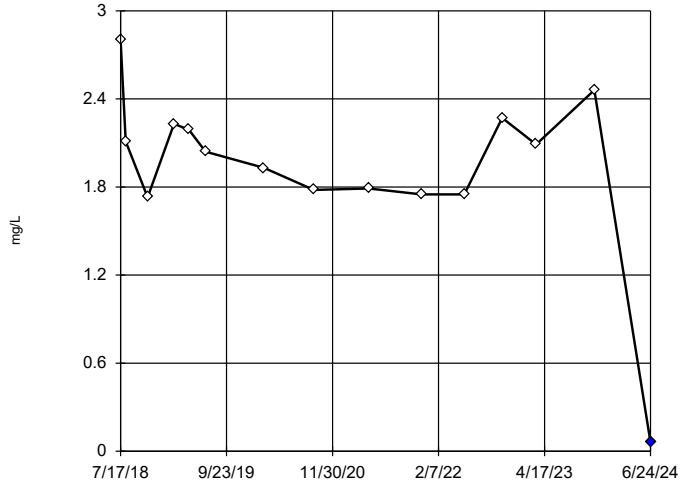
Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

Statistical outlier is drawn as solid.
Testing for 1 low outlier.
Mean = 1.932.
Std. Dev. = 0.5993.
0.059: c = 0.7648
tabl = 0.525.
Alpha = 0.05.

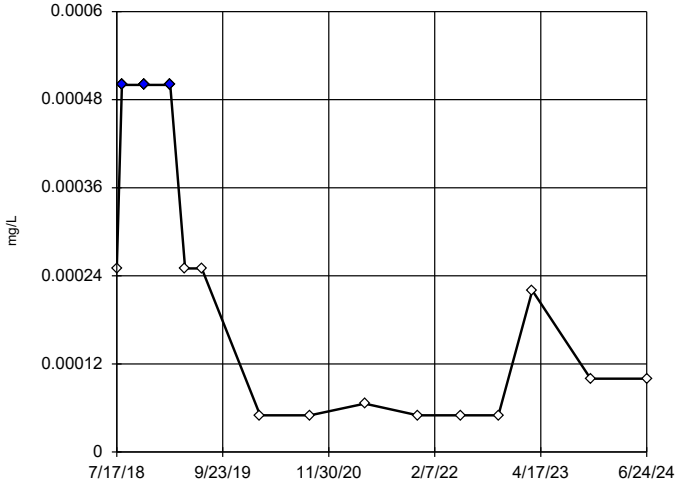
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.902
Critical = 0.895
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Barium Analysis Run 10/31/2024 10:41 AM View: 2024SSN - Outliers Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

Statistical outliers are drawn as solid.
Outliers per Ohio method.

Constituent: Cadmium Analysis Run 10/31/2024 10:41 AM View: 2024SSN - Outliers Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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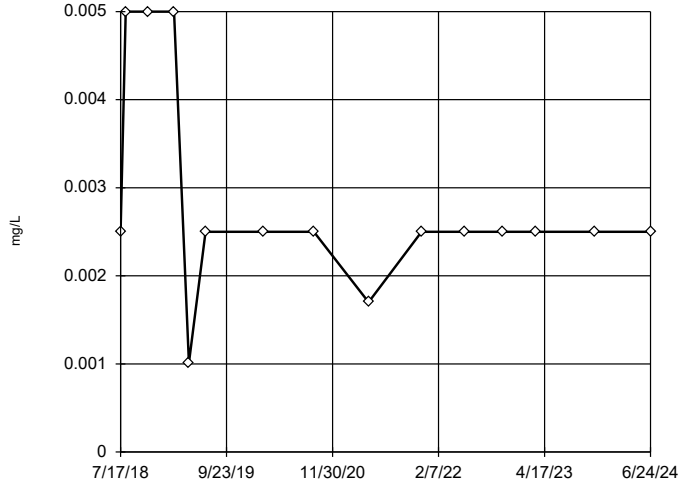
Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

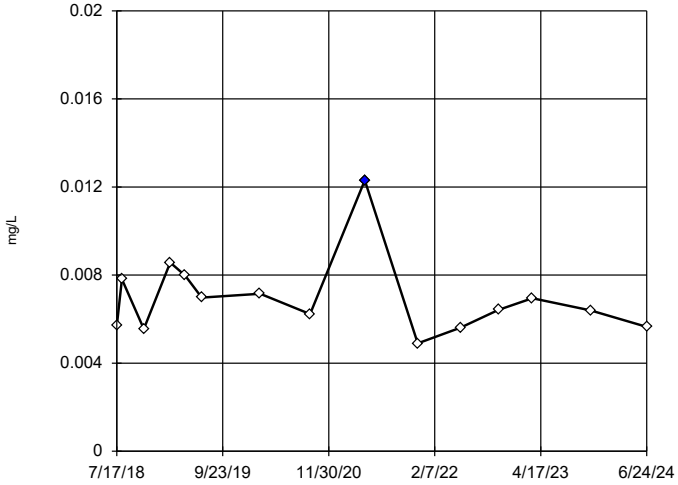
No statistical outliers.

Constituent: Chromium Analysis Run 10/31/2024 10:41 AM View: 2024SSN - Outliers Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 0.006946.
Std. Dev. = 0.001801.
0.0123: c = 0.6457
tabl = 0.525.
Alpha = 0.05.

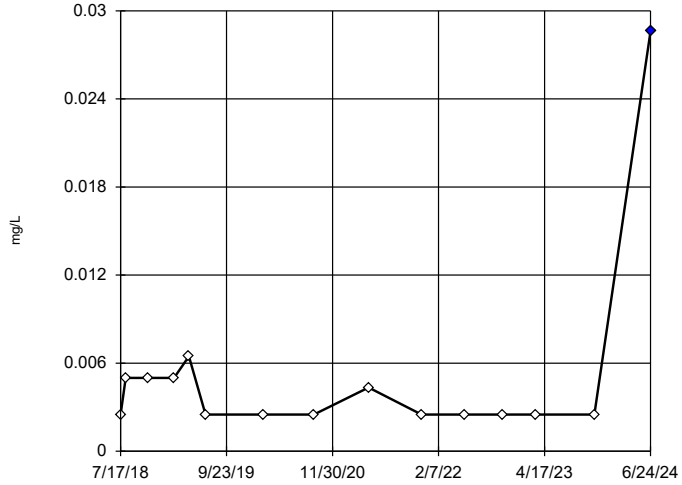
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9597
Critical = 0.895
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Cobalt Analysis Run 10/31/2024 10:41 AM View: 2024SSN - Outliers Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Copper Analysis Run 10/31/2024 10:41 AM View: 2024SSN - Outliers Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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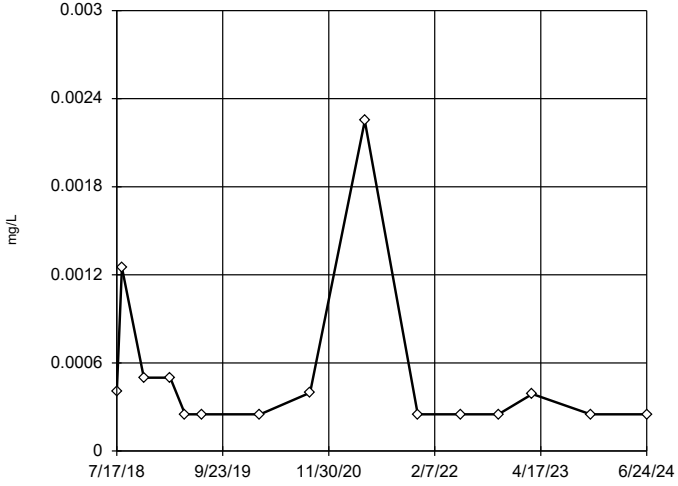
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Lead Analysis Run 10/31/2024 10:41 AM View: 2024SSN - Outliers Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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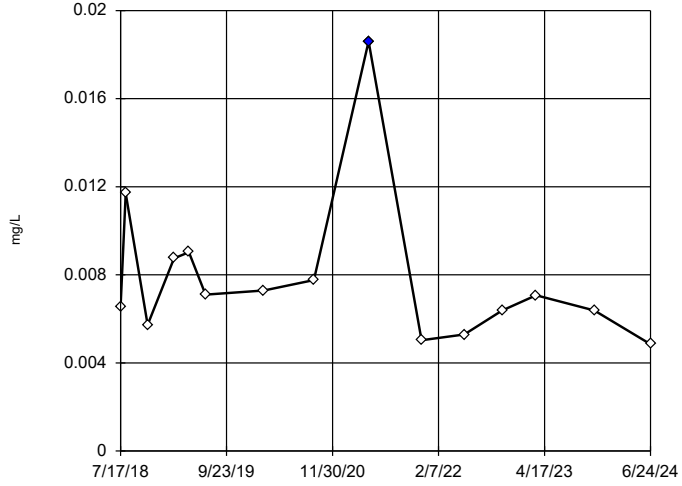
Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 0.007835.
Std. Dev. = 0.003464.
0.0186: c = 0.719
tabl = 0.525.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9097
Critical = 0.895
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Nickel Analysis Run 10/31/2024 10:41 AM View: 2024SSN - Outliers Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Prediction Limit Summary Table and Graphs

WaterTable Prediction Limit

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master Printed 11/1/2024, 2:18 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	MW-10A	0.00768	n/a	6/24/2024	0.0073	No	30	76.67	n/a	0.001895	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	MW-21	0.00768	n/a	6/24/2024	0.00596	No	30	76.67	n/a	0.001895	NP Inter (NDs) 1 of 2
Barium (mg/L)	**MW-10A**	**0.303**	**n/a**	**6/24/2024**	**0.413**	**Yes**	**30**	**0**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Barium (mg/L)	MW-2	0.303	n/a	6/24/2024	0.168	No	30	0	n/a	0.001895	NP Inter (normality) ...
Barium (mg/L)	**MW-21**	**0.303**	**n/a**	**6/24/2024**	**0.567**	**Yes**	**30**	**0**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Barium (mg/L)	MW-22	0.303	n/a	6/24/2024	0.105	No	30	0	n/a	0.001895	NP Inter (normality) ...
Barium (mg/L)	MW-24	0.303	n/a	6/24/2024	0.248	No	30	0	n/a	0.001895	NP Inter (normality) ...
Barium (mg/L)	MW-25	0.303	n/a	6/24/2024	0.172	No	30	0	n/a	0.001895	NP Inter (normality) ...
Barium (mg/L)	**MW-9**	**0.303**	**n/a**	**6/24/2024**	**0.385**	**Yes**	**30**	**0**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Cadmium (mg/L)	**MW-21**	**0.00025**	**n/a**	**6/24/2024**	**0.000373**	**Yes**	**30**	**86.67**	**n/a**	**0.001895**	**NP Inter (NDs) 1 of 2**
Cadmium (mg/L)	**MW-22**	**0.00025**	**n/a**	**6/24/2024**	**0.00139**	**Yes**	**30**	**86.67**	**n/a**	**0.001895**	**NP Inter (NDs) 1 of 2**
Cadmium (mg/L)	**MW-9**	**0.00025**	**n/a**	**6/24/2024**	**0.000281**	**Yes**	**30**	**86.67**	**n/a**	**0.001895**	**NP Inter (NDs) 1 of 2**
Cobalt (mg/L)	MW-10A	0.00797	n/a	6/24/2024	0.00227	No	30	23.33	n/a	0.001895	NP Inter (normality) ...
Cobalt (mg/L)	**MW-2**	**0.00797**	**n/a**	**6/24/2024**	**0.0495**	**Yes**	**30**	**23.33**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Cobalt (mg/L)	MW-22	0.00797	n/a	6/24/2024	0.00385	No	30	23.33	n/a	0.001895	NP Inter (normality) ...
Cobalt (mg/L)	**MW-9**	**0.00797**	**n/a**	**6/24/2024**	**0.0143**	**Yes**	**30**	**23.33**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Copper (mg/L)	**MW-24**	**0.00516**	**n/a**	**6/24/2024**	**0.00597**	**Yes**	**30**	**86.67**	**n/a**	**0.001895**	**NP Inter (NDs) 1 of 2**
Nickel (mg/L)	MW-2	0.0168	n/a	6/24/2024	0.0161	No	30	43.33	n/a	0.001895	NP Inter (normality) ...
Nickel (mg/L)	MW-22	0.0168	n/a	6/24/2024	0.0118	No	30	43.33	n/a	0.001895	NP Inter (normality) ...
Nickel (mg/L)	**MW-9**	**0.0168**	**n/a**	**6/24/2024**	**0.0178**	**Yes**	**30**	**43.33**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Zinc (mg/L)	MW-2	0.04	n/a	6/24/2024	0.0202	No	30	86.67	n/a	0.001895	NP Inter (NDs) 1 of 2

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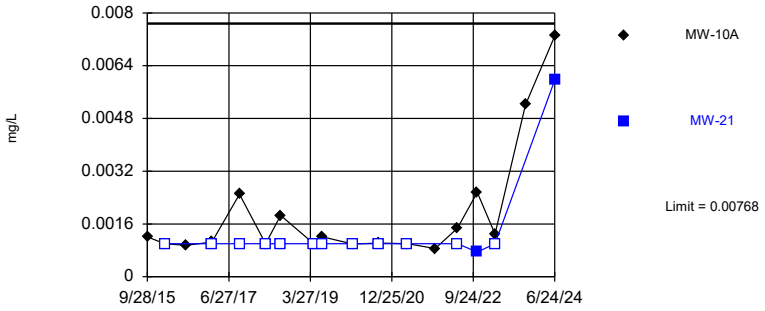
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 76.67% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Comparing 2 points to limit. Assumes 6 future values.

Constituent: Arsenic Analysis Run 11/1/2024 2:17 PM View: 2024SSN - PL WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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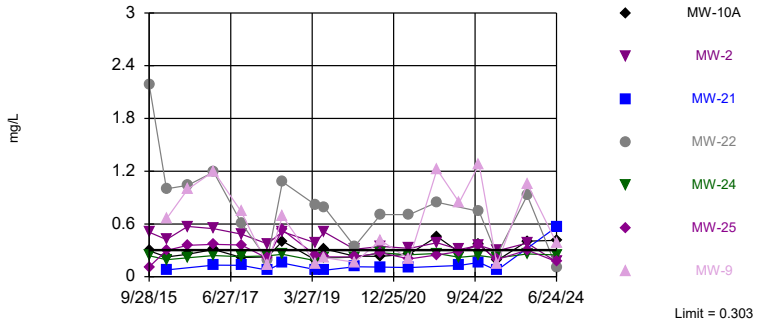
Exceeds Limit: MW-10A, MW-21, MW-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 30 background values. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Comparing 7 points to limit. Assumes 1 future value.

Constituent: Barium Analysis Run 11/1/2024 2:17 PM View: 2024SSN - PL WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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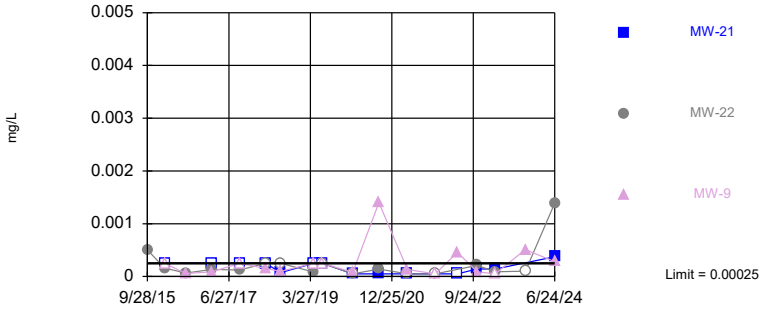
Hollow symbols indicate censored values.

Exceeds Limit: MW-21, MW-22, MW-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 86.67% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Comparing 3 points to limit. Assumes 5 future values.

Constituent: Cadmium Analysis Run 11/1/2024 2:17 PM View: 2024SSN - PL WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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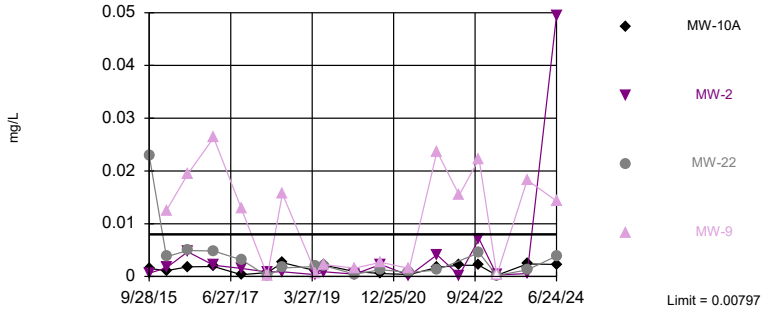
Hollow symbols indicate censored values.

Exceeds Limit: MW-2, MW-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 30 background values. 23.33% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Comparing 4 points to limit. Assumes 4 future values.

Constituent: Cobalt Analysis Run 11/1/2024 2:17 PM View: 2024SSN - PL WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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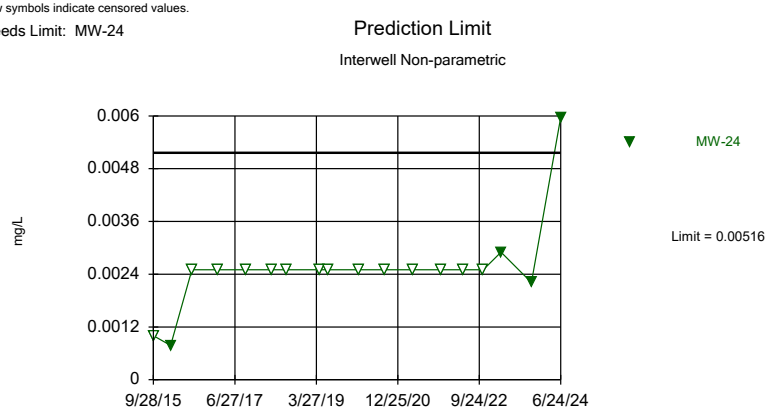
Hollow symbols indicate censored values.

Exceeds Limit: MW-24



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 86.67% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Assumes 7 future values.

Constituent: Copper Analysis Run 11/1/2024 2:17 PM View: 2024SSN - PL WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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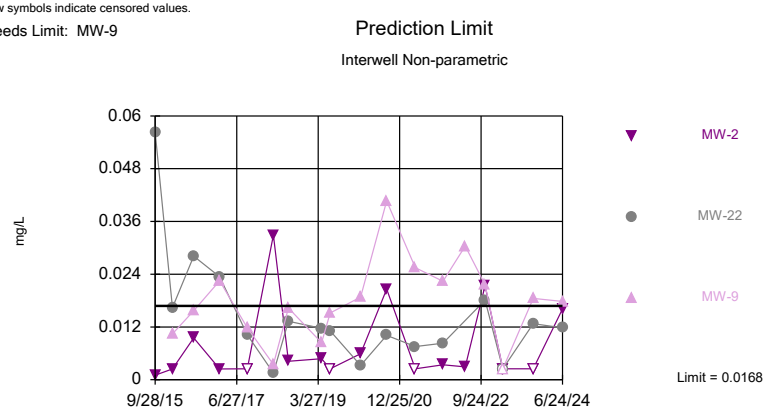
Hollow symbols indicate censored values.

Exceeds Limit: MW-9



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 30 background values. 43.33% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Comparing 3 points to limit. Assumes 5 future values.

Constituent: Nickel Analysis Run 11/1/2024 2:17 PM View: 2024SSN - PL WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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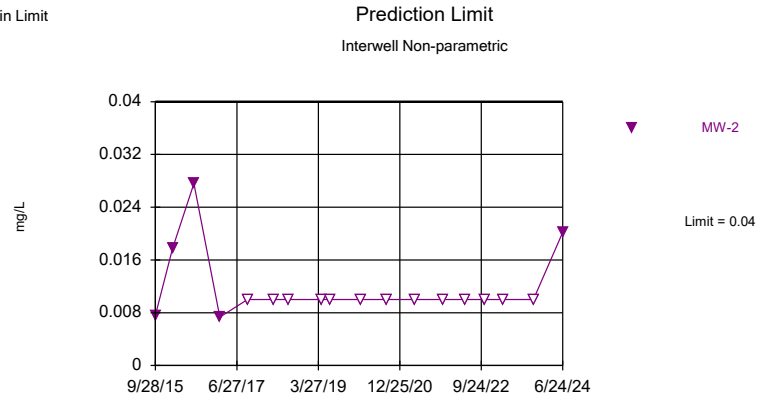
Hollow symbols indicate censored values.

Within Limit



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 86.67% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Assumes 7 future values.

Constituent: Zinc Analysis Run 11/1/2024 2:17 PM View: 2024SSN - PL WaterTable
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Bedrock Prediction Limit

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master Printed 10/31/2024, 4:04 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	MW-11	0.003327	n/a	6/24/2024	0.001645	No	15	6.667	No	0.003287	Param Inter 1 of 2
Barium (mg/L)	MW-11	2.716	n/a	6/24/2024	0.181	No	15	0	x^2	0.003287	Param Inter 1 of 2

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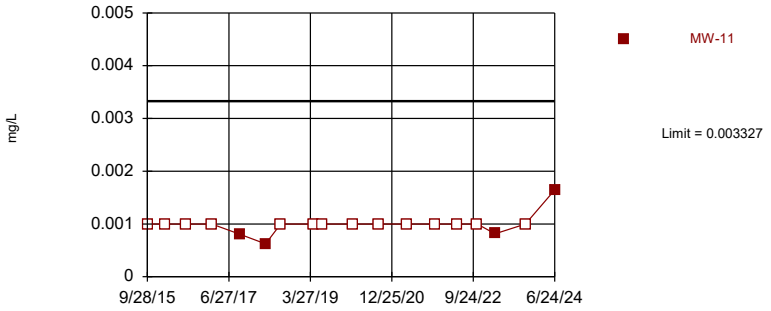
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=0.002114, Std. Dev.=0.0006376, n=15, 6.667% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9824, critical = 0.835. Kappa = 1.902 (c=8, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.006563. Individual comparison alpha = 0.003287. Assumes 1 future value.

Constituent: Arsenic Analysis Run 10/31/2024 4:02 PM View: 2024SSN - PL Bedrock

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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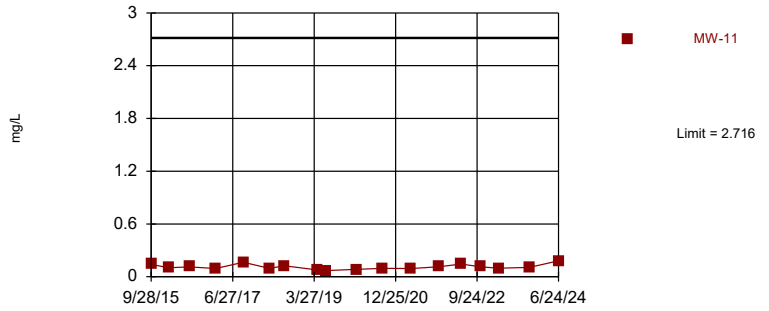
Within Limit

Prediction Limit

Interwell Parametric



Background Data Summary (based on square transformation): Mean=4.068, Std. Dev.=1.738, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9338, critical = 0.835. Kappa = 1.902 (c=8, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.006563. Individual comparison alpha = 0.003287. Assumes 1 future value.

Constituent: Barium Analysis Run 10/31/2024 4:02 PM View: 2024SSN - PL Bedrock

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Mann-Kendall Trend Test Summary Table and Graphs

Trend Test

Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM Printed 11/1/2024, 3:18 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
Arsenic (mg/L)	MW-9	-0.0001117	-2	-21	No	8	0	0.01	NP
Arsenic (mg/L)	MW-10A	0.001498	18	21	No	8	12.5	0.01	NP
Arsenic (mg/L)	MW-11	0	3	21	No	8	75	0.01	NP
Arsenic (mg/L)	MW-21	0	3	21	No	8	75	0.01	NP
Arsenic (mg/L)	MW-22	0	-1	-21	No	8	37.5	0.01	NP
Arsenic (mg/L)	MW-26	0.00002391	0	21	No	8	12.5	0.01	NP
Barium (mg/L)	MW-2	-0.01996	-8	-21	No	8	0	0.01	NP
Barium (mg/L)	MW-9	0.02573	0	21	No	8	0	0.01	NP
Barium (mg/L)	MW-10A	0.03619	10	21	No	8	0	0.01	NP
Barium (mg/L)	MW-11	0.01022	10	21	No	8	0	0.01	NP
Barium (mg/L)	MW-20	0.003902	16	21	No	8	0	0.01	NP
Barium (mg/L)	MW-21	0.02053	10	21	No	8	0	0.01	NP
Barium (mg/L)	MW-22	0.009573	2	21	No	8	0	0.01	NP
Barium (mg/L)	MW-24	-0.006295	-10	-21	No	8	0	0.01	NP
Barium (mg/L)	MW-25	-0.006341	-2	-21	No	8	0	0.01	NP
Barium (mg/L)	MW-26	-0.004624	-4	-21	No	8	0	0.01	NP
Benzene (ug/L)	MW-9	-0.2889	-14	-21	No	8	12.5	0.01	NP
Benzene (ug/L)	MW-22	0.09856	9	21	No	8	25	0.01	NP
Cadmium (mg/L)	MW-2	0.000006784	4	21	No	8	62.5	0.01	NP
Cadmium (mg/L)	MW-9	-0.00003496	-3	-21	No	8	25	0.01	NP
Cadmium (mg/L)	MW-11	0.00001453	13	21	No	8	87.5	0.01	NP
Cadmium (mg/L)	MW-21	0.00002724	9	21	No	8	37.5	0.01	NP
Cadmium (mg/L)	MW-22	0.00002355	13	21	No	8	50	0.01	NP
Cadmium (mg/L)	MW-24	0	11	21	No	8	87.5	0.01	NP
Cadmium (mg/L)	MW-26	0.000004428	7	21	No	8	75	0.01	NP
Chlorobenzene (ug/L)	MW-9	1.494	2	21	No	8	12.5	0.01	NP
Chromium (mg/L)	MW-11	0	-7	-21	No	8	87.5	0.01	NP
cis-1,2-Dichloroethene (ug/L)	MW-9	0.1209	7	21	No	8	25	0.01	NP
cis-1,2-Dichloroethene (ug/L)	MW-11	0	1	21	No	8	37.5	0.01	NP
Cobalt (mg/L)	MW-2	0.000307	10	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-9	0.0007314	0	21	No	8	12.5	0.01	NP
Cobalt (mg/L)	MW-10A	0.0003835	12	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-11	-0.000004966	-1	-21	No	8	25	0.01	NP
Cobalt (mg/L)	MW-20	0.000006807	6	21	No	8	50	0.01	NP
Cobalt (mg/L)	MW-22	0.0003752	8	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-26	-0.00002035	-1	-21	No	8	12.5	0.01	NP
Cobalt (mg/L)	MW-36	-0.00003492	-7	-21	No	8	25	0.01	NP
Copper (mg/L)	MW-24	0	6	21	No	8	62.5	0.01	NP
Copper (mg/L)	MW-26	0	8	21	No	8	62.5	0.01	NP
Lead (mg/L)	MW-21	0	3	21	No	8	87.5	0.01	NP
Lead (mg/L)	MW-26	0.00001259	2	21	No	8	12.5	0.01	NP
Nickel (mg/L)	MW-2	-0.0001406	-3	-21	No	8	37.5	0.01	NP
Nickel (mg/L)	MW-9	-0.005625	-20	-21	No	8	12.5	0.01	NP
Nickel (mg/L)	MW-10A	-0.0001938	-4	-21	No	8	12.5	0.01	NP
Nickel (mg/L)	MW-20	0	2	21	No	8	62.5	0.01	NP
Nickel (mg/L)	MW-21	-0.0002757	-20	-21	No	8	0	0.01	NP
Nickel (mg/L)	MW-22	0.001359	8	21	No	8	12.5	0.01	NP
Nickel (mg/L)	MW-26	0	-4	-21	No	8	50	0.01	NP
Selenium (mg/L)	MW-20	0.000787	15	21	No	8	25	0.01	NP
Sulfide (mg/L)	MW-26	0.1019	5	8	No	4	75	0.01	NP

Trend Test

Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM Printed 11/1/2024, 3:18 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
Zinc (mg/L)	MW-2	0	7	21	No	8	87.5	0.01	NP
Zinc (mg/L)	MW-10A	-0.004183	-17	-21	No	8	37.5	0.01	NP

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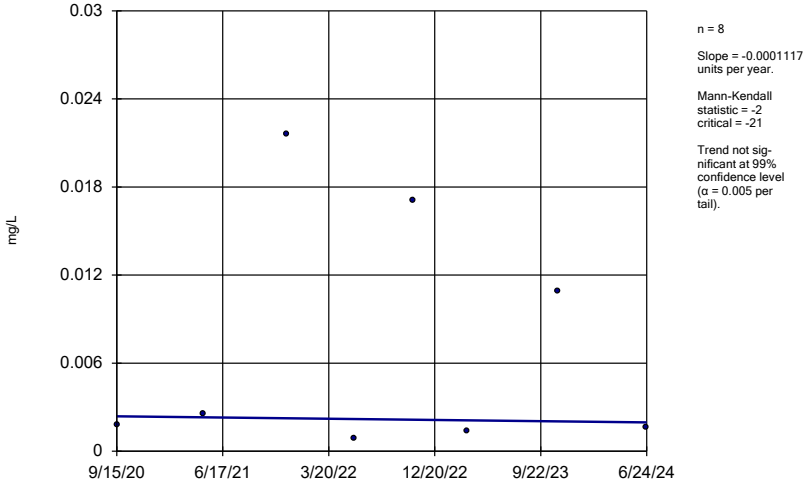
Sen's Slope Estimator

MW-9



Constituent: Arsenic Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall

Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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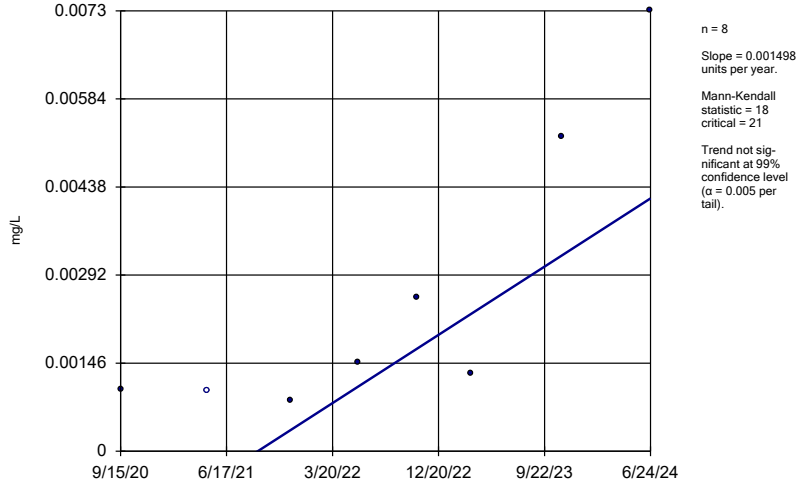
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-10A



Constituent: Arsenic Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall

Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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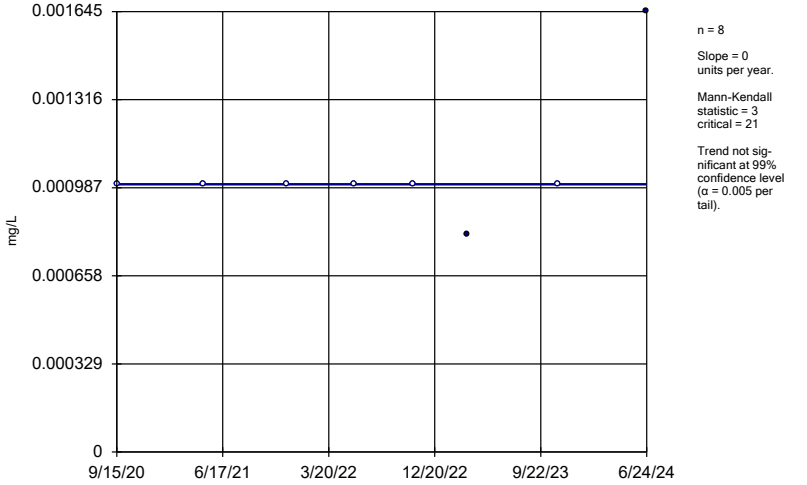
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11



Constituent: Arsenic Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall

Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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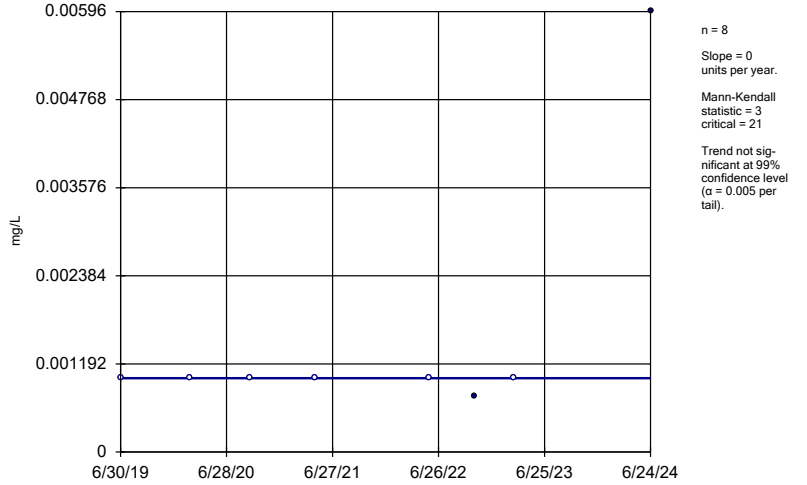
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-21



Constituent: Arsenic Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall

Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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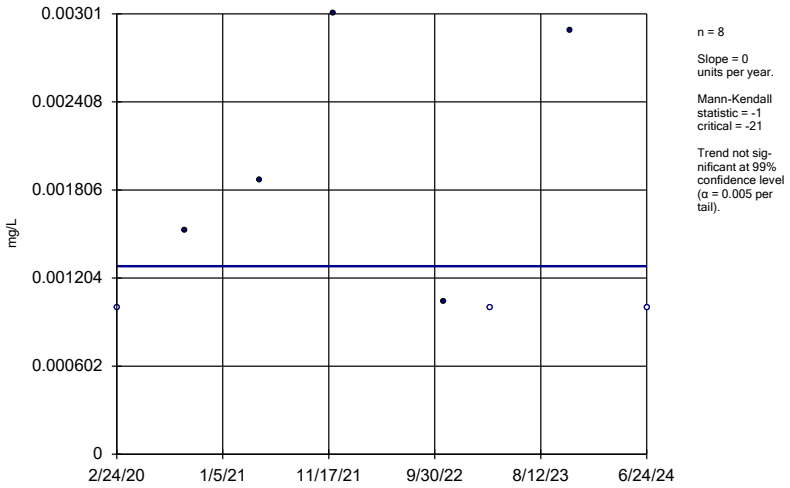
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-22



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = -1
critical = -21

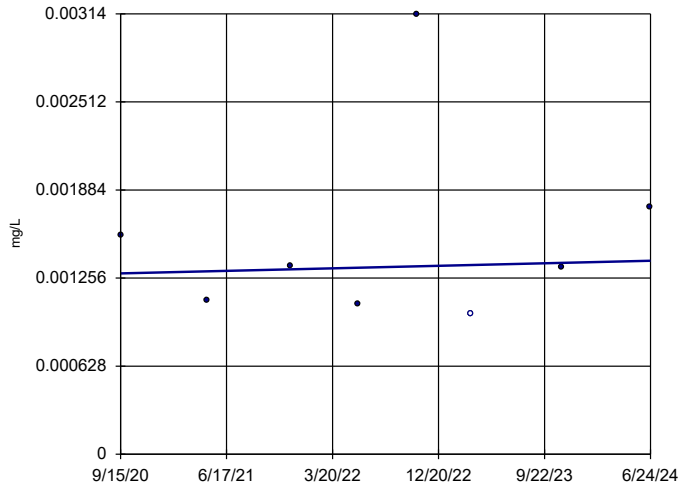
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26



n = 8

Slope = 0.00002391 units per year.

Mann-Kendall statistic = 0
critical = 21

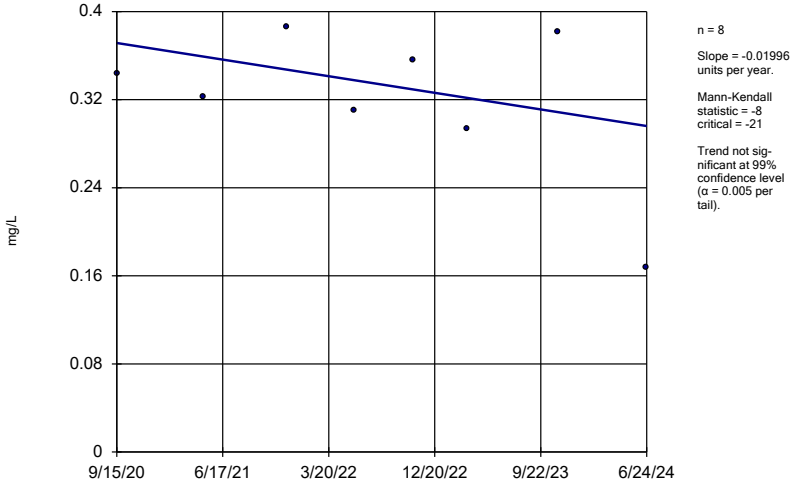
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-2



n = 8

Slope = -0.01996 units per year.

Mann-Kendall statistic = -8
critical = -21

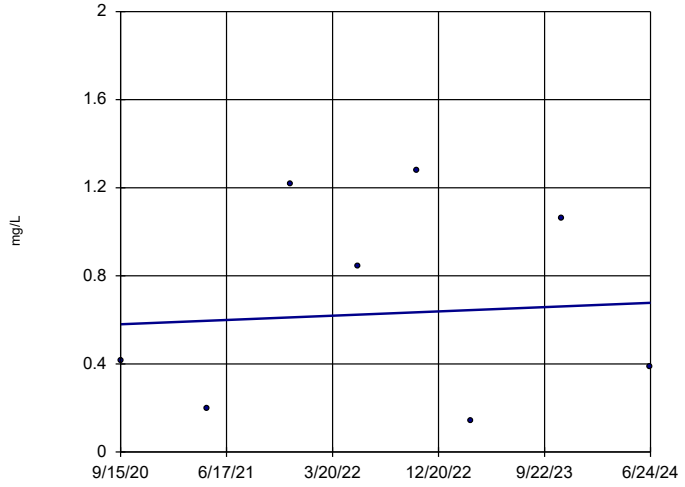
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-9



n = 8

Slope = 0.02573 units per year.

Mann-Kendall statistic = 0
critical = 21

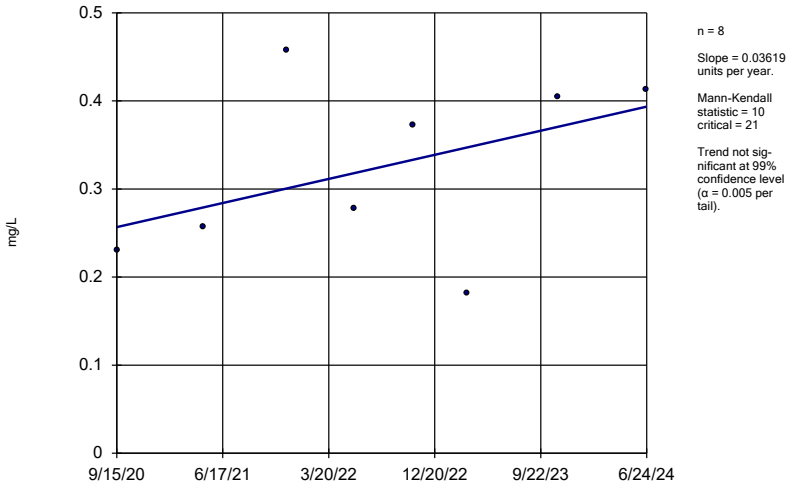
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-10A



n = 8

Slope = 0.03619 units per year.

Mann-Kendall statistic = 10 critical = 21

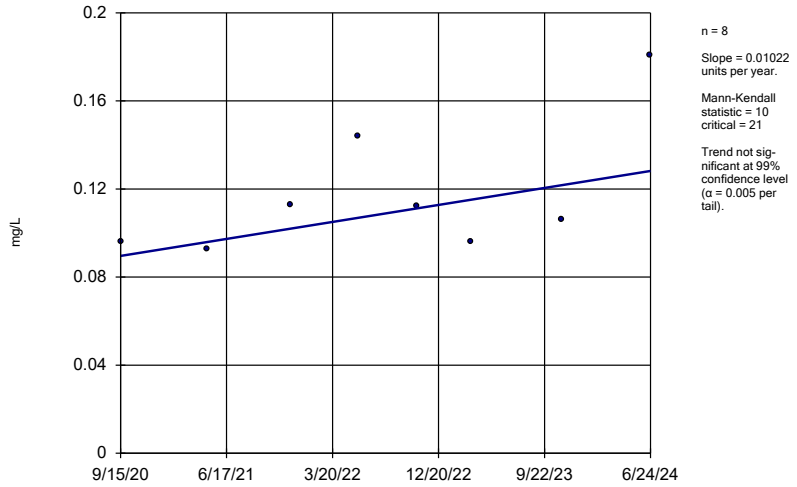
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-11



n = 8

Slope = 0.01022 units per year.

Mann-Kendall statistic = 10 critical = 21

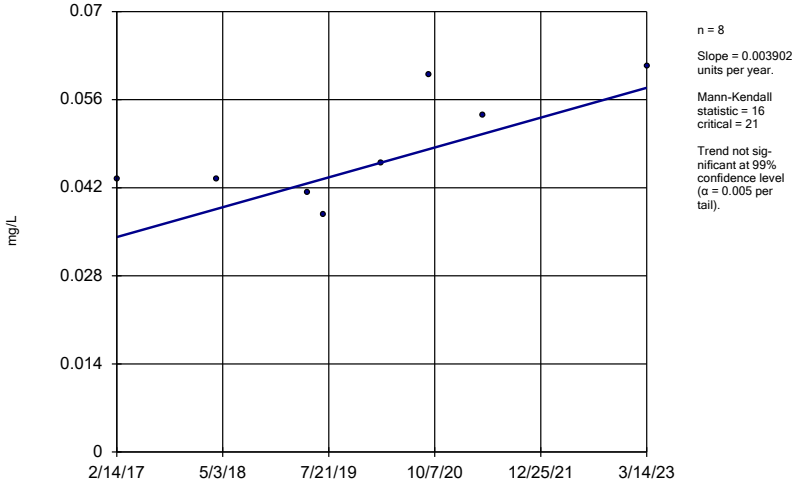
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-20



n = 8

Slope = 0.003902 units per year.

Mann-Kendall statistic = 16 critical = 21

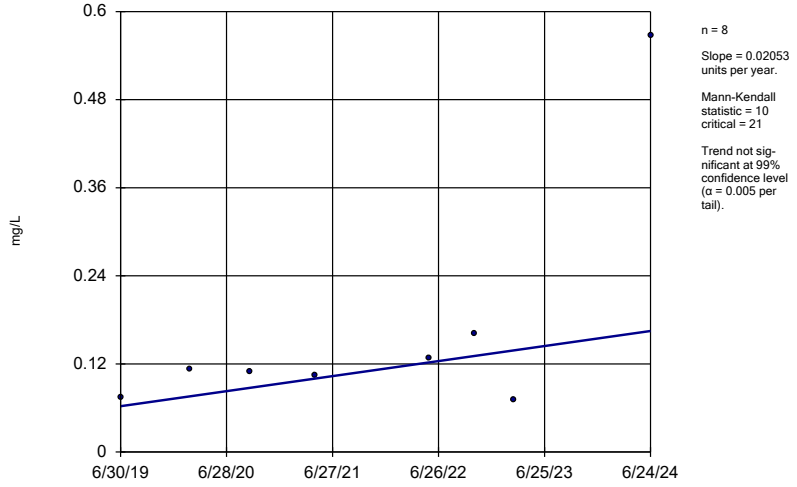
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-21



n = 8

Slope = 0.02053 units per year.

Mann-Kendall statistic = 10 critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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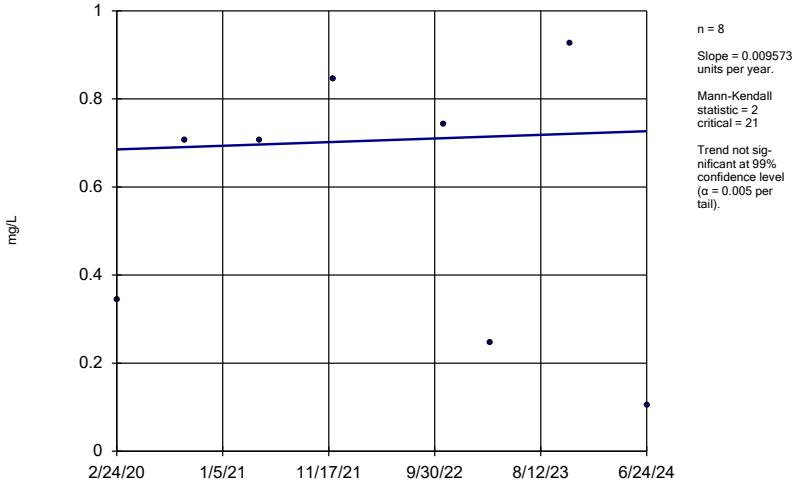
Sen's Slope Estimator

MW-22



n = 8

Slope = 0.009573 units per year.

Mann-Kendall statistic = 2
critical = 21

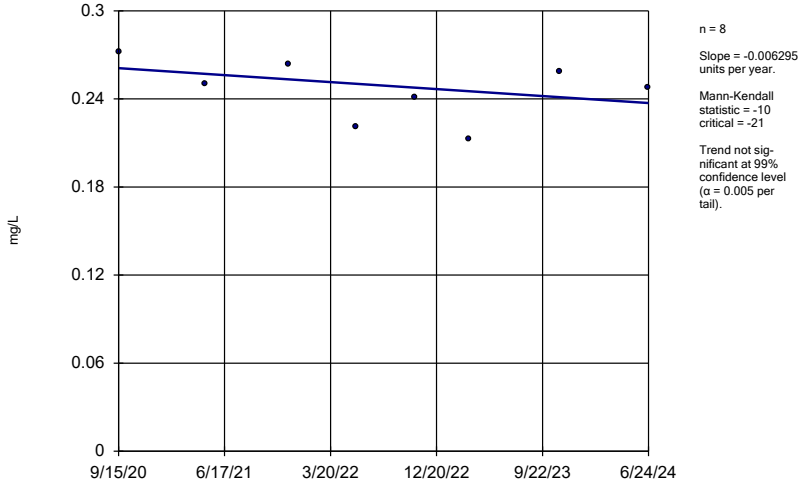
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-24



n = 8

Slope = -0.006295 units per year.

Mann-Kendall statistic = -10
critical = -21

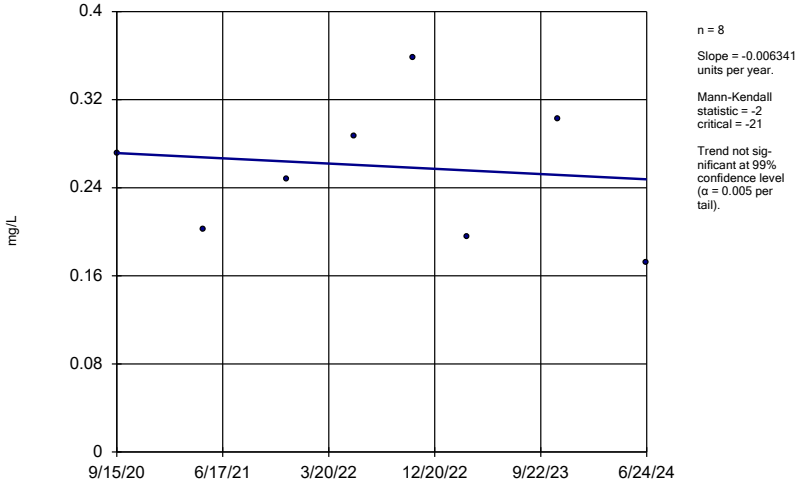
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-25



n = 8

Slope = -0.006341 units per year.

Mann-Kendall statistic = -2
critical = -21

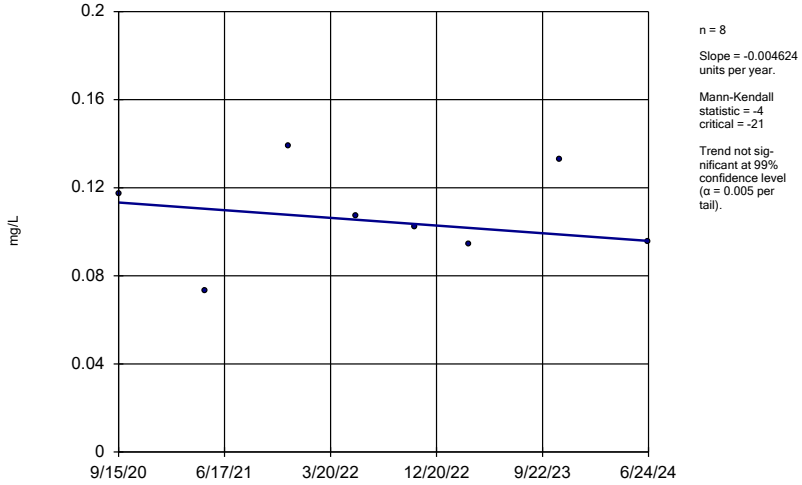
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-26



n = 8

Slope = -0.004624 units per year.

Mann-Kendall statistic = -4
critical = -21

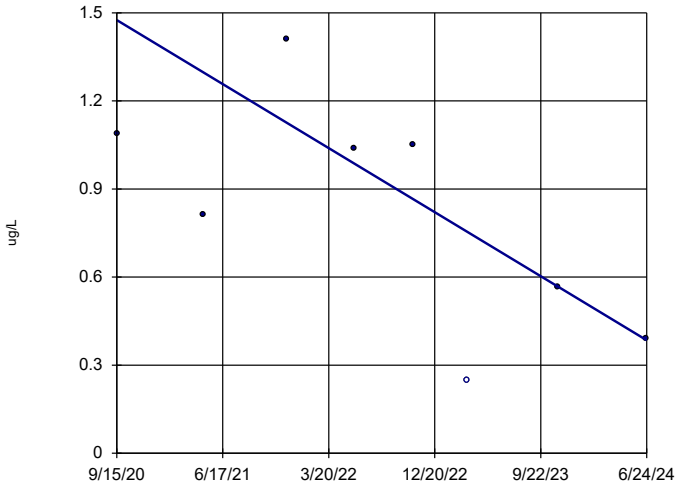
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9



n = 8

Slope = -0.2889 units per year.

Mann-Kendall statistic = -14
critical = -21

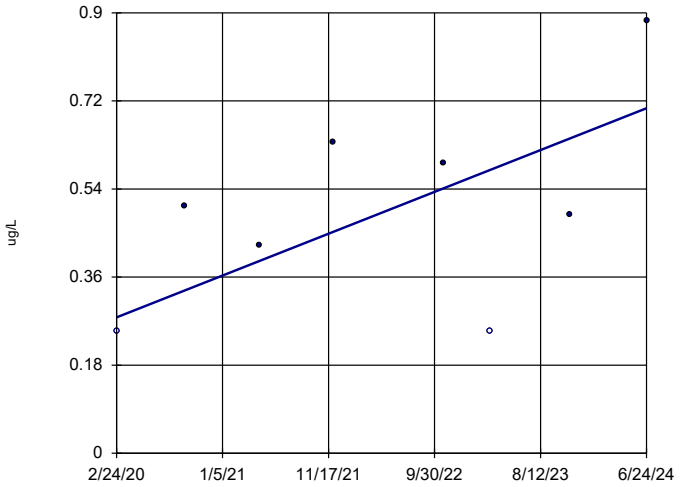
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Benzene Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-22



n = 8

Slope = 0.09856 units per year.

Mann-Kendall statistic = 9
critical = 21

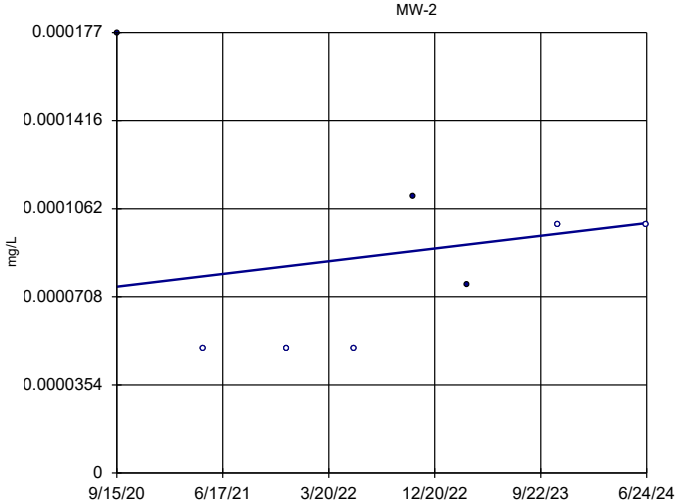
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Benzene Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-2



n = 8

Slope = 0.000006784 units per year.

Mann-Kendall statistic = 4
critical = 21

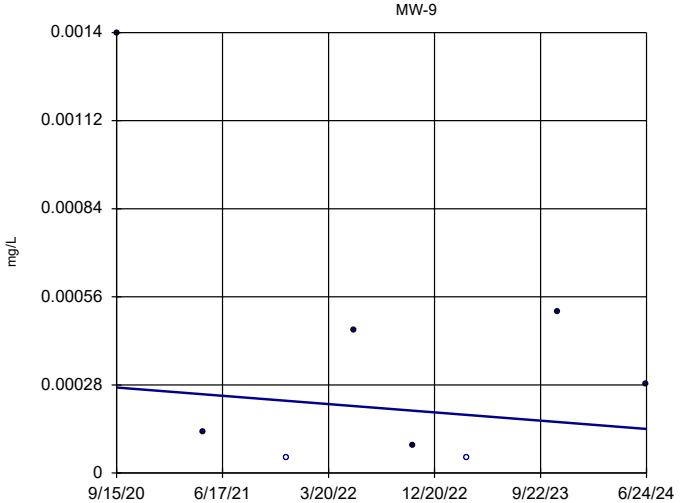
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9



n = 8

Slope = -0.00003496 units per year.

Mann-Kendall statistic = -3
critical = -21

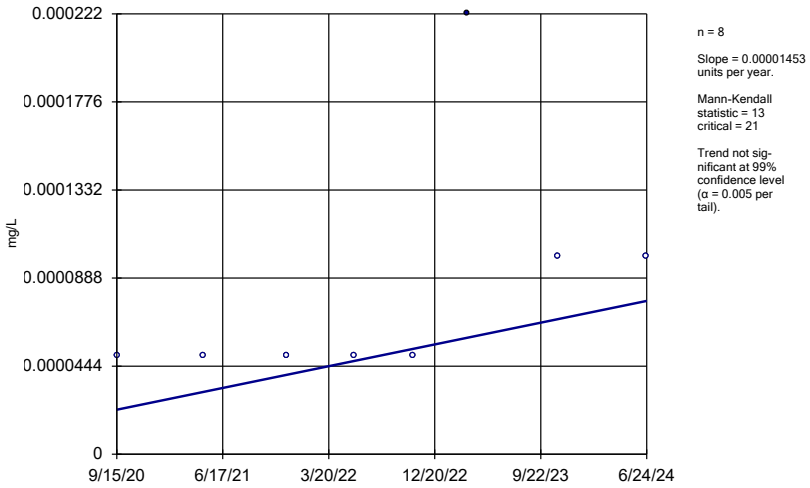
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11



n = 8

Slope = 0.00001453 units per year.

Mann-Kendall statistic = 13
critical = 21

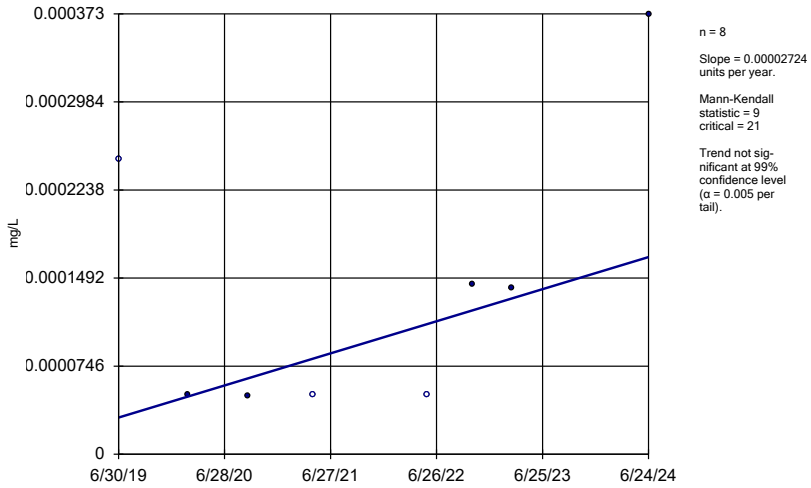
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-21



n = 8

Slope = 0.00002724 units per year.

Mann-Kendall statistic = 9
critical = 21

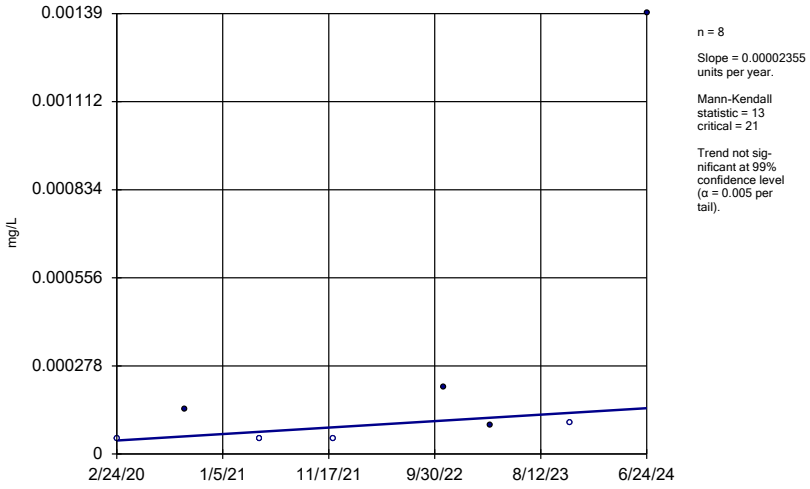
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-22



n = 8

Slope = 0.00002355 units per year.

Mann-Kendall statistic = 13
critical = 21

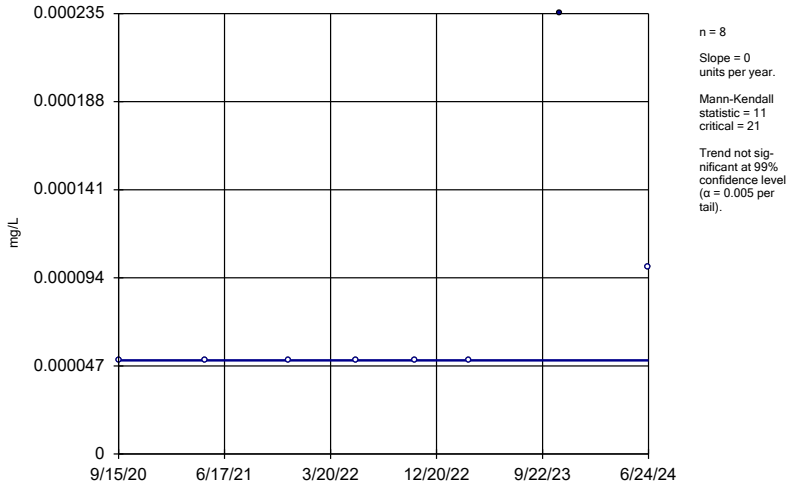
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-24



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 11
critical = 21

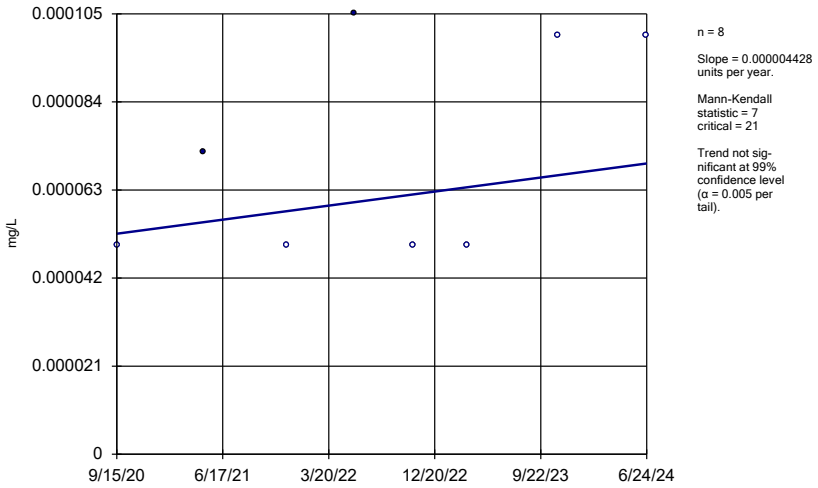
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26

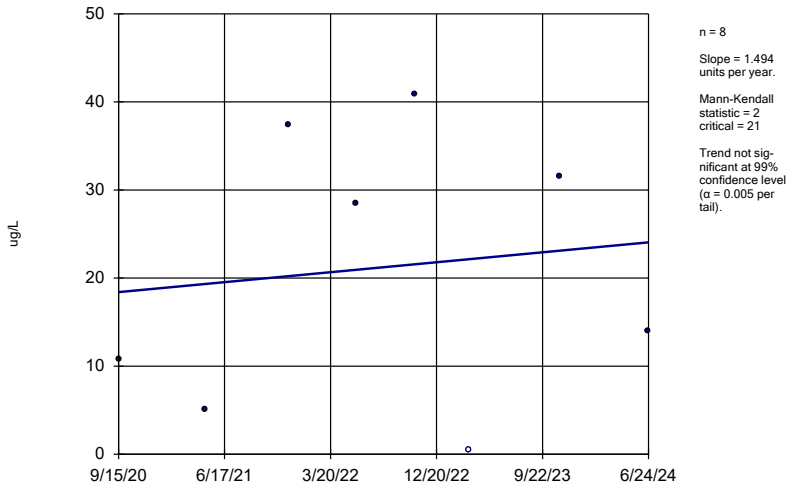


Constituent: Cadmium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9

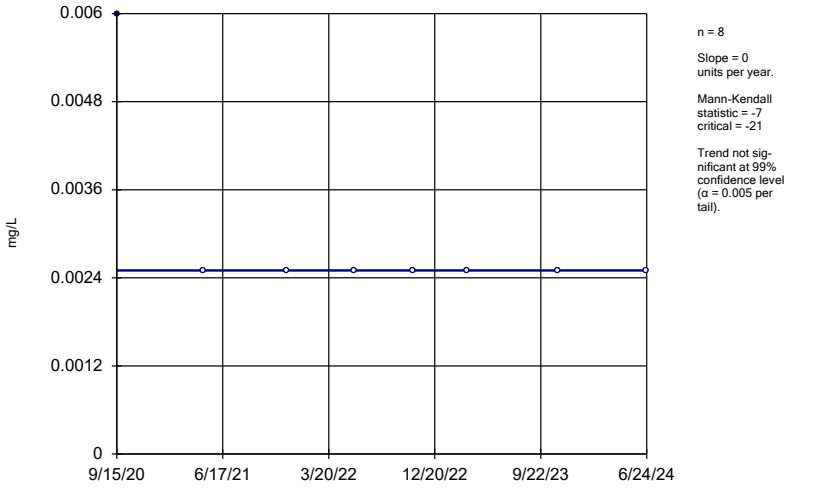


Constituent: Chlorobenzene Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11

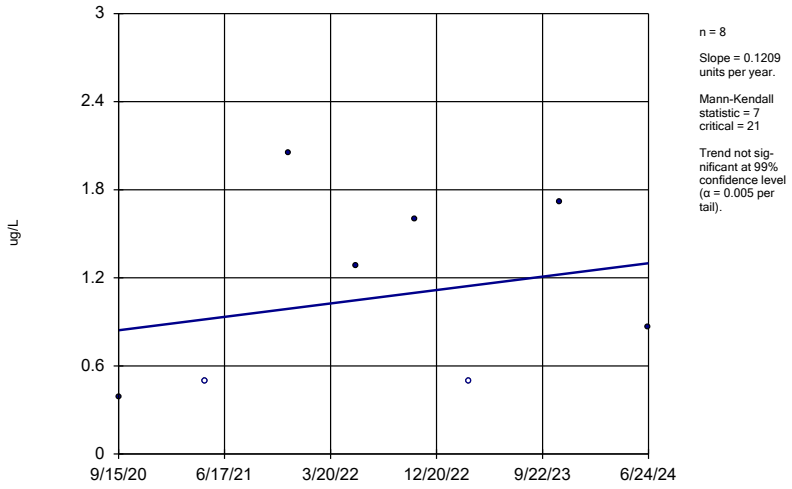


Constituent: Chromium Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9

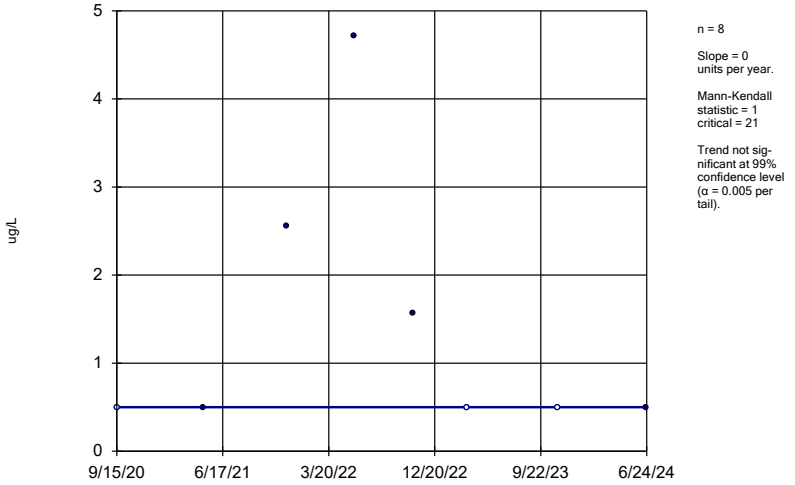


Constituent: cis-1,2-Dichloroethene Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11

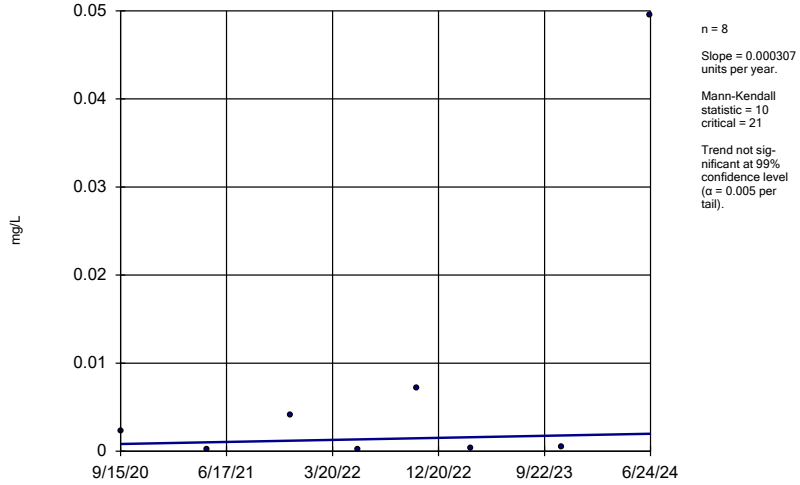


Constituent: cis-1,2-Dichloroethene Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-2

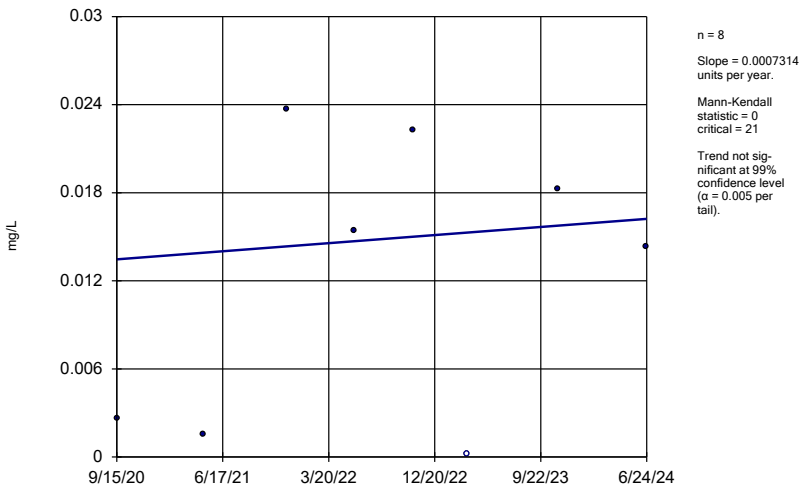


Constituent: Cobalt Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9

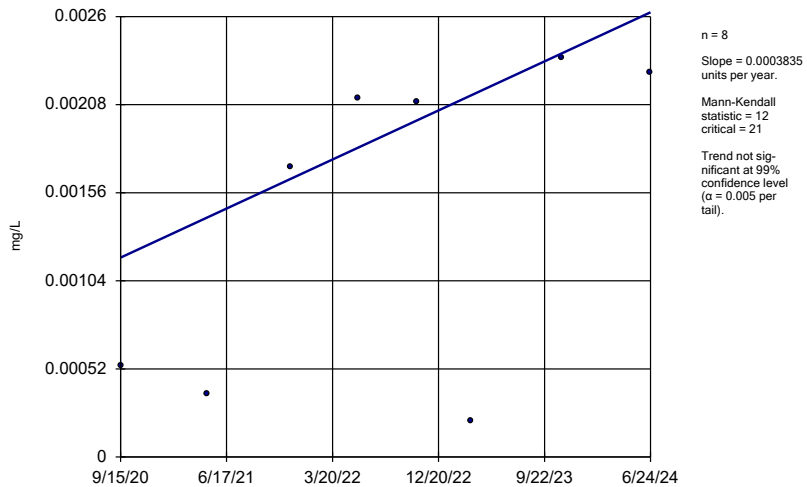


Constituent: Cobalt Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-10A

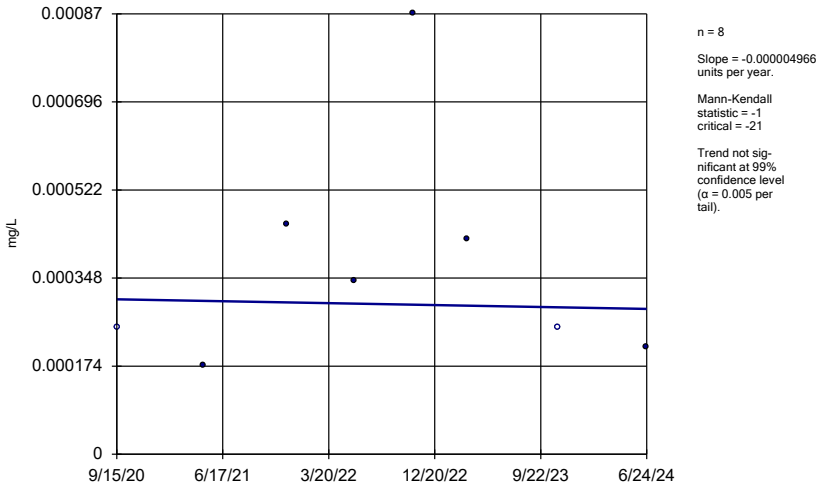


Constituent: Cobalt Analysis Run 11/1/2024 3:16 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11



n = 8

Slope = -0.000004966 units per year.

Mann-Kendall statistic = -1
critical = -21

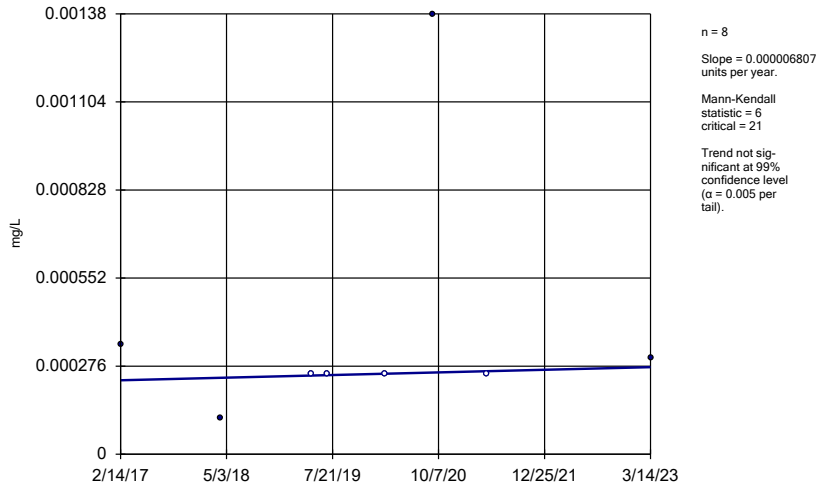
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-20



n = 8

Slope = 0.000006807 units per year.

Mann-Kendall statistic = 6
critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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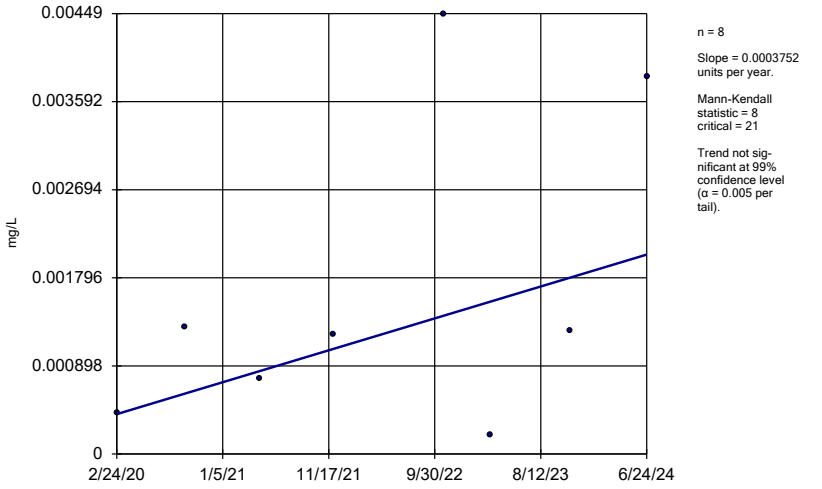
Sen's Slope Estimator

MW-22



n = 8

Slope = 0.0003752 units per year.

Mann-Kendall statistic = 8
critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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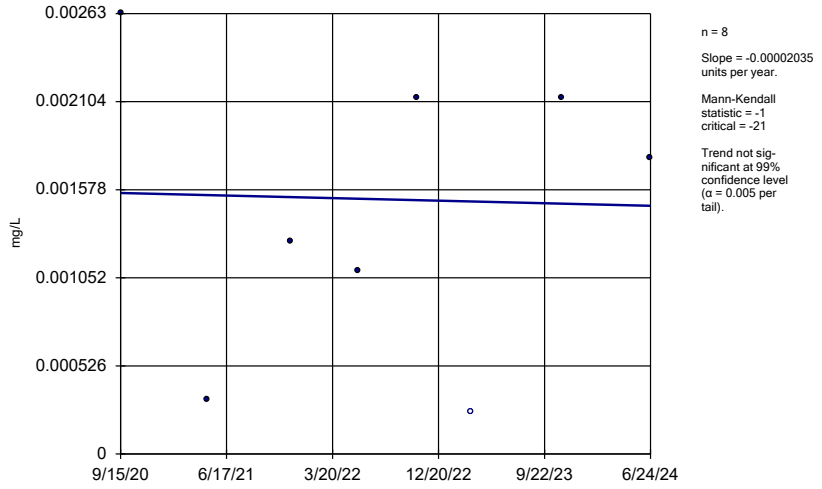
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26



n = 8

Slope = -0.00002035 units per year.

Mann-Kendall statistic = -1
critical = -21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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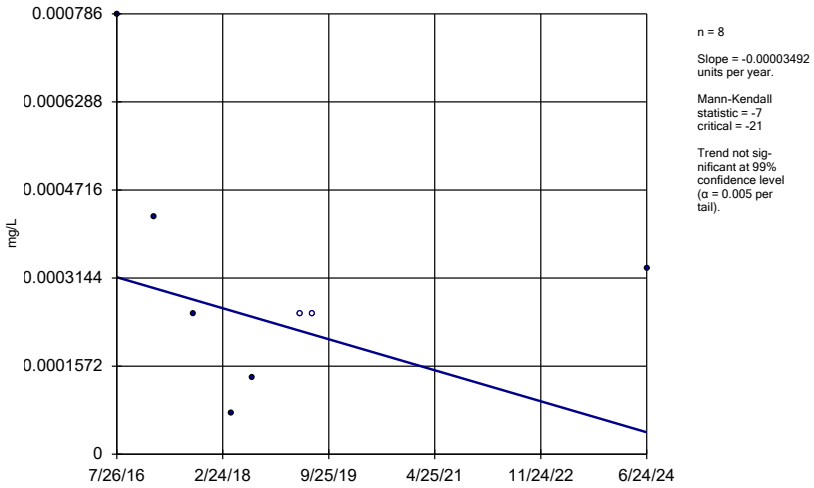
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-36



Constituent: Cobalt Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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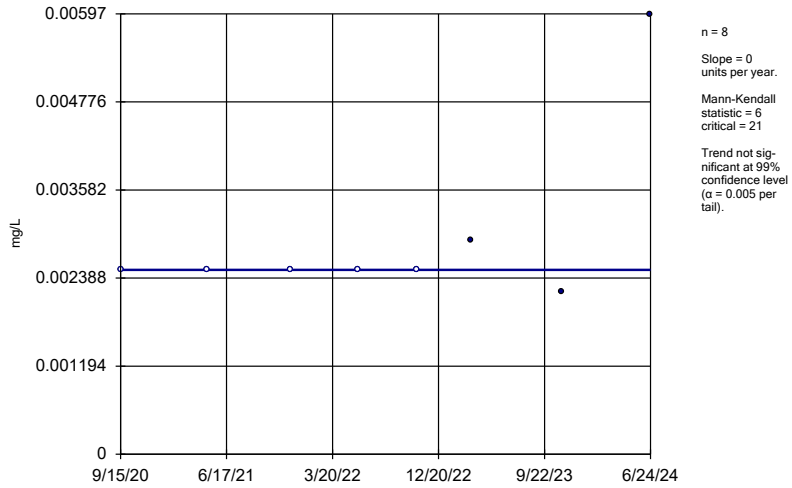
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-24

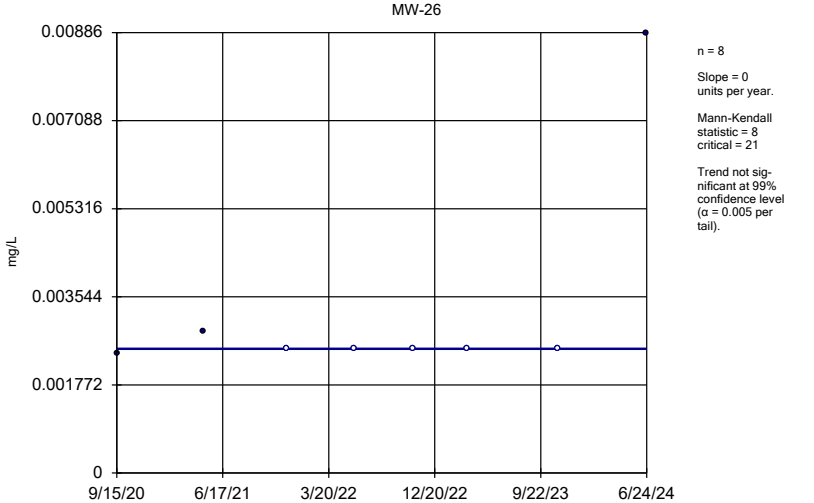


Constituent: Copper Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26



Constituent: Copper Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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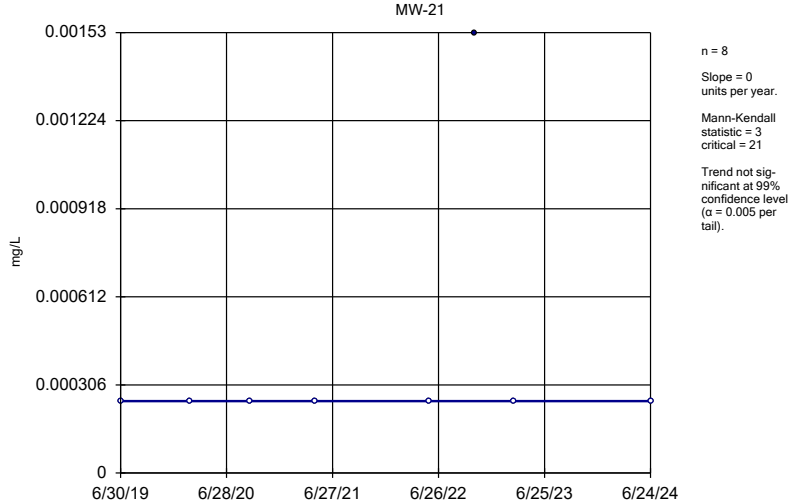
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-21

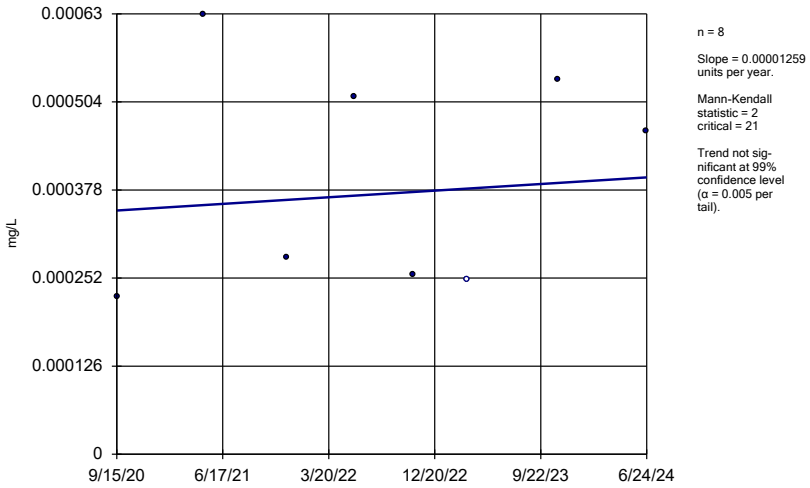


Constituent: Lead Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26

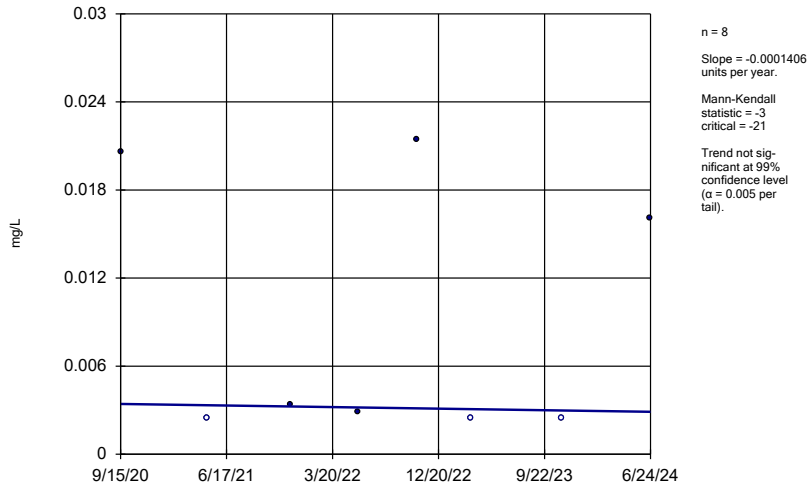


Constituent: Lead Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-2

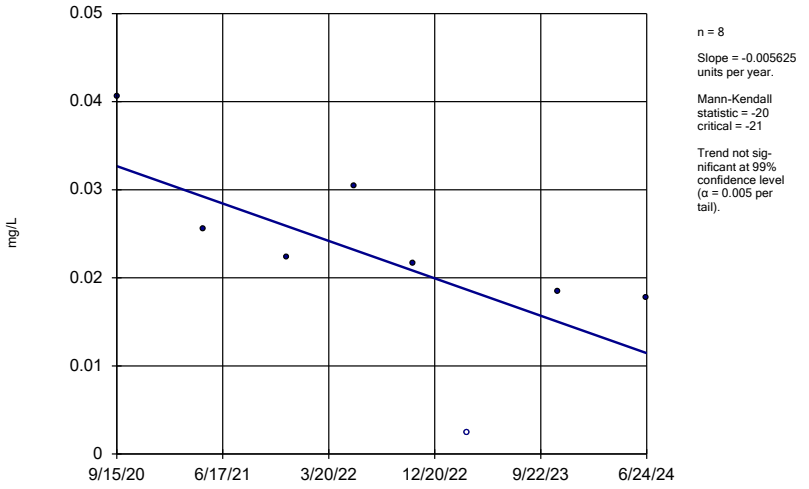


Constituent: Nickel Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9

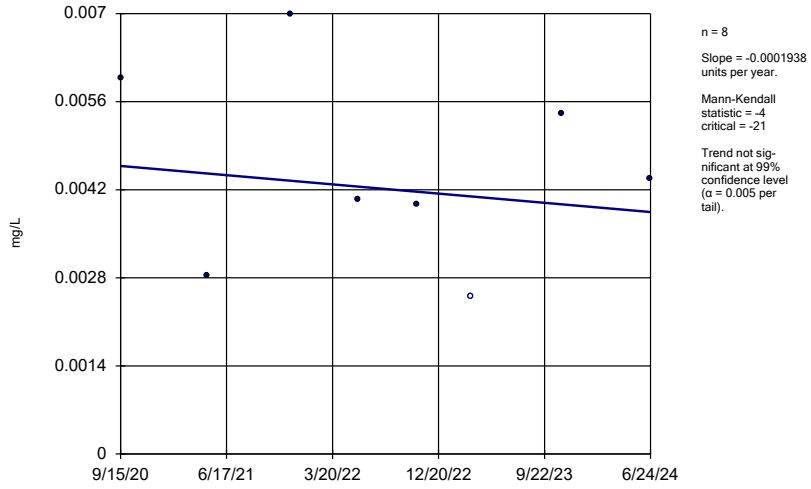


Constituent: Nickel Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-10A

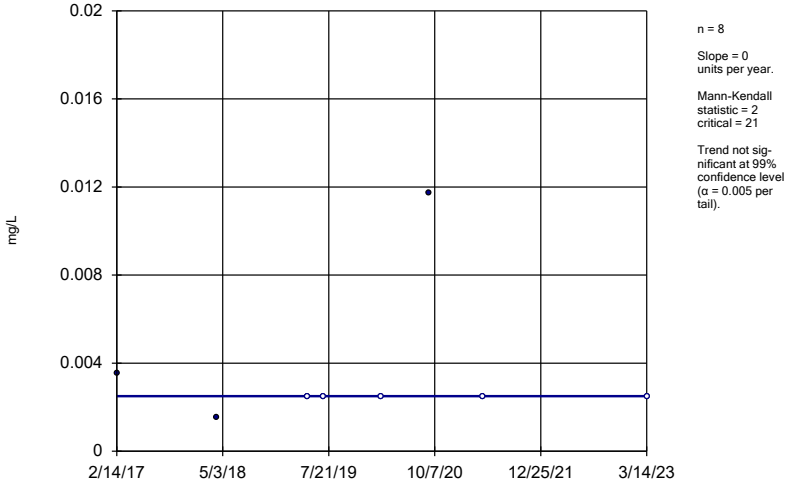


Constituent: Nickel Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-20



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 2
critical = 21

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Constituent: Nickel Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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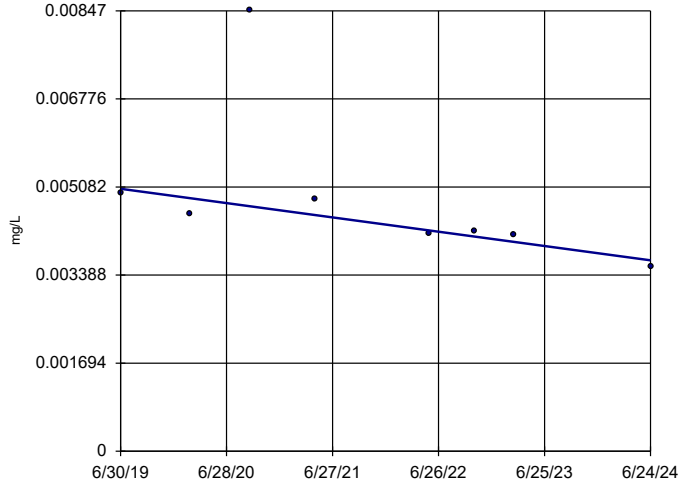
Sen's Slope Estimator

MW-21



n = 8

Slope = -0.0002757
units per year.

Mann-Kendall
statistic = -20
critical = -21

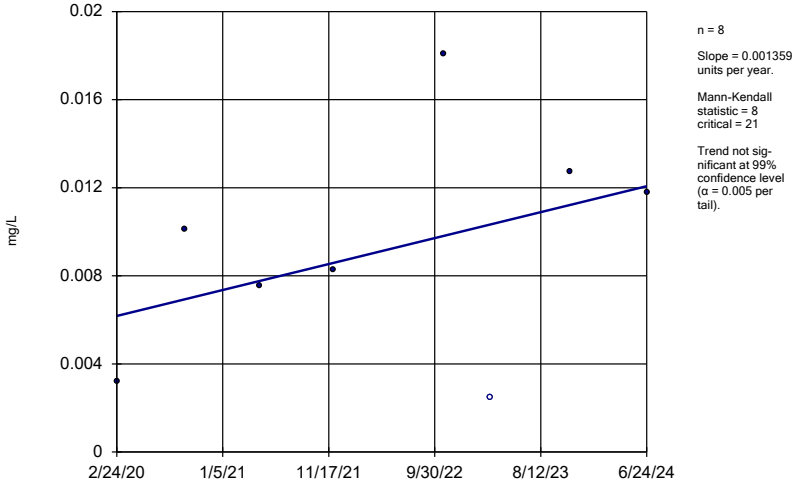
Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Constituent: Nickel Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-22



n = 8

Slope = 0.001359
units per year.

Mann-Kendall
statistic = 8
critical = 21

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Constituent: Nickel Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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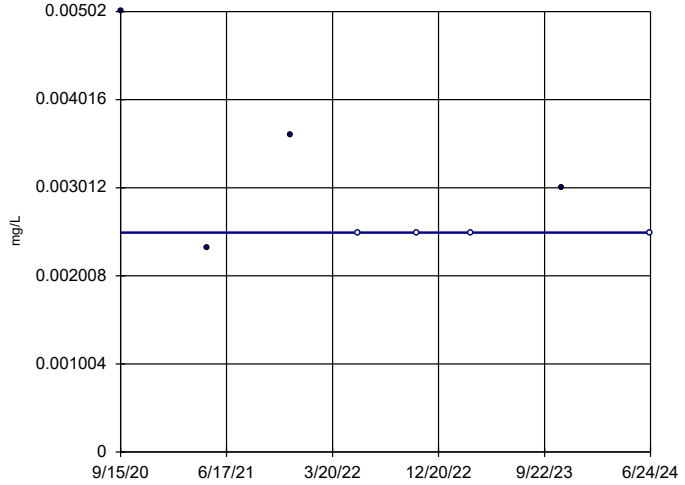
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = -4
critical = -21

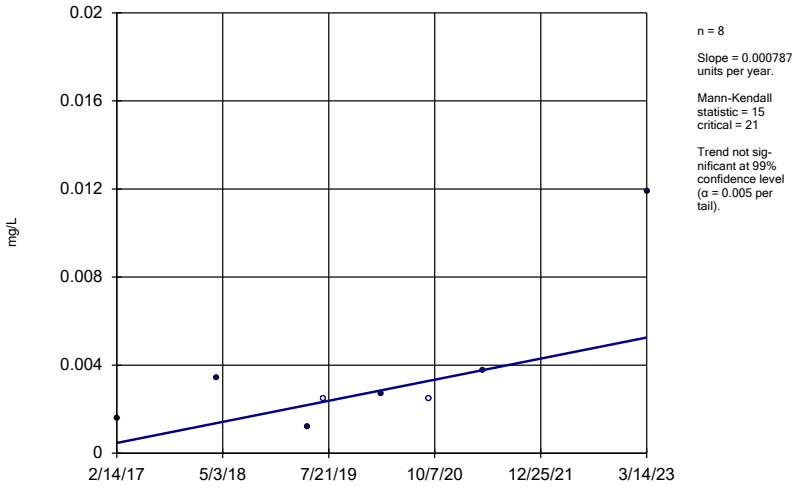
Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Constituent: Nickel Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-20



n = 8

Slope = 0.000787 units per year.

Mann-Kendall statistic = 15
critical = 21

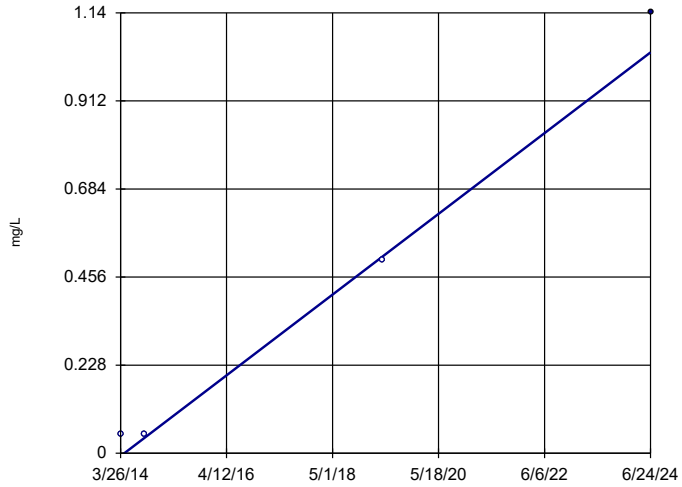
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Selenium Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26



n = 4

Slope = 0.1019 units per year.

Mann-Kendall statistic = 5
critical = 8

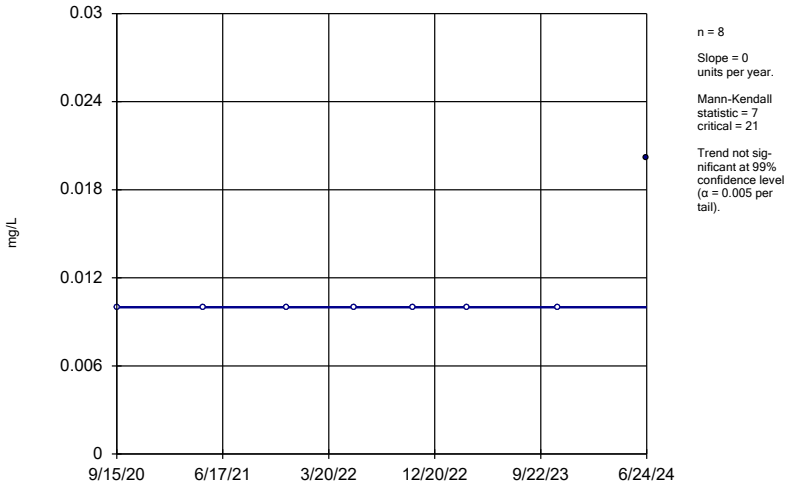
Trend not significant at 99% confidence level (α = 0.005 per tail).
With n = 4, no data set will result in a significant Mann-Kendall statistic.

Constituent: Sulfide Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-2



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 7
critical = 21

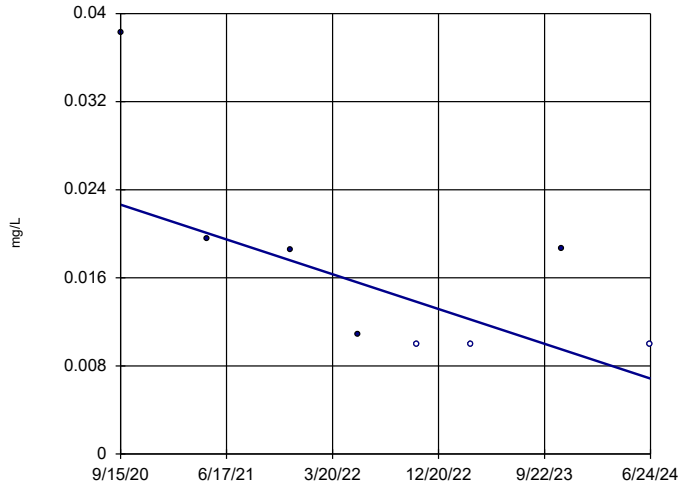
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Zinc Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-10A



n = 8

Slope = -0.004183 units per year.

Mann-Kendall statistic = -17
critical = -21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Zinc Analysis Run 11/1/2024 3:17 PM View: 2024SSN - Mann Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Confidence Interval Summary Table and Graphs

WaterTable Confidence Interval

Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM Printed 11/1/2024, 4:17 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	MW-9	0.01596	0	0.01	No	8	0	No	0.01	Param.
Arsenic (mg/L)	MW-10A	0.005122	0.00005425	0.01	No	8	12.5	No	0.01	Param.
Arsenic (mg/L)	MW-21	0.00596	0.00075	0.01	No	8	75	No	0.004	NP (normality)
Arsenic (mg/L)	MW-22	0.002593	0.001103	0.01	No	8	37.5	No	0.01	Param.
Arsenic (mg/L)	MW-26	0.00314	0.001	0.01	No	8	12.5	No	0.004	NP (normality)
Barium (mg/L)	MW-2	0.3942	0.2465	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-9	1.184	0.2014	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-10A	0.4302	0.2185	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-20	0.05772	0.03891	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-21	0.567	0.0713	2	No	8	0	No	0.004	NP (normality)
Barium (mg/L)	MW-22	0.8986	0.2572	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-24	0.2677	0.2243	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-25	0.3207	0.1883	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-26	0.1305	0.08496	2	No	8	0	No	0.01	Param.
Benzene (ug/L)	MW-9	1.246	0.4076	5	No	8	12.5	No	0.01	Param.
Benzene (ug/L)	MW-22	0.7057	0.405	5	No	8	25	No	0.01	Param.
Cadmium (mg/L)	MW-2	0.0001381	0.00005859	0.005	No	8	62.5	No	0.01	Param.
Cadmium (mg/L)	MW-9	0.0014	0.00005	0.005	No	8	25	No	0.004	NP (normality)
Cadmium (mg/L)	MW-21	0.000239	0.000005574	0.005	No	8	37.5	No	0.01	Param.
Cadmium (mg/L)	MW-22	0.00139	0.00005	0.005	No	8	50	No	0.004	NP (normality)
Cadmium (mg/L)	MW-24	0.000235	0.00005	0.005	No	8	87.5	No	0.004	NP (NDs)
Cadmium (mg/L)	MW-26	0.00009054	0.00006446	0.005	No	8	75	No	0.01	Param.
Chlorobenzene (ug/L)	MW-9	37.42	4.779	100	No	8	12.5	No	0.01	Param.
cis-1,2-Dichloroethene (ug/L)	MW-9	1.757	0.5328	70	No	8	25	No	0.01	Param.
Cobalt (mg/L)	MW-2	0.0495	0.000163	0.00797	No	8	0	No	0.004	NP (normality)
Cobalt (mg/L)	MW-9	0.02239	0.002219	0.00797	No	8	12.5	No	0.01	Param.
Cobalt (mg/L)	MW-10A	0.002439	0.0004821	0.00797	No	8	0	No	0.01	Param.
Cobalt (mg/L)	MW-20	0.00138	0.000112	0.00797	No	8	50	No	0.004	NP (normality)
Cobalt (mg/L)	MW-22	0.003376	0.00000121	0.00797	No	8	0	No	0.01	Param.
Cobalt (mg/L)	MW-26	0.002371	0.0005291	0.00797	No	8	12.5	No	0.01	Param.
Cobalt (mg/L)	MW-36	0.0005394	0.00008302	0.00797	No	8	25	No	0.01	Param.
Copper (mg/L)	MW-24	0.00597	0.00221	1.3	No	8	62.5	No	0.004	NP (normality)
Copper (mg/L)	MW-26	0.00886	0.00241	1.3	No	8	62.5	No	0.004	NP (normality)
Lead (mg/L)	MW-21	0.00153	0.00025	0.015	No	8	87.5	No	0.004	NP (NDs)
Lead (mg/L)	MW-26	0.000562	0.0002267	0.015	No	8	12.5	No	0.01	Param.
Nickel (mg/L)	MW-2	0.0214	0.0025	0.1	No	8	37.5	No	0.004	NP (normality)
Nickel (mg/L)	MW-9	0.03403	0.01081	0.1	No	8	12.5	No	0.01	Param.
Nickel (mg/L)	MW-10A	0.006143	0.002882	0.1	No	8	12.5	No	0.01	Param.
Nickel (mg/L)	MW-20	0.0117	0.00153	0.1	No	8	62.5	No	0.004	NP (normality)
Nickel (mg/L)	MW-21	0.00847	0.00355	0.1	No	8	0	No	0.004	NP (normality)
Nickel (mg/L)	MW-22	0.01471	0.003861	0.1	No	8	12.5	No	0.01	Param.
Nickel (mg/L)	MW-26	0.00502	0.002335	0.1	No	8	50	No	0.004	NP (normality)
Selenium (mg/L)	MW-20	0.0119	0.0012	0.05	No	8	25	No	0.004	NP (normality)
Sulfide (mg/L)	MW-26	1.382	0	1	No	4	75	No	0.01	Param.
Zinc (mg/L)	MW-2	0.0202	0.01	2	No	8	87.5	No	0.004	NP (NDs)
Zinc (mg/L)	MW-10A	0.02783	0.01132	2	No	8	37.5	No	0.01	Param.

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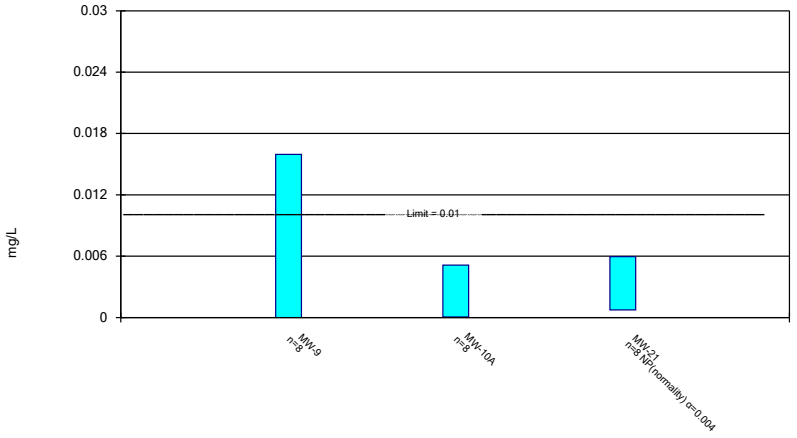
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Arsenic Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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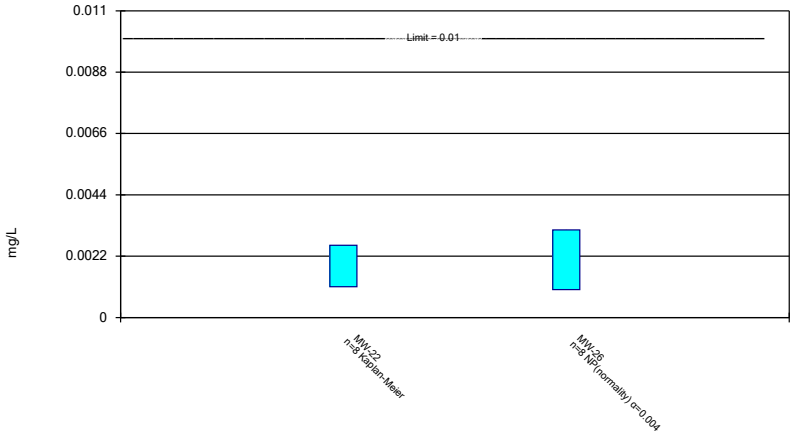
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Arsenic Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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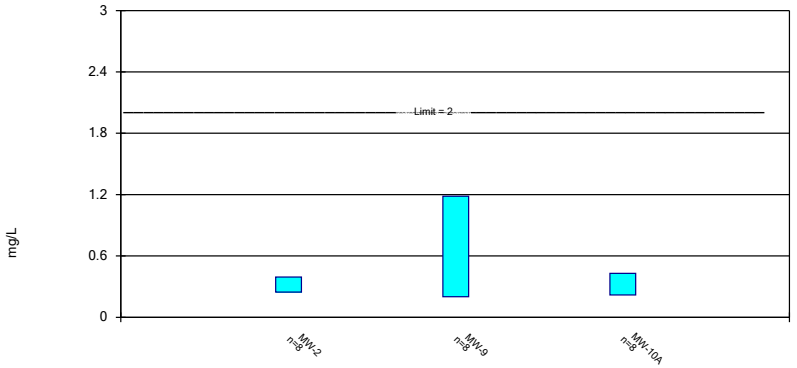
Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Barium Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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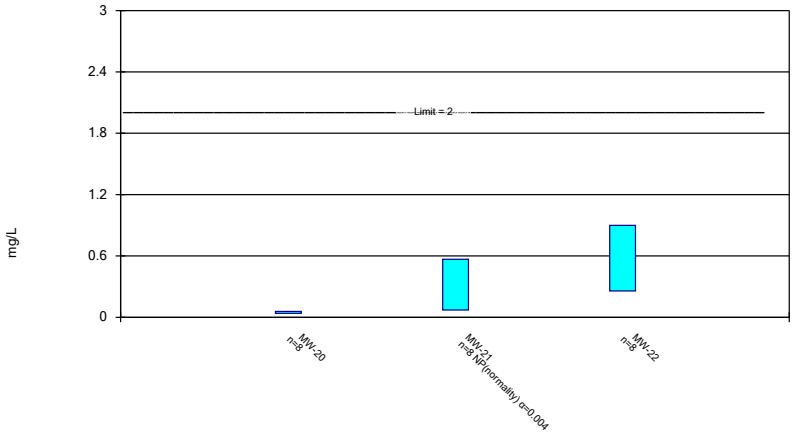
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

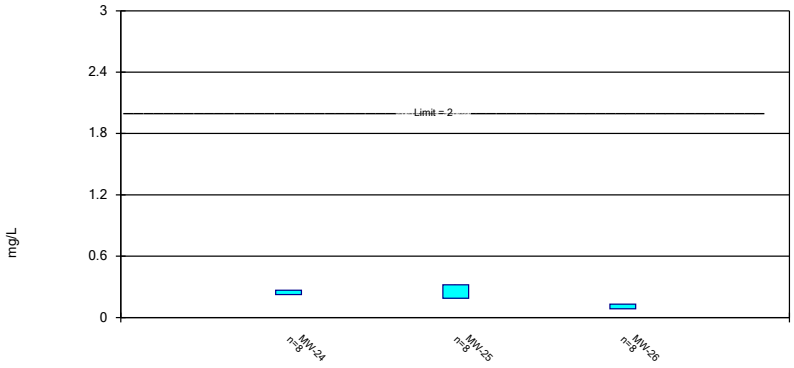


Constituent: Barium Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

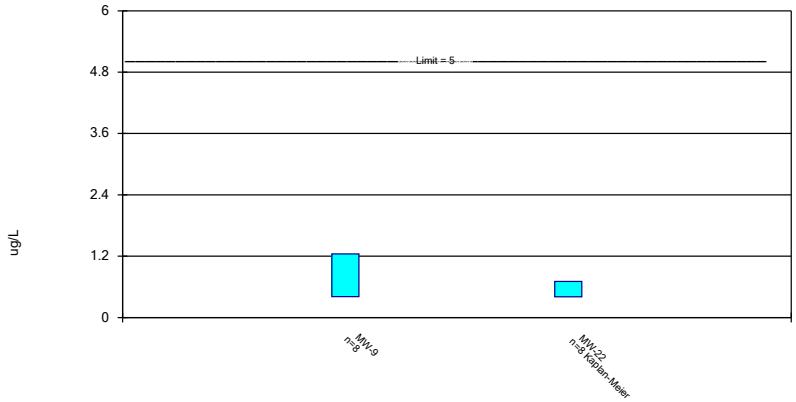


Constituent: Barium Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Benzene Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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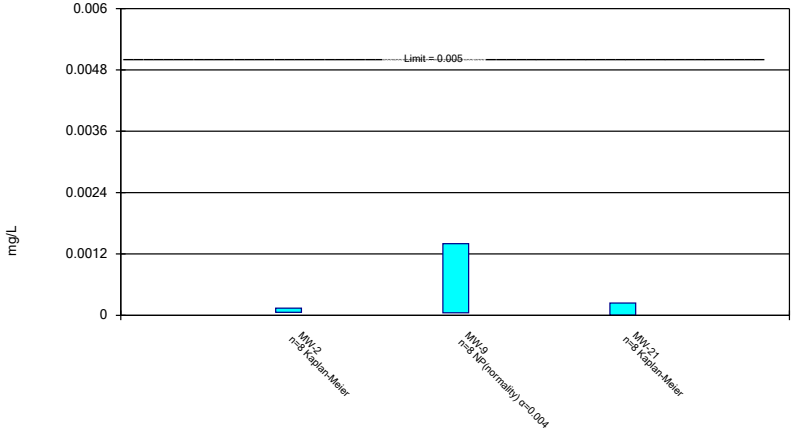
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Cadmium Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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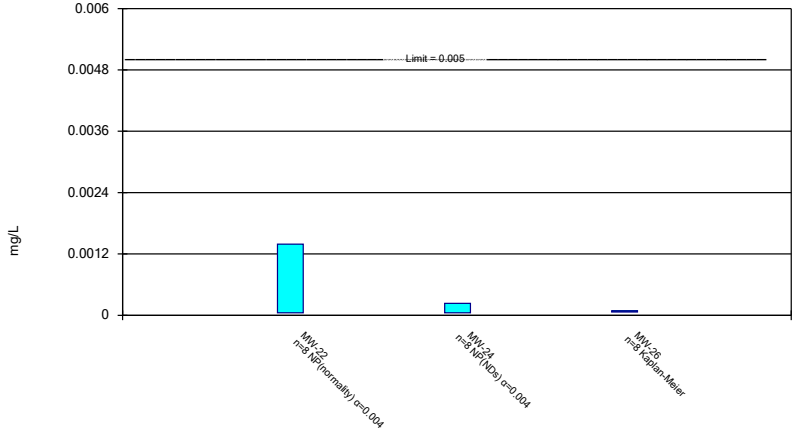
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Cadmium Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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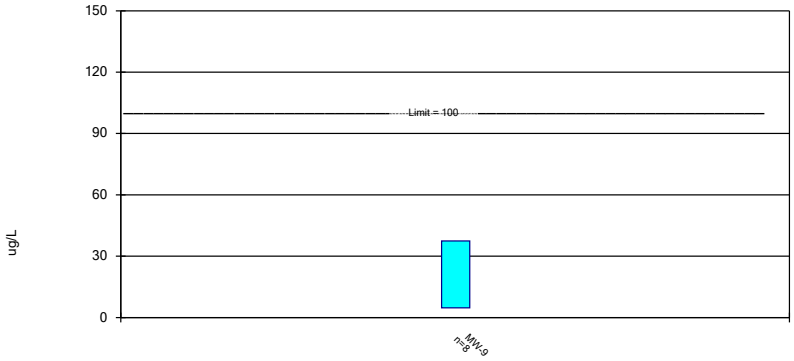
Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Chlorobenzene Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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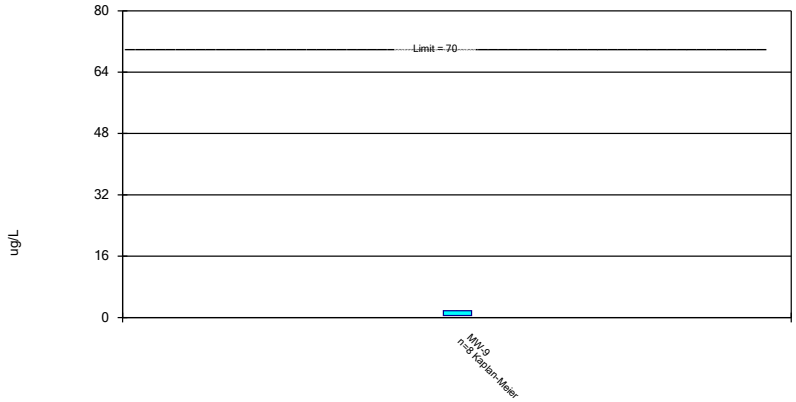
Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: cis-1,2-Dichloroethene Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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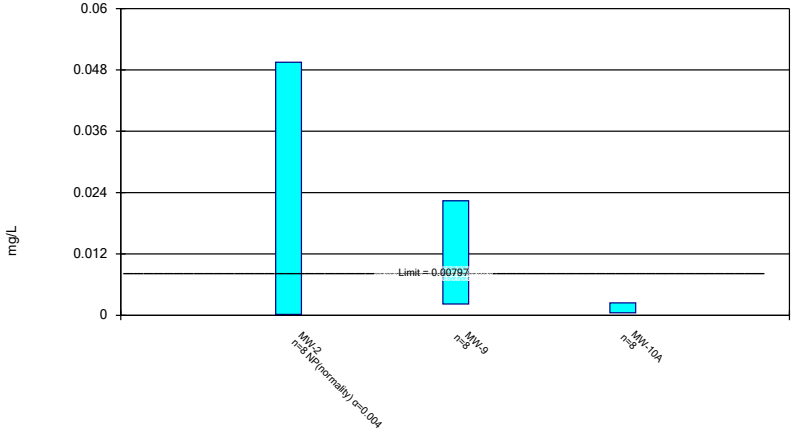
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Cobalt Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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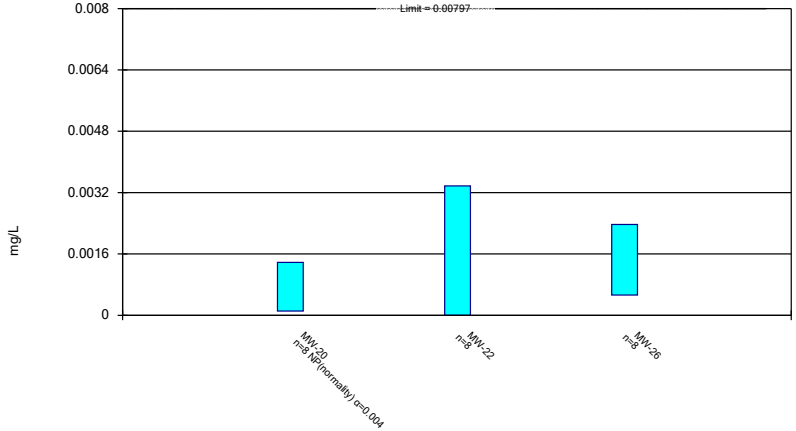
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Cobalt Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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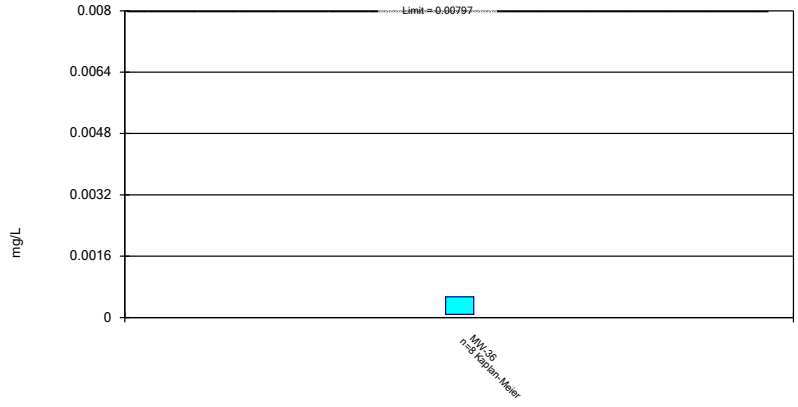
Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

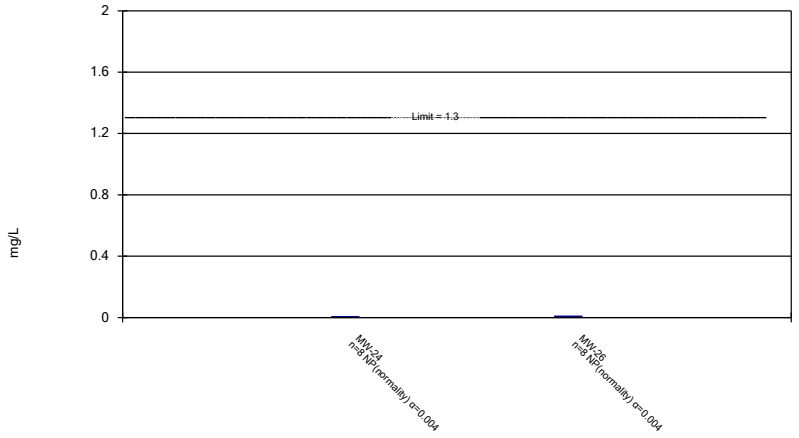


Constituent: Cobalt Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

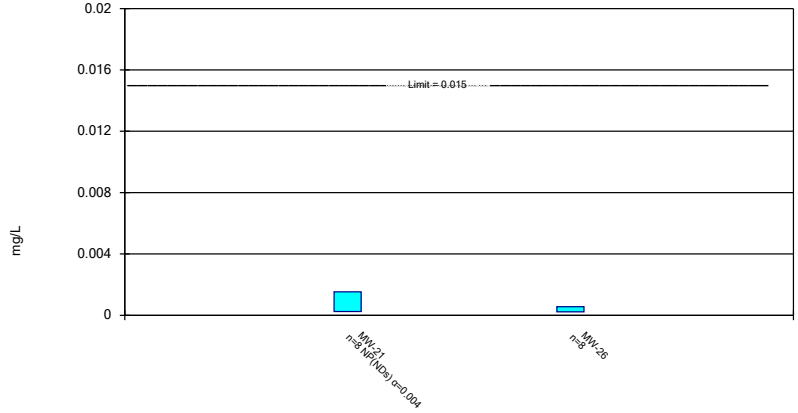


Constituent: Copper Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Lead Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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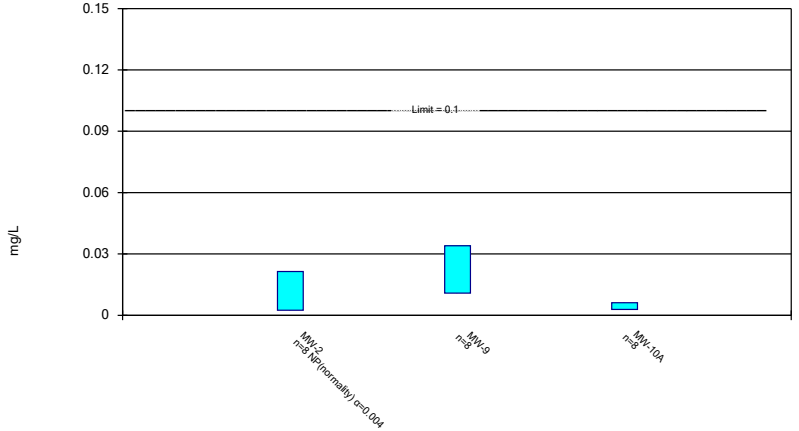
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Nickel Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

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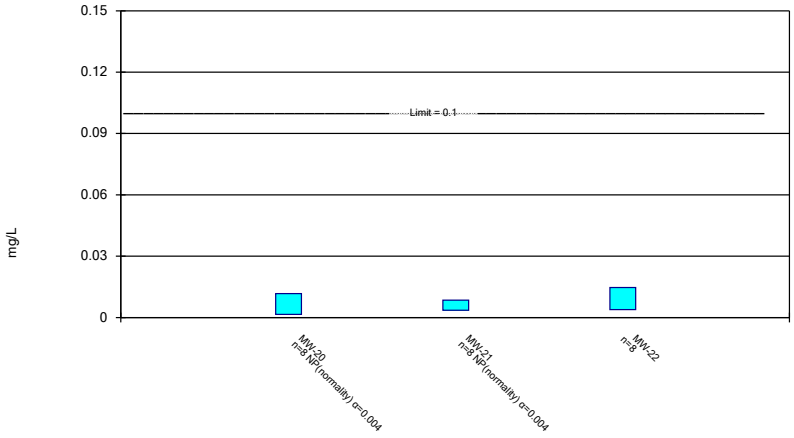
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

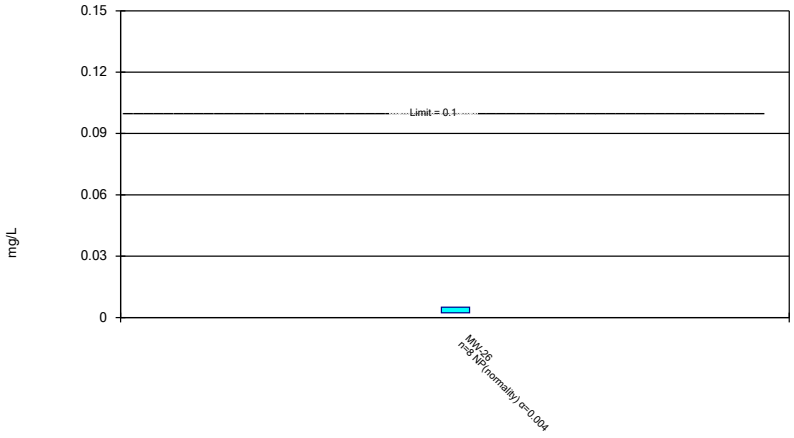


Constituent: Nickel Analysis Run 11/1/2024 4:14 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

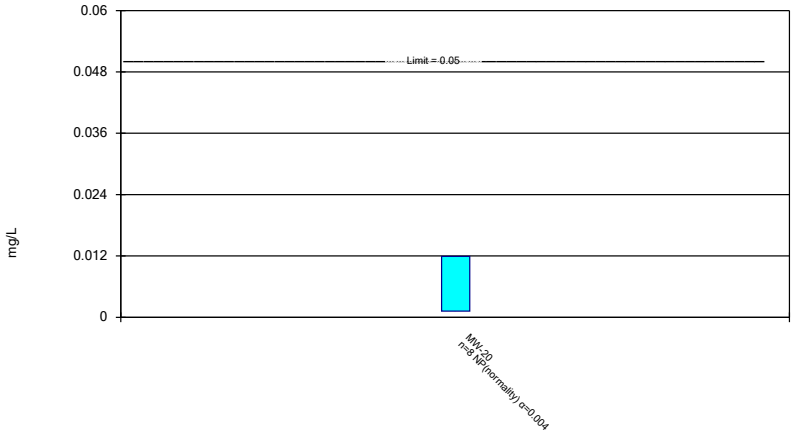


Constituent: Nickel Analysis Run 11/1/2024 4:15 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

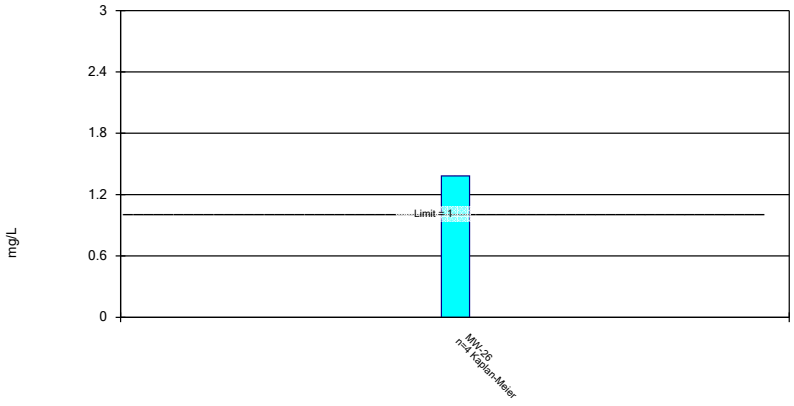


Constituent: Selenium Analysis Run 11/1/2024 4:15 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

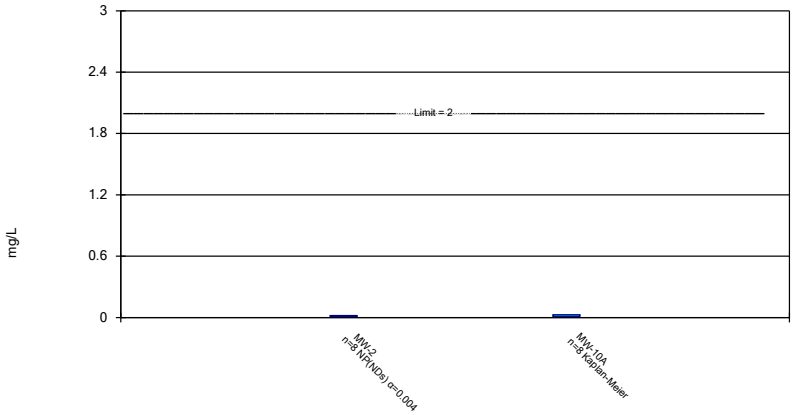


Constituent: Sulfide Analysis Run 11/1/2024 4:15 PM View: 2024SSN Confidence Interval WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

Sanitas™ v.10.0.23 Software licensed to SCS Engineers. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Zinc Analysis Run 11/1/2024 4:15 PM View: 2024SSN Confidence Interval WT

Muscatine County SLF Client: SCS Engineers Data: MCSWA-HMSP-2024SSN-AM

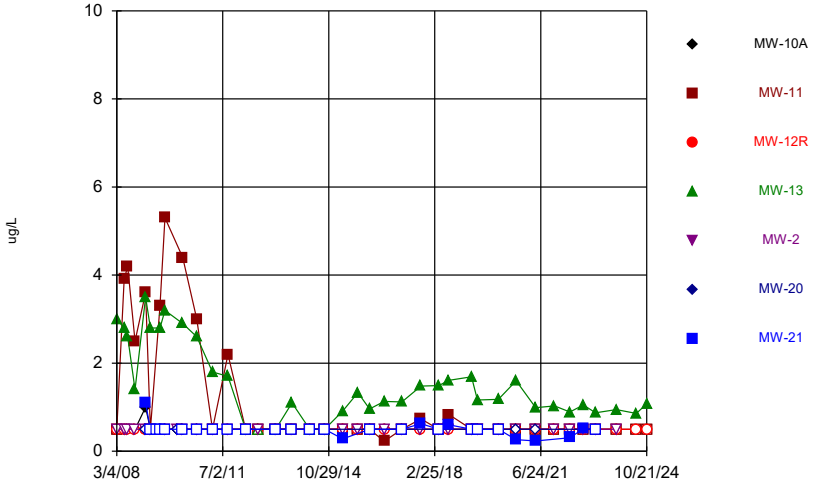
Attachment B

2nd 2024 Semi-Annual Statistical Output

Time Series Plots

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

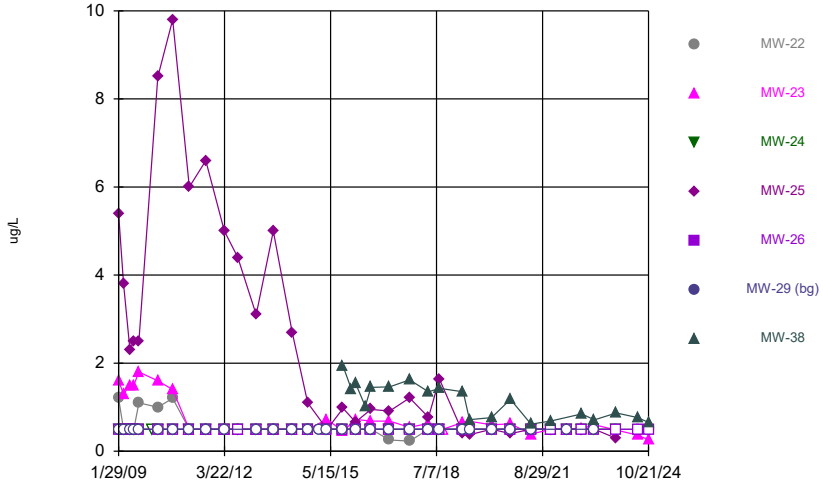
Time Series



Constituent: 1,1-Dichloroethane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

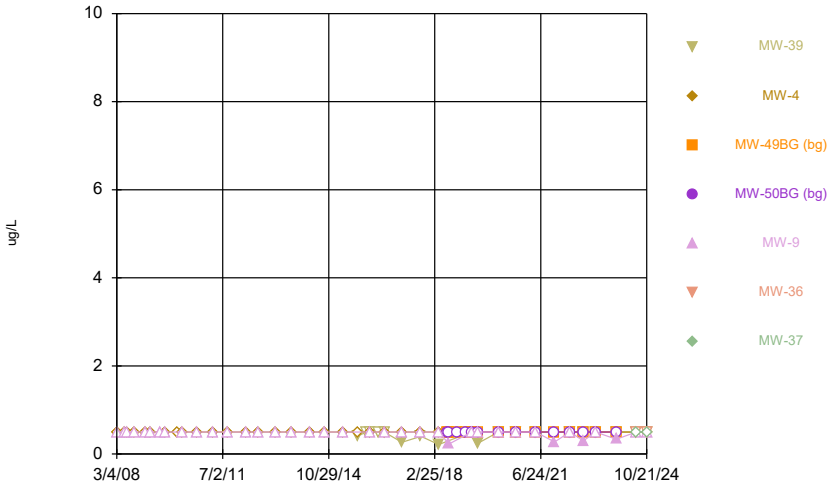
Time Series



Constituent: 1,1-Dichloroethane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

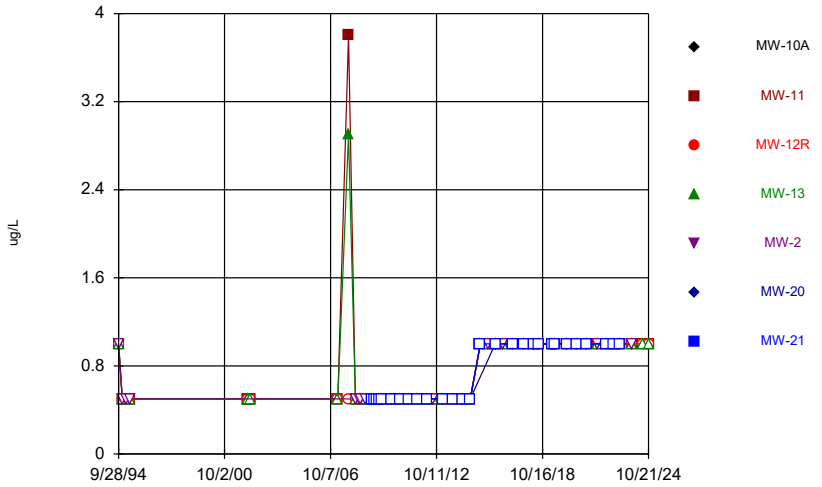
Time Series



Constituent: 1,1-Dichloroethane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

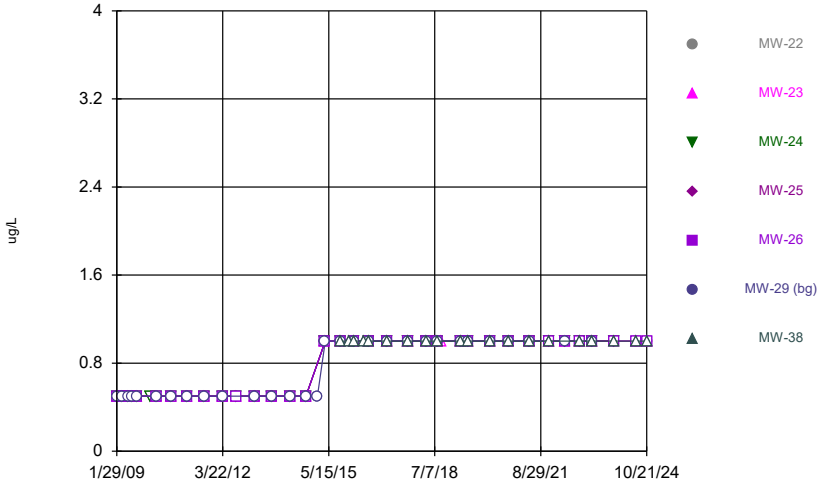
Time Series



Constituent: 1,1-Dichloroethene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

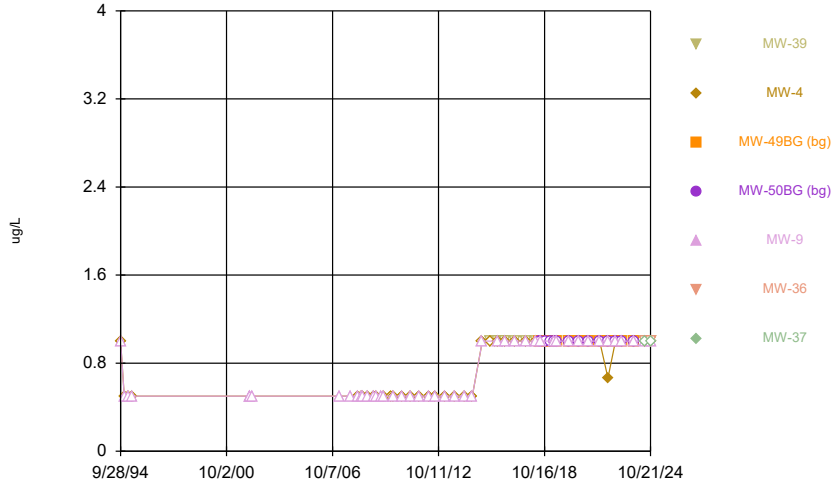
Time Series



Constituent: 1,1-Dichloroethene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

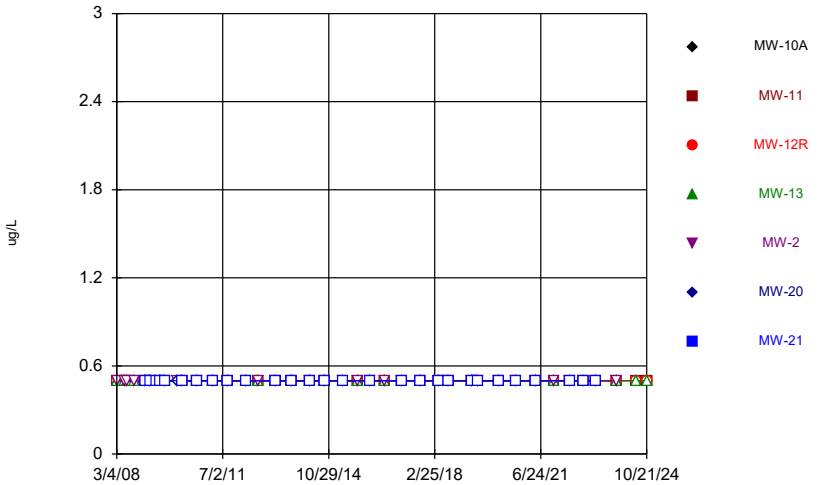
Time Series



Constituent: 1,1-Dichloroethene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

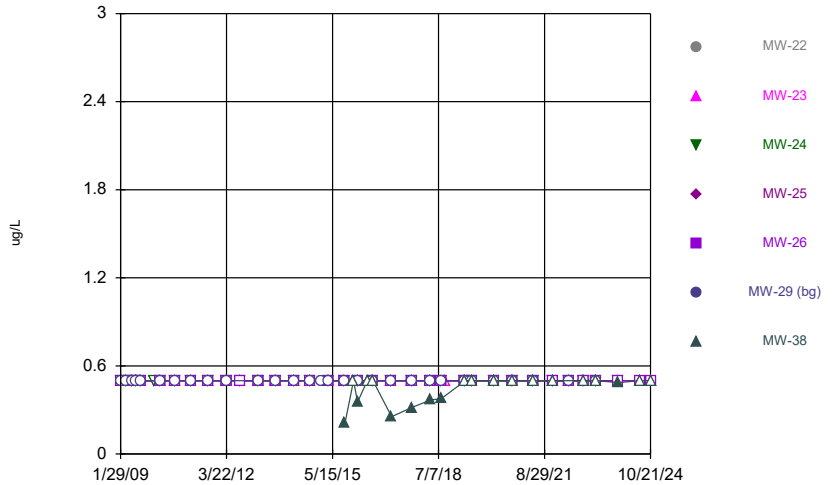
Time Series



Constituent: 1,2-Dichlorobenzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

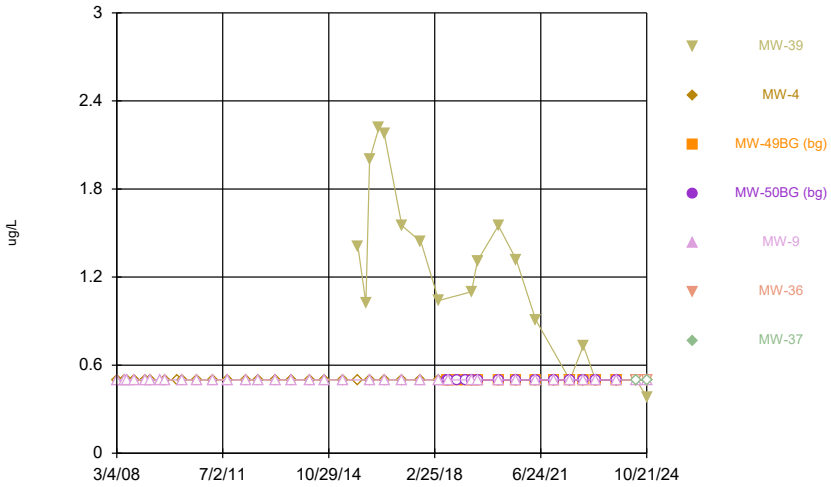
Time Series



Constituent: 1,2-Dichlorobenzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

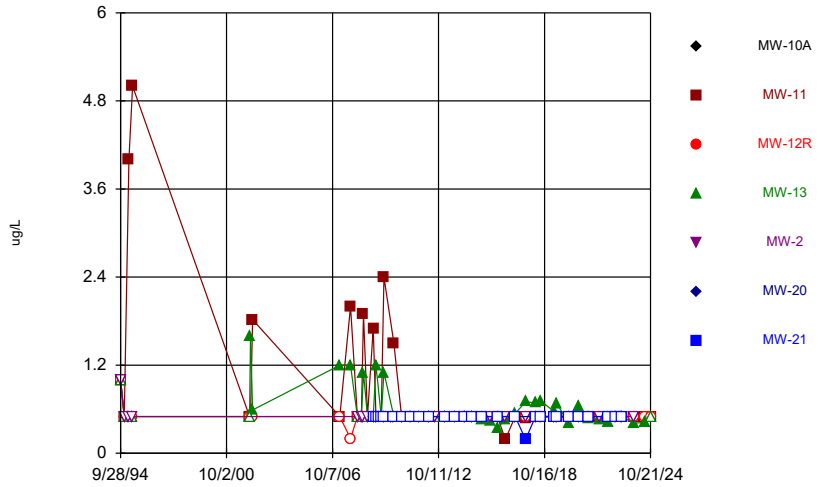
Time Series



Constituent: 1,2-Dichlorobenzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

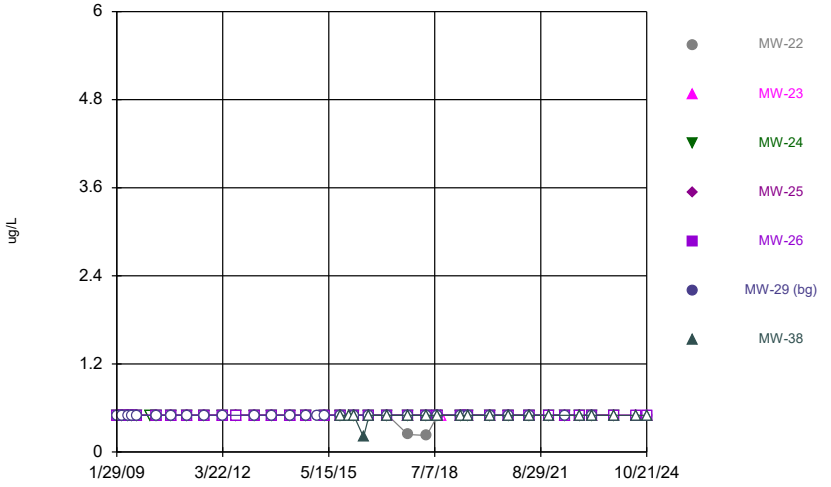
Time Series



Constituent: 1,2-Dichloroethane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

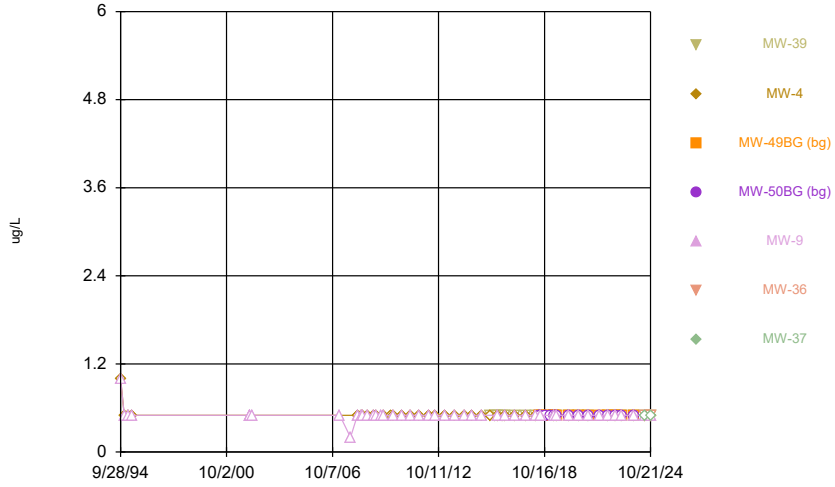
Time Series



Constituent: 1,2-Dichloroethane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

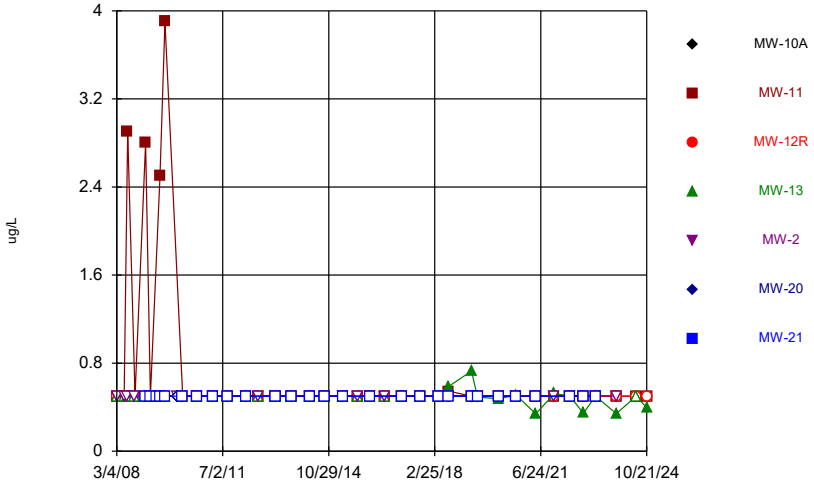
Time Series



Constituent: 1,2-Dichloroethane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

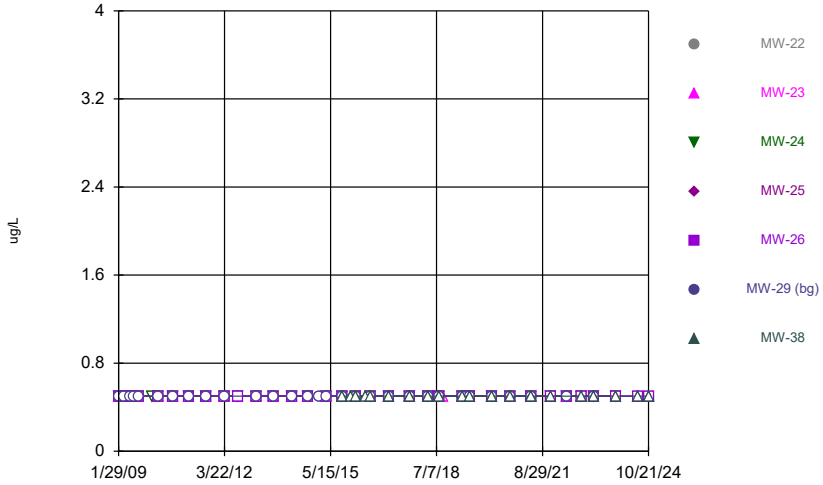
Time Series



Constituent: 1,2-Dichloropropane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

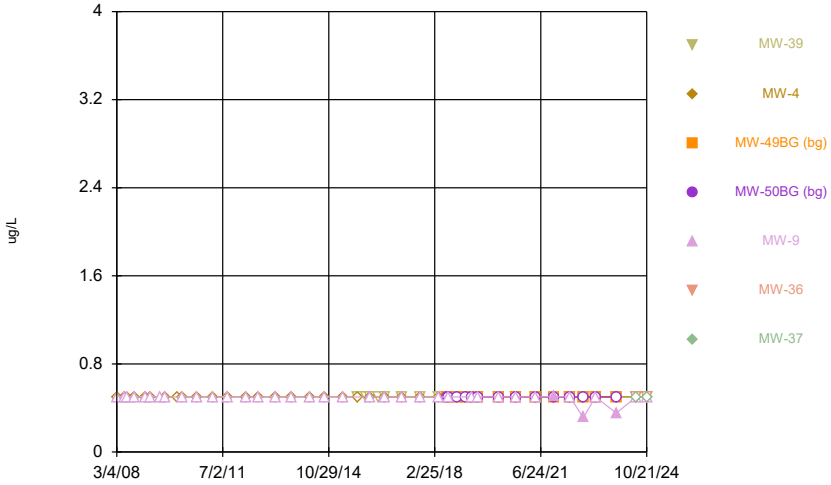
Time Series



Constituent: 1,2-Dichloropropane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

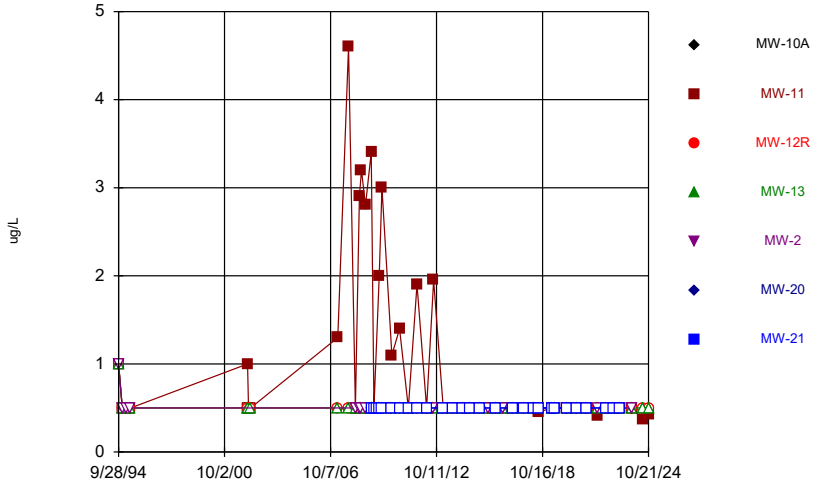
Time Series



Constituent: 1,2-Dichloropropane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

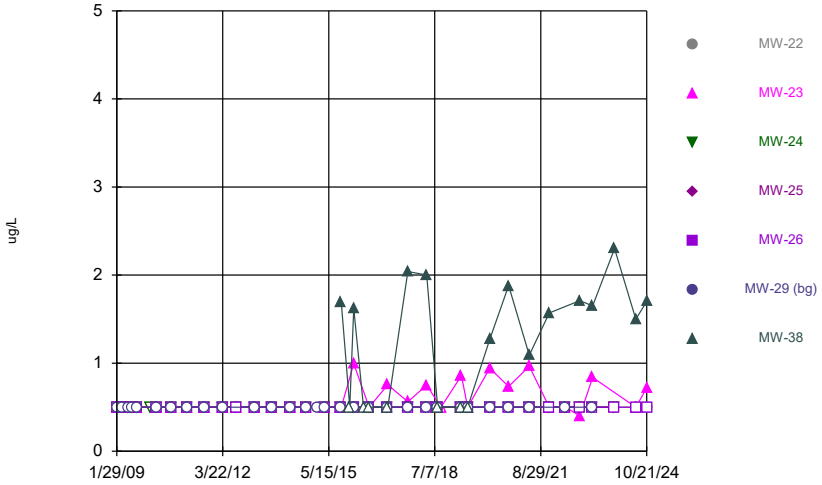
Time Series



Constituent: 1,4-Dichlorobenzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

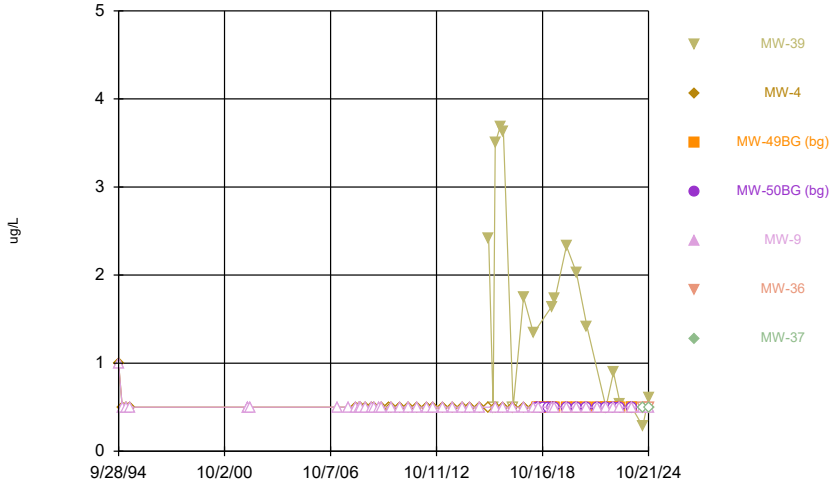
Time Series



Constituent: 1,4-Dichlorobenzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

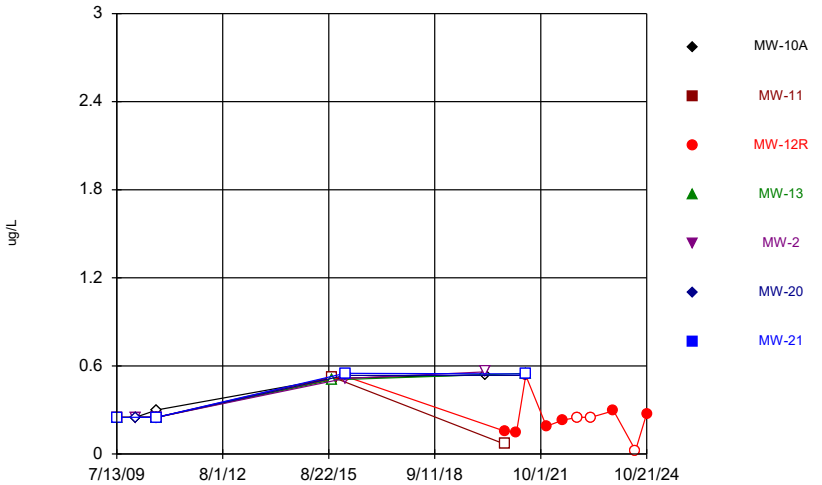
Time Series



Constituent: 1,4-Dichlorobenzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

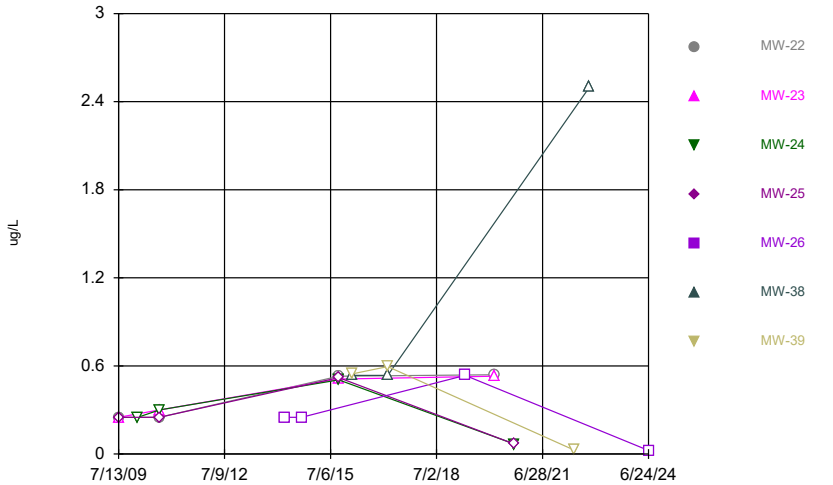
Time Series



Constituent: 2,4,5-TP [Silvex] [2C] Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

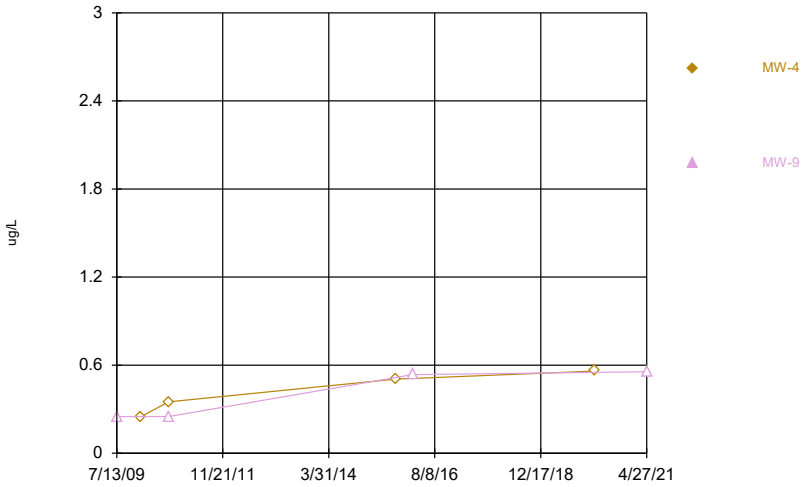
Time Series



Constituent: 2,4,5-TP [Silvex] [2C] Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

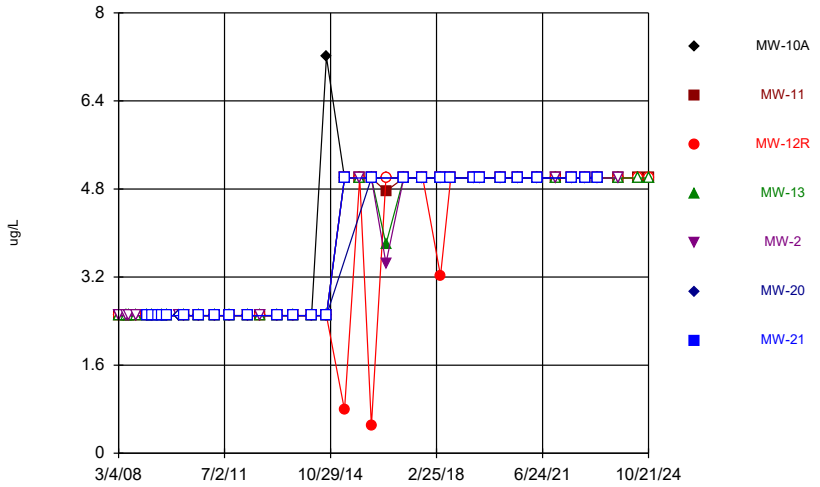
Time Series



Constituent: 2,4,5-TP [Silvex] [2C] Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

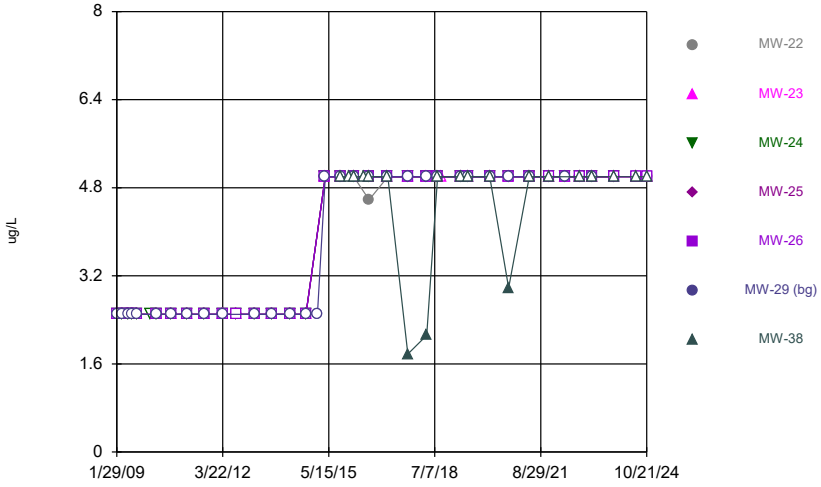
Time Series



Constituent: 2-Butanone Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

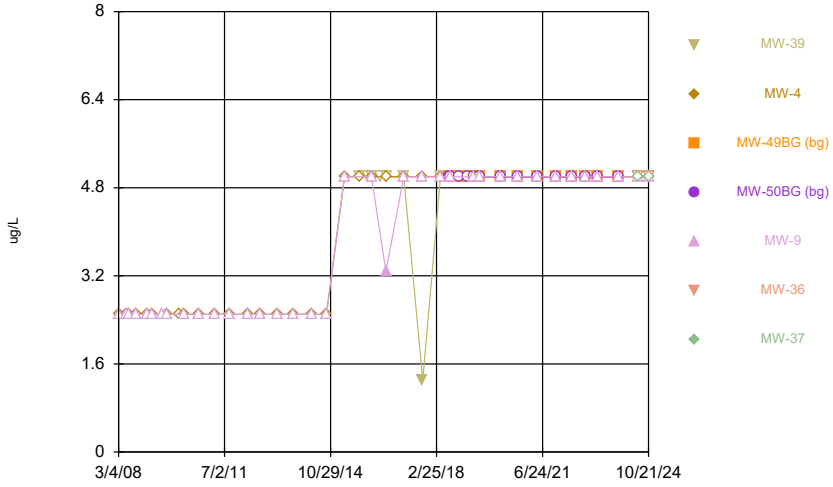
Time Series



Constituent: 2-Butanone Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

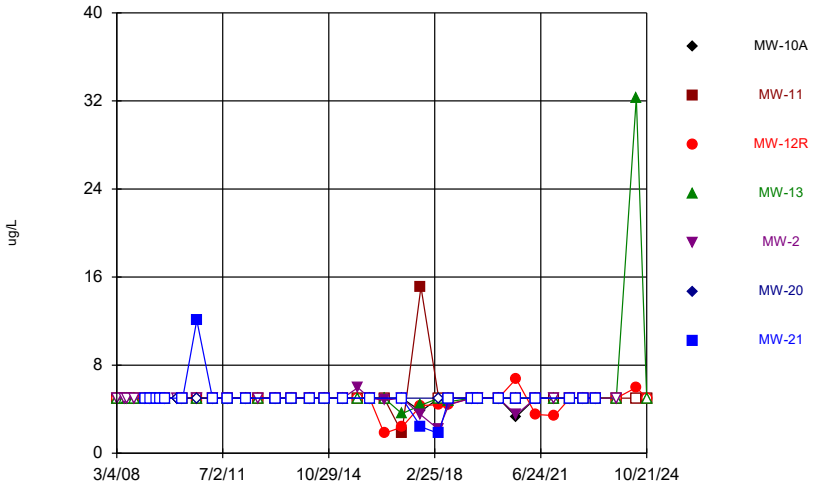
Time Series



Constituent: 2-Butanone Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

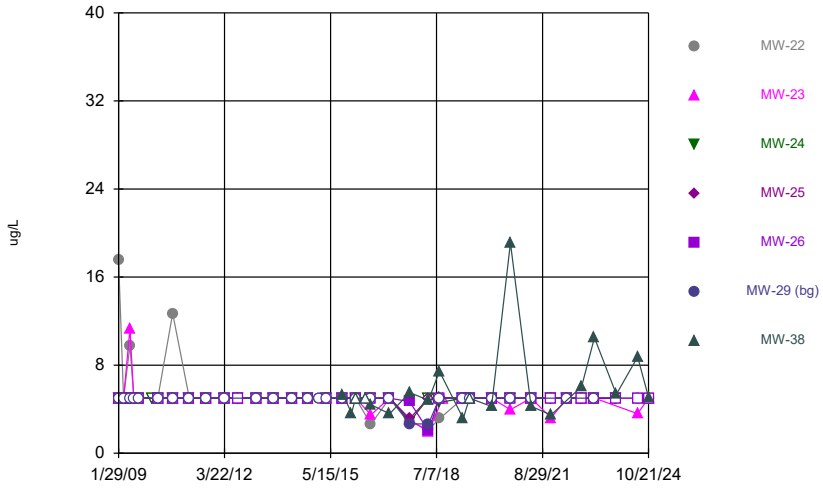
Time Series



Constituent: Acetone Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

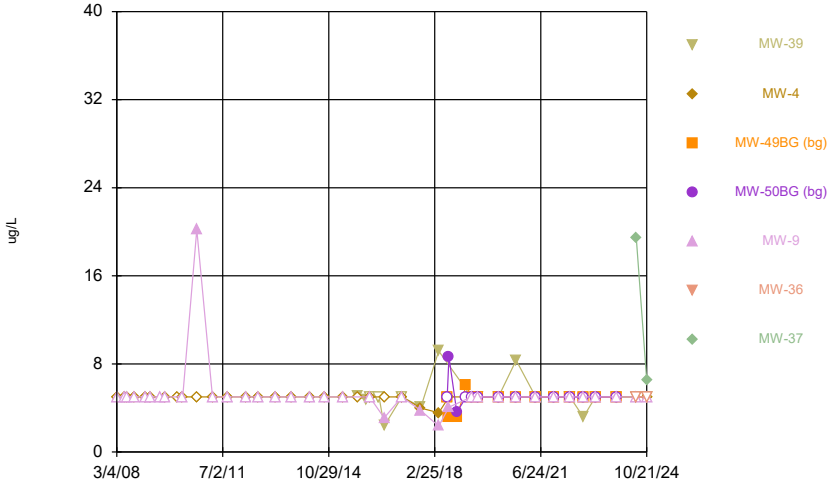
Time Series



Constituent: Acetone Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

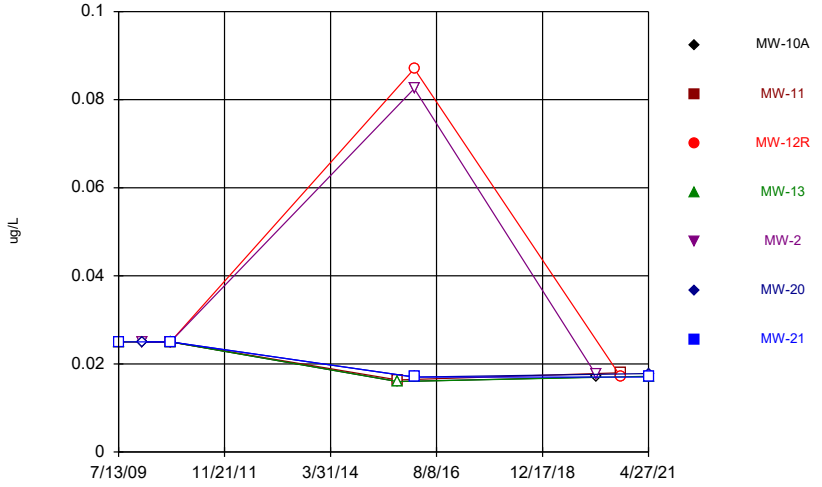
Time Series



Constituent: Acetone Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

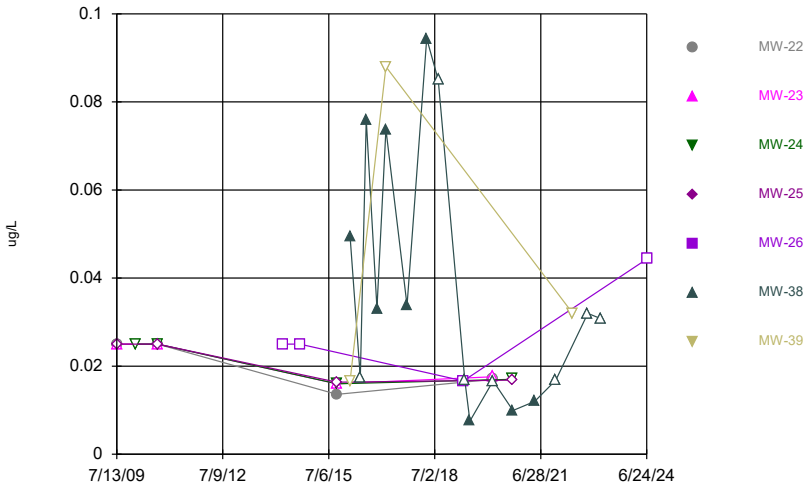
Time Series



Constituent: Aldrin Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

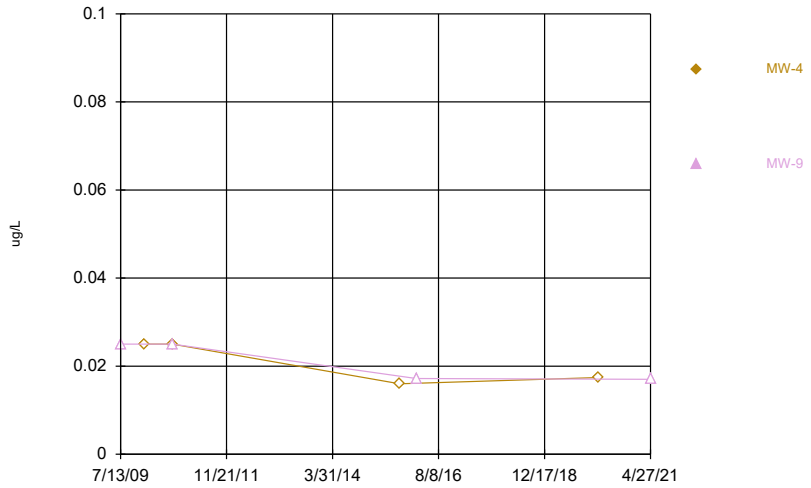
Time Series



Constituent: Aldrin Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

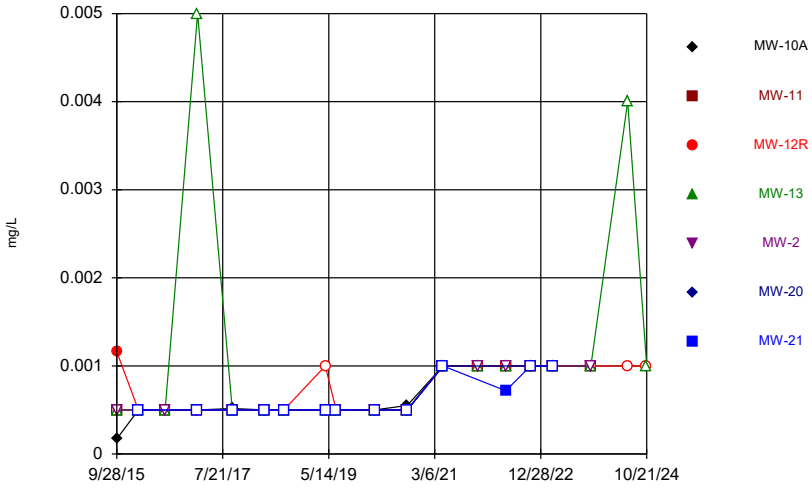
Time Series



Constituent: Aldrin Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

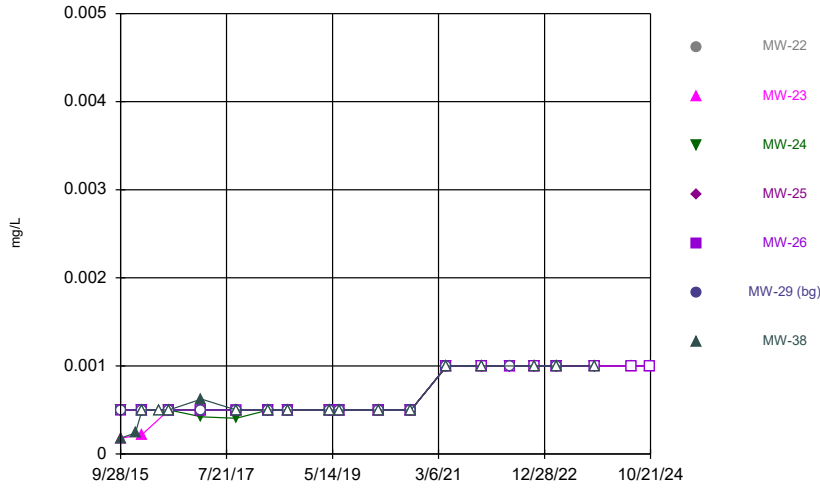
Time Series



Constituent: Antimony Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

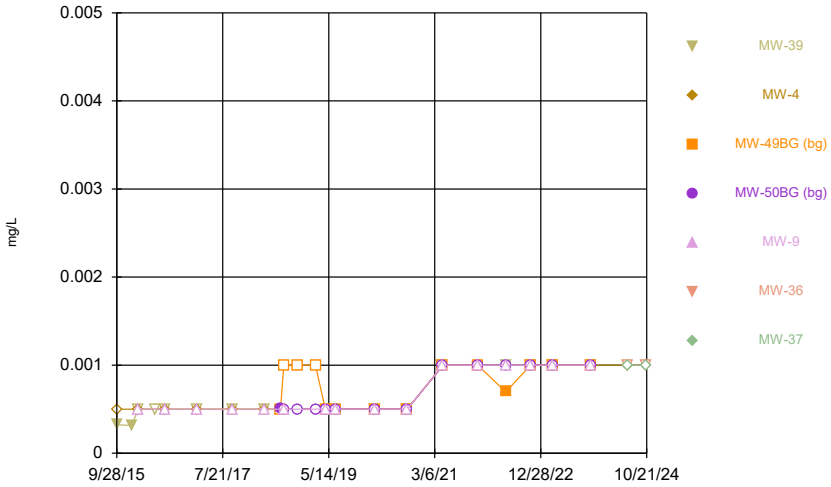
Time Series



Constituent: Antimony Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Antimony Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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Hollow symbols indicate censored values.

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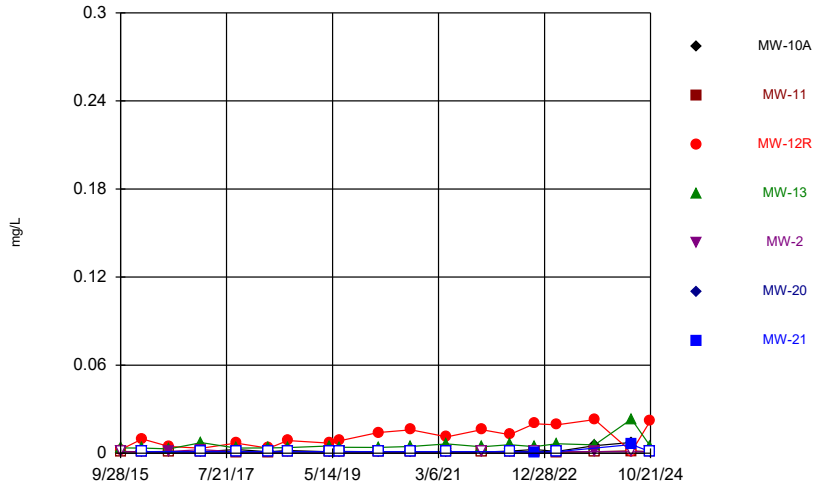
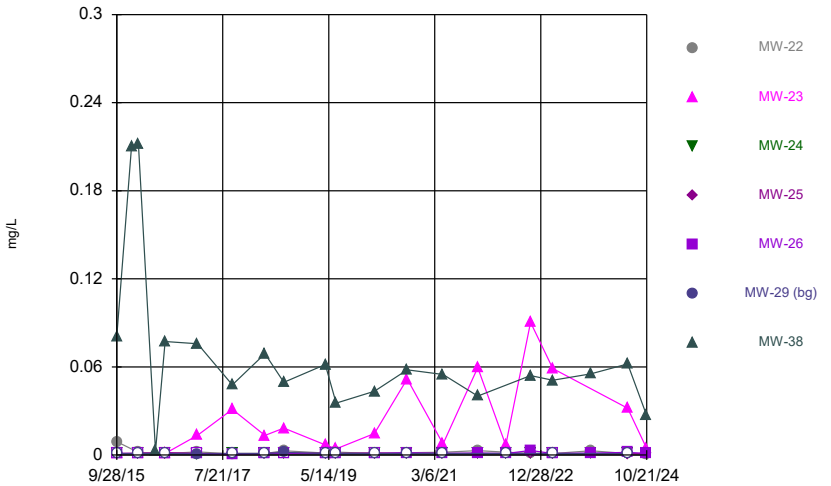


Constituent: Arsenic Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

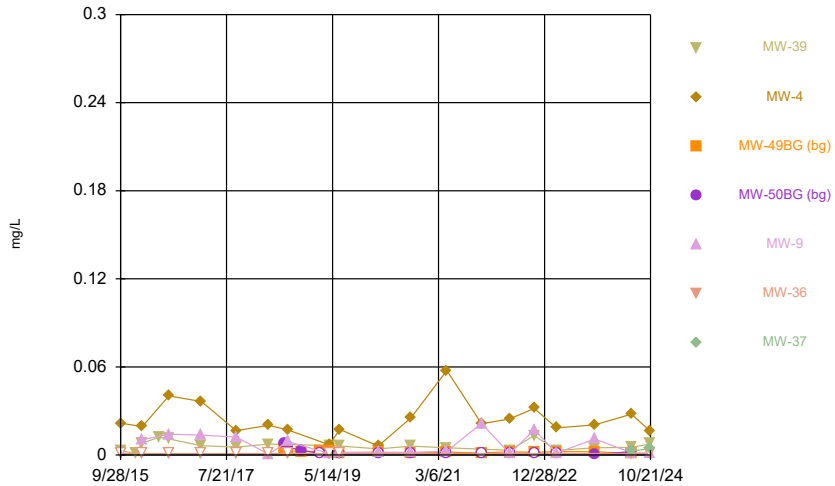
Time Series



Constituent: Arsenic Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

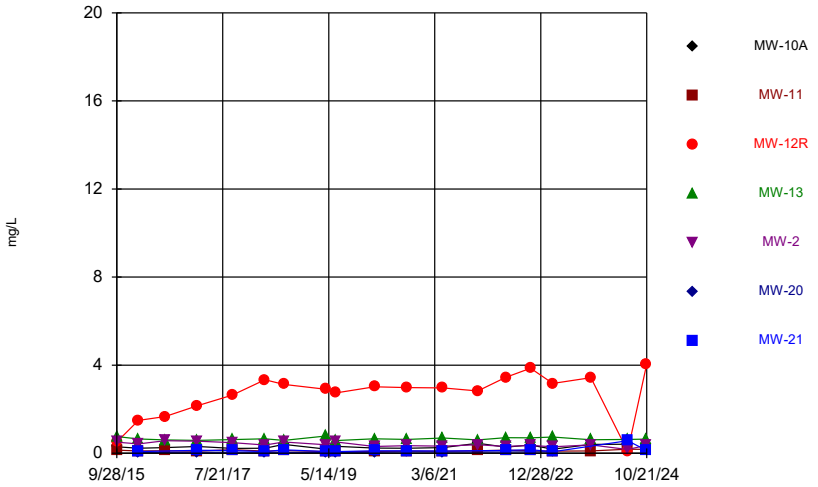
Time Series



Constituent: Arsenic Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

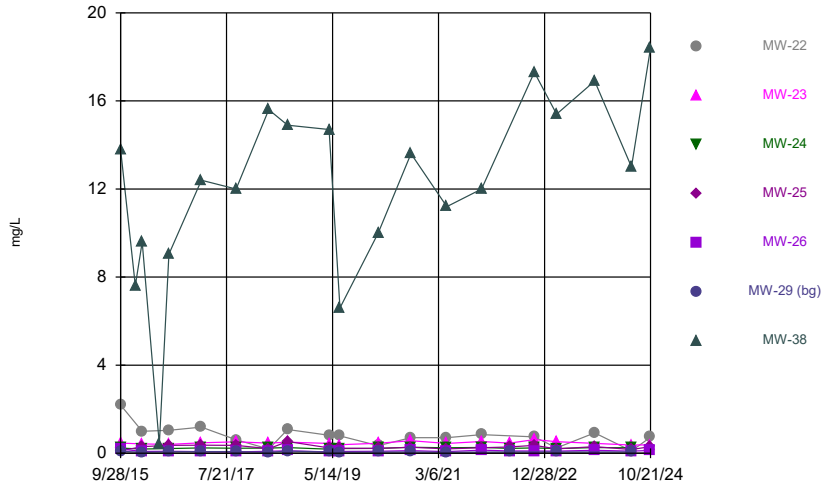
Time Series



Constituent: Barium Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

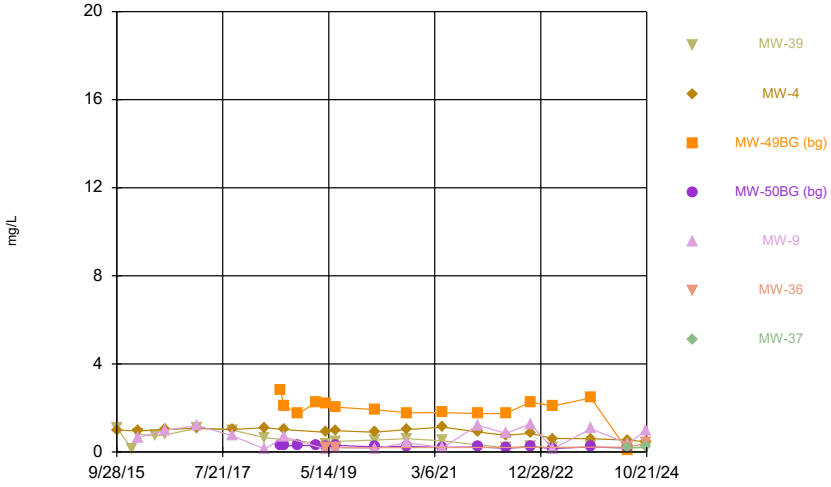
Time Series



Constituent: Barium Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Time Series



Constituent: Barium Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
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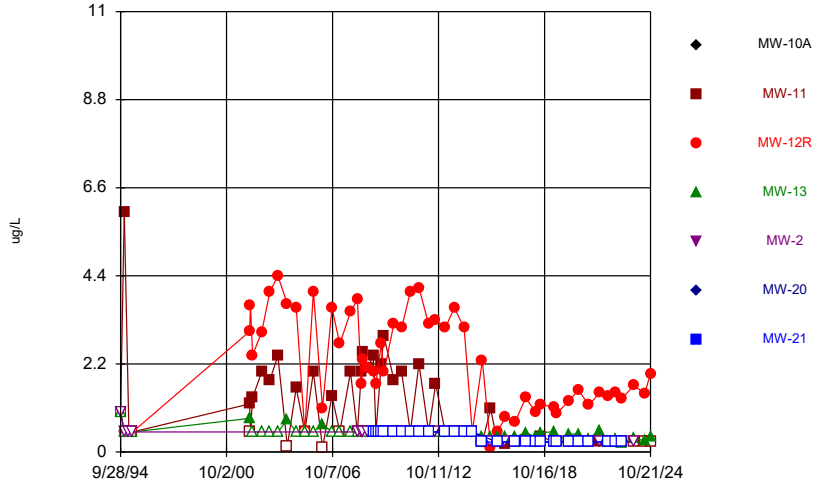
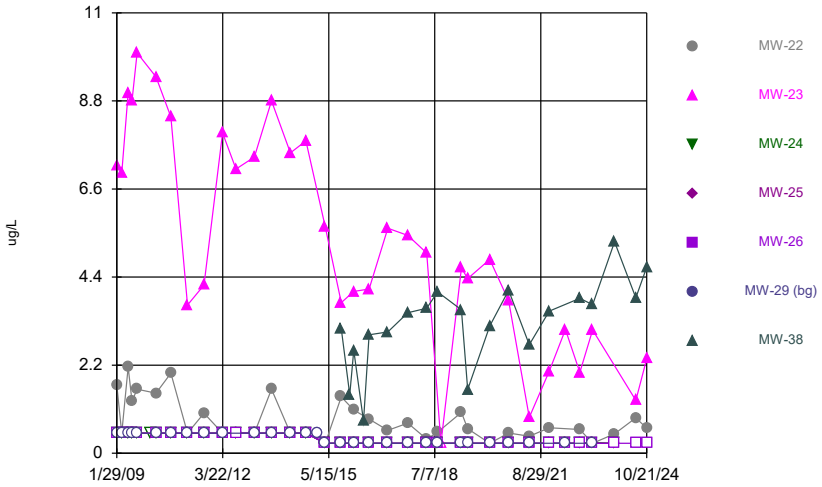


Constituent: Benzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

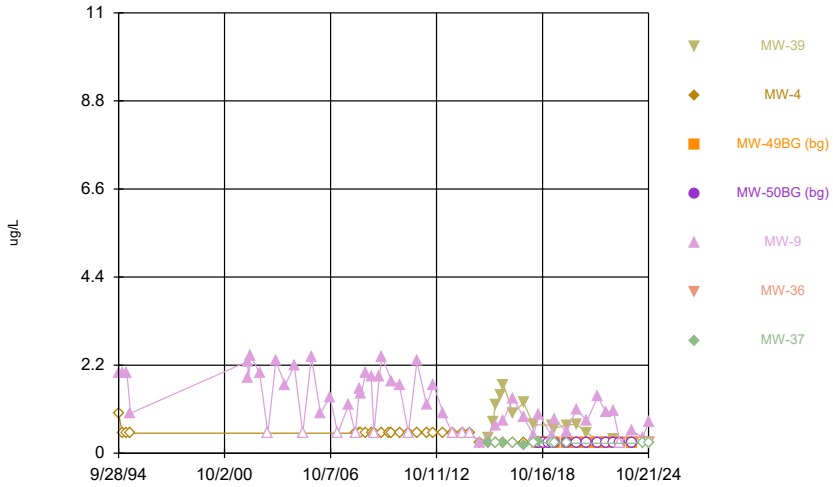
Time Series



Constituent: Benzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Benzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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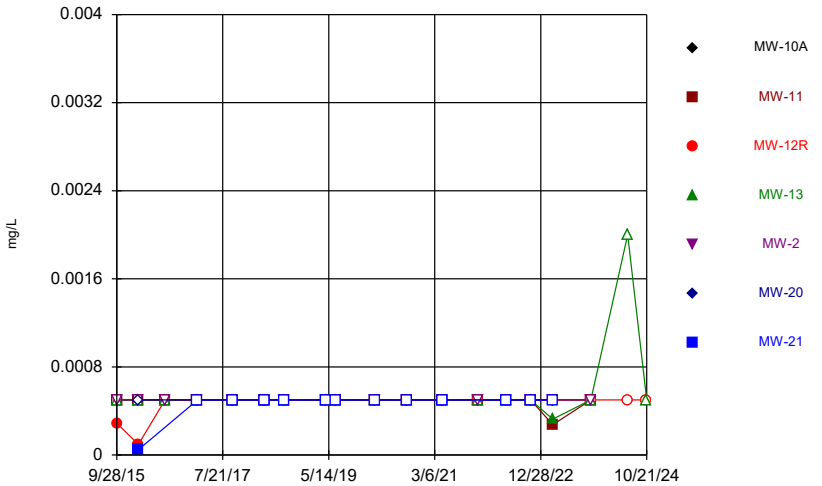
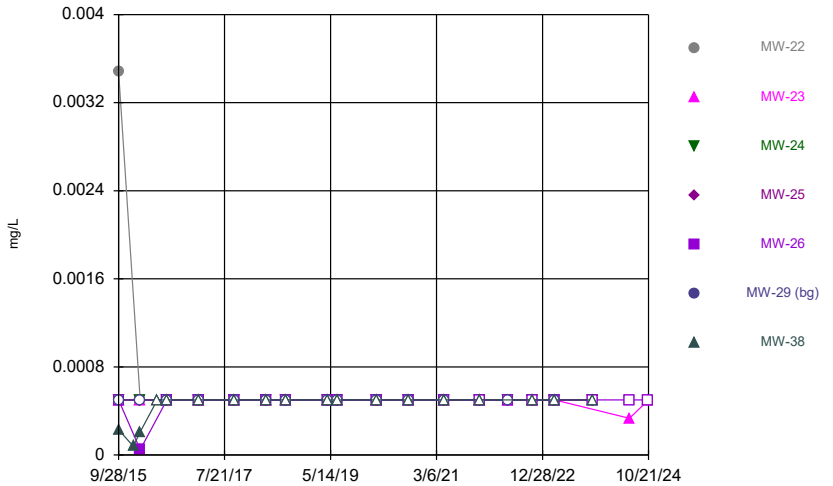


Constituent: Beryllium Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

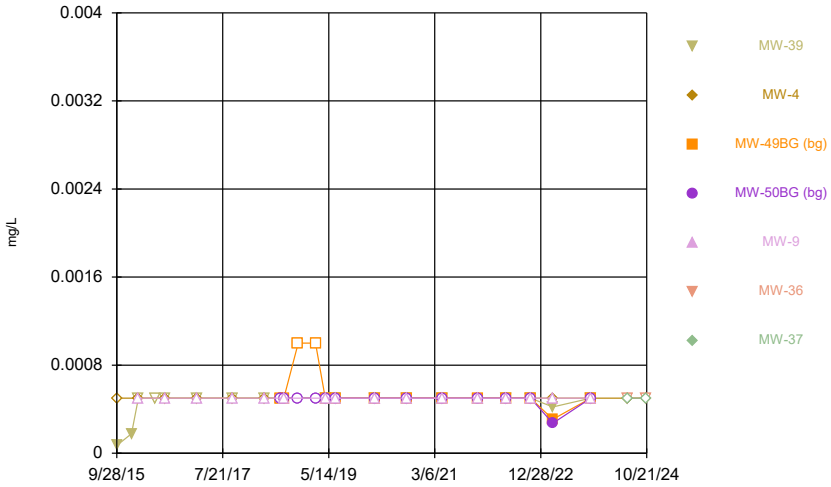
Time Series



Constituent: Beryllium Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

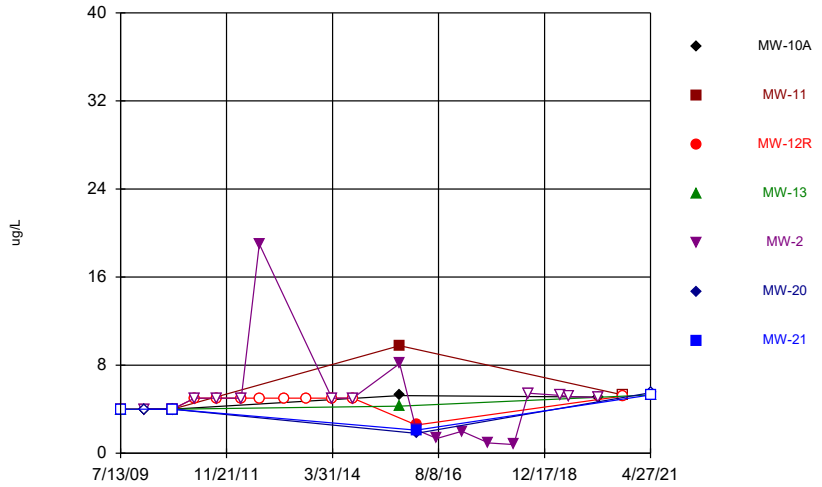
Time Series



Constituent: Beryllium Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

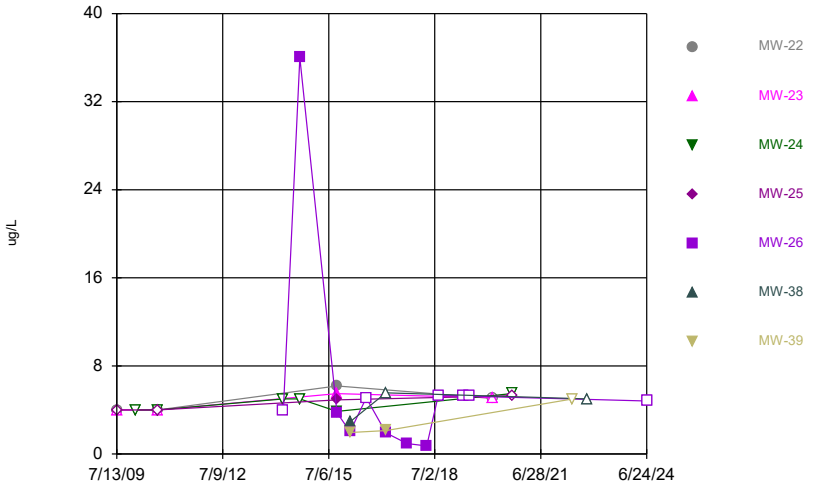
Time Series



Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

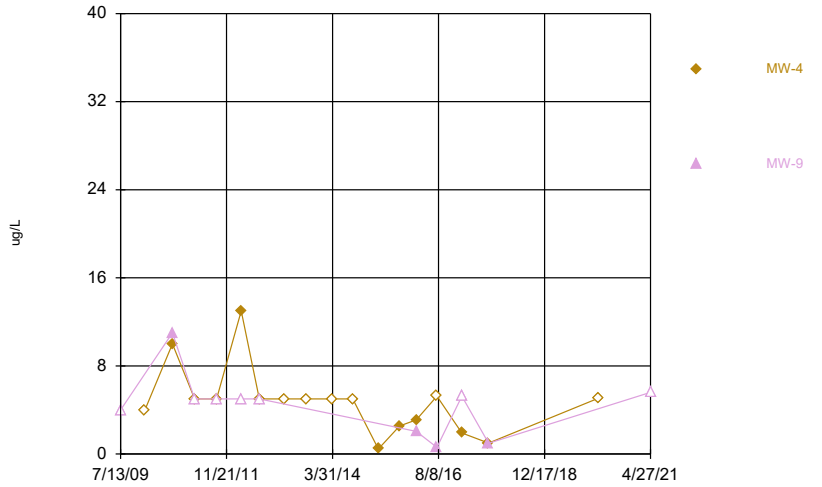
Time Series



Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

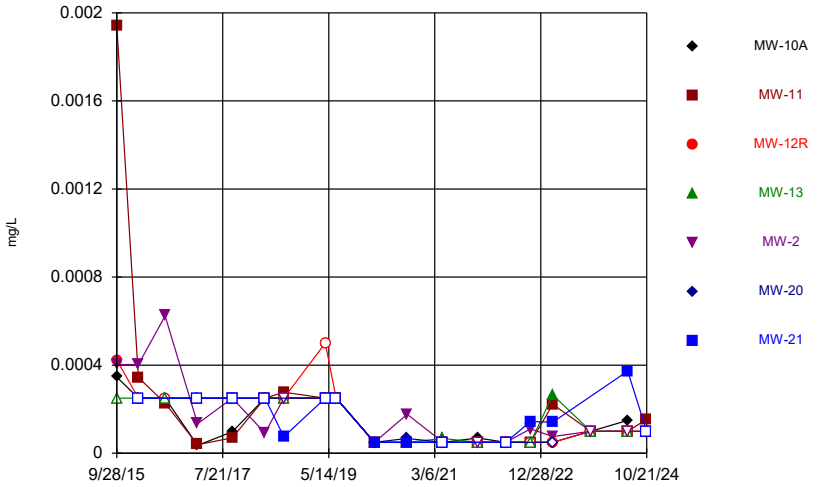
Time Series



Constituent: Bis[2-ethylhexyl]phthalate Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

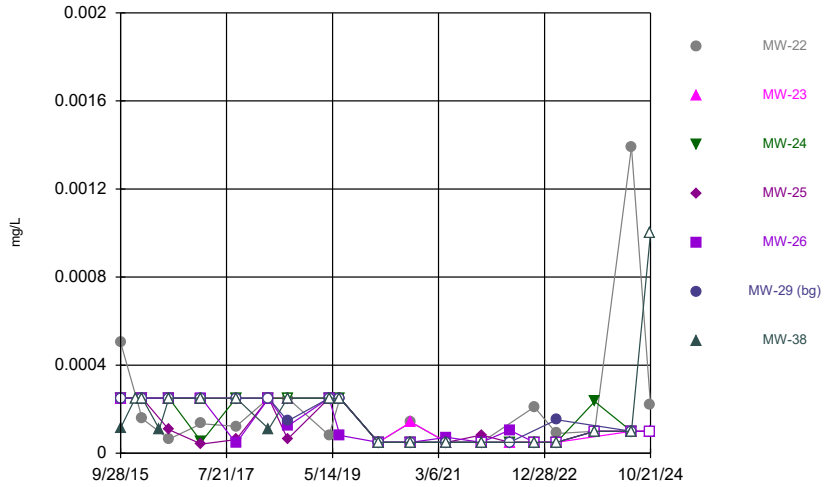
Time Series



Constituent: Cadmium Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Cadmium Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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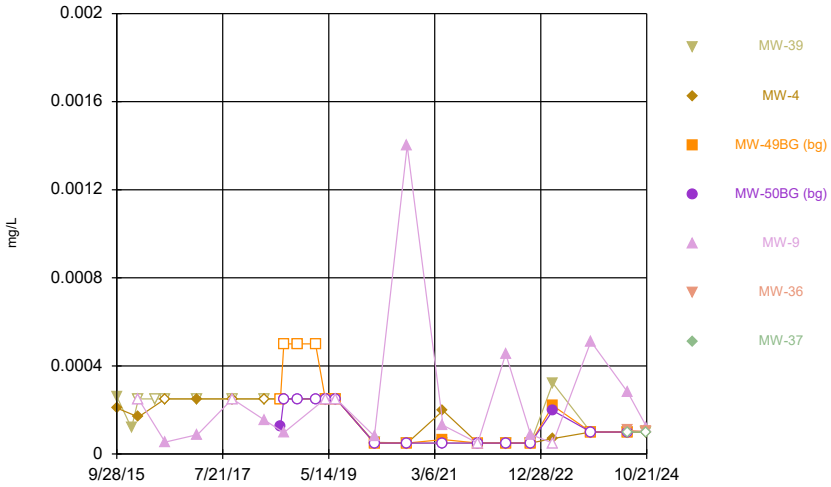
Hollow symbols indicate censored values.

Time Series



Constituent: Cadmium Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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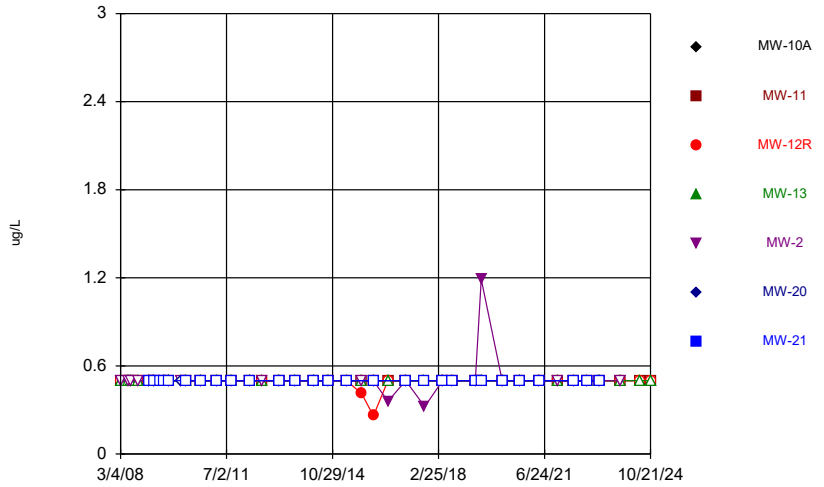
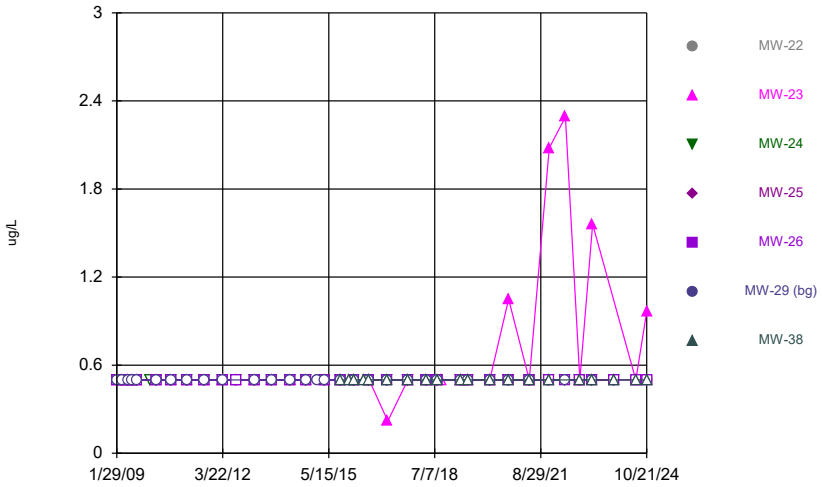
Time Series



Constituent: Carbon Disulfide Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

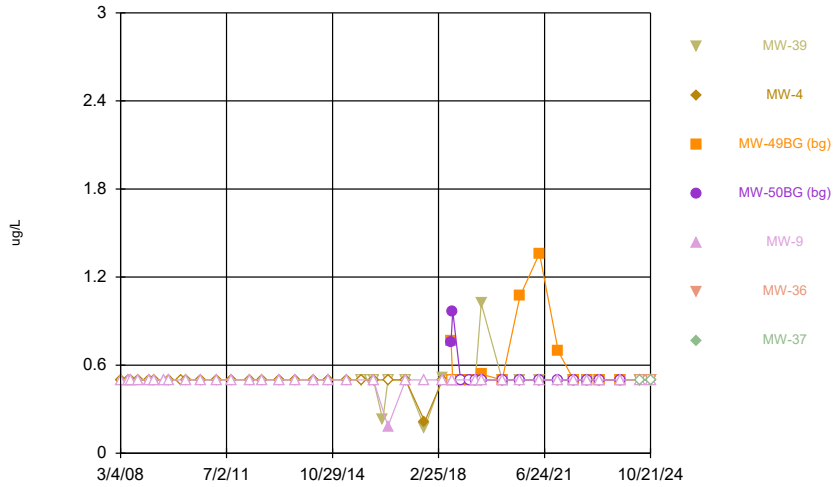
Time Series



Constituent: Carbon Disulfide Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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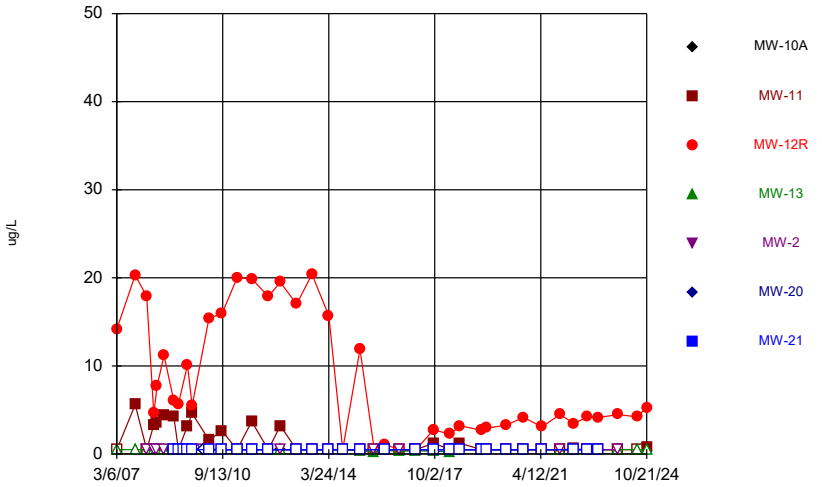
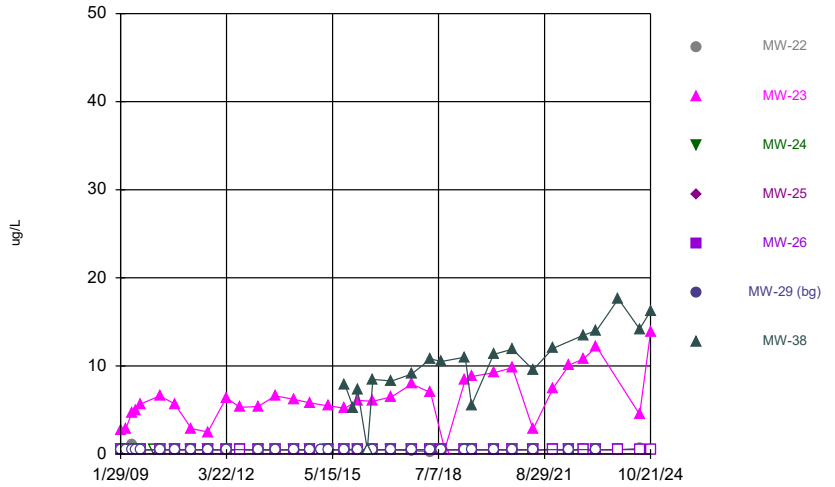


Constituent: Chlorobenzene Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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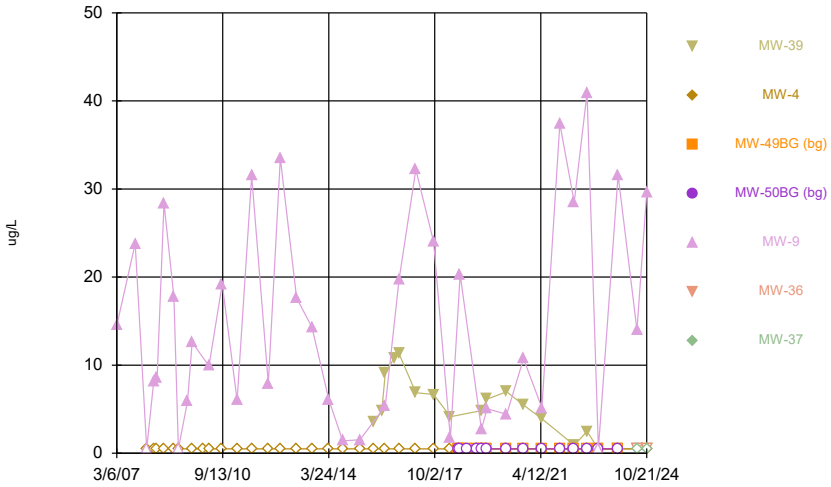
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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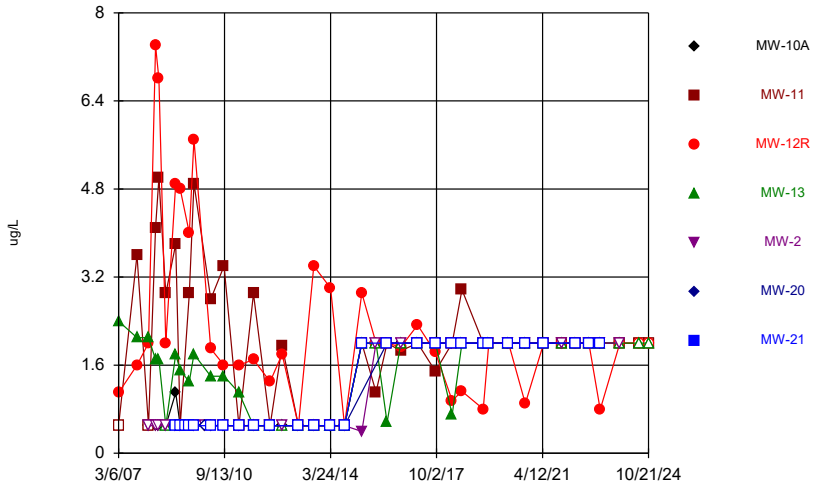
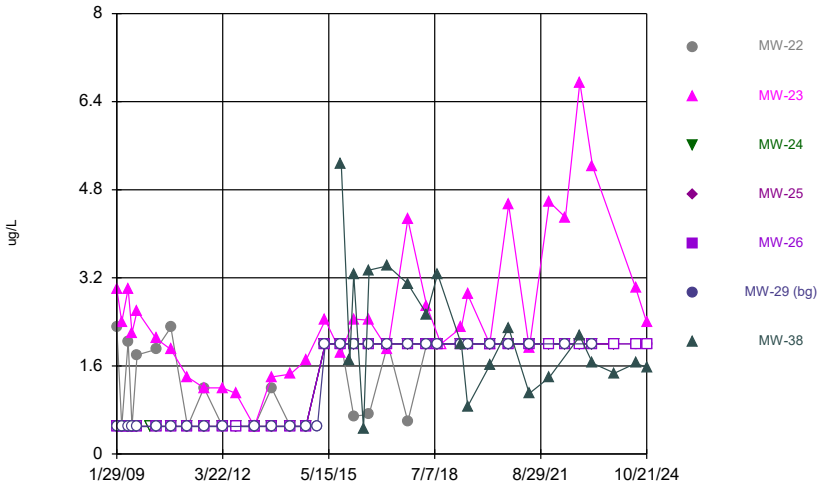


Constituent: Chloroethane Analysis Run 1/21/2025 5:41 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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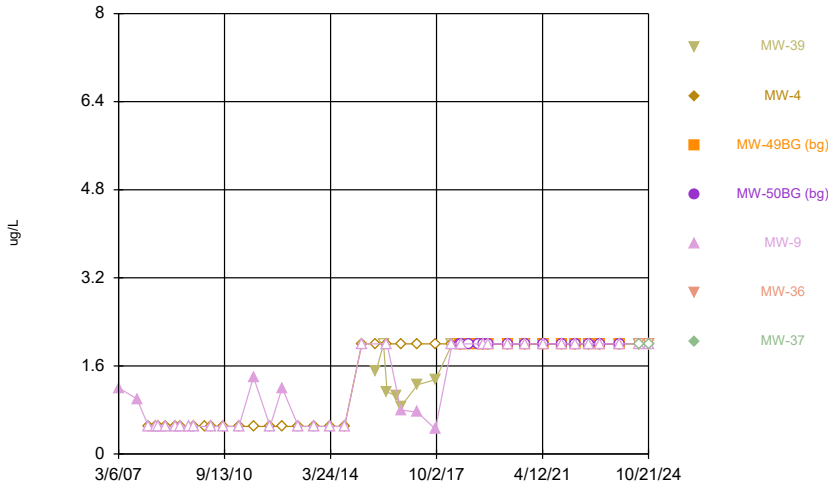
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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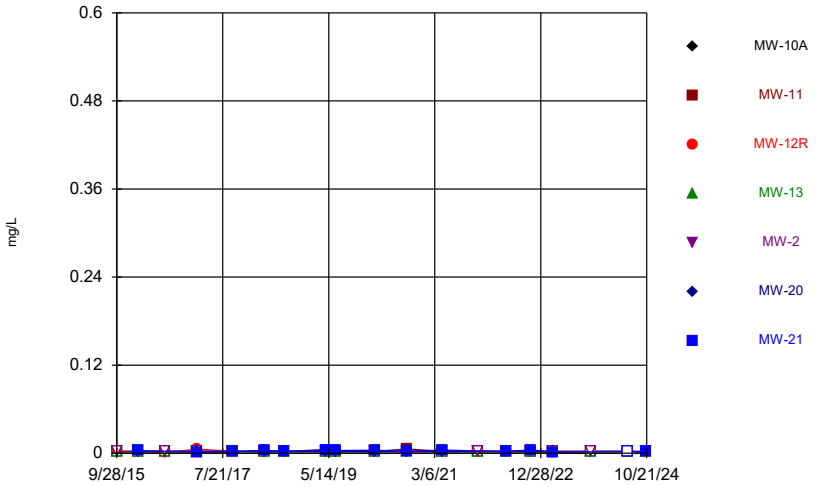
Hollow symbols indicate censored values.

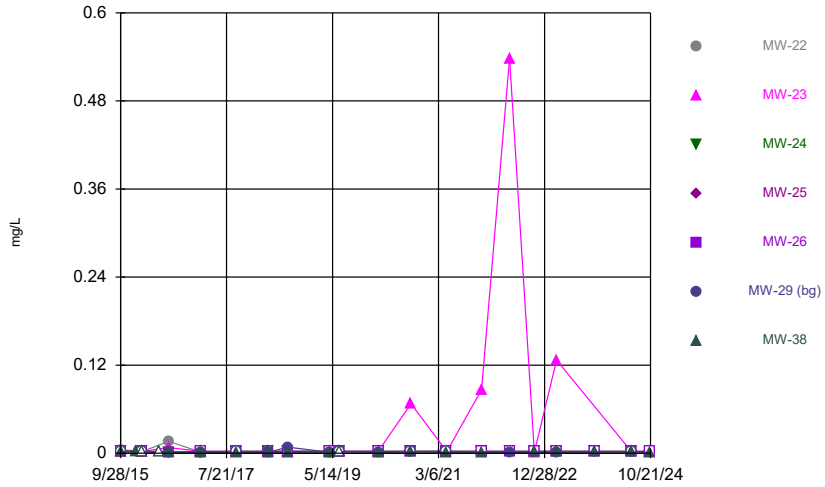
Time Series



Constituent: Chromium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

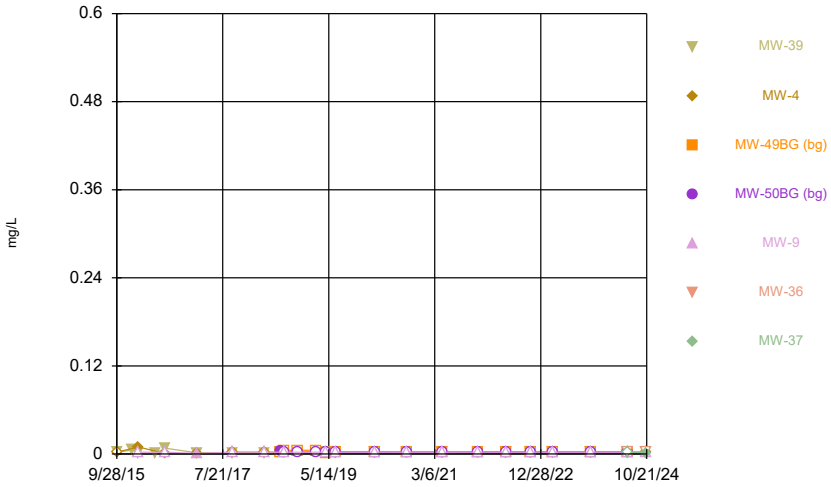
Time Series



Constituent: Chromium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

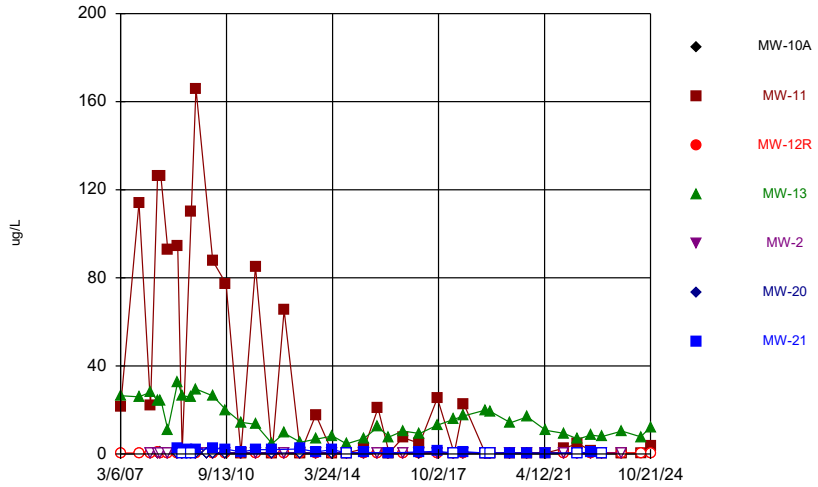
Time Series



Constituent: Chromium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

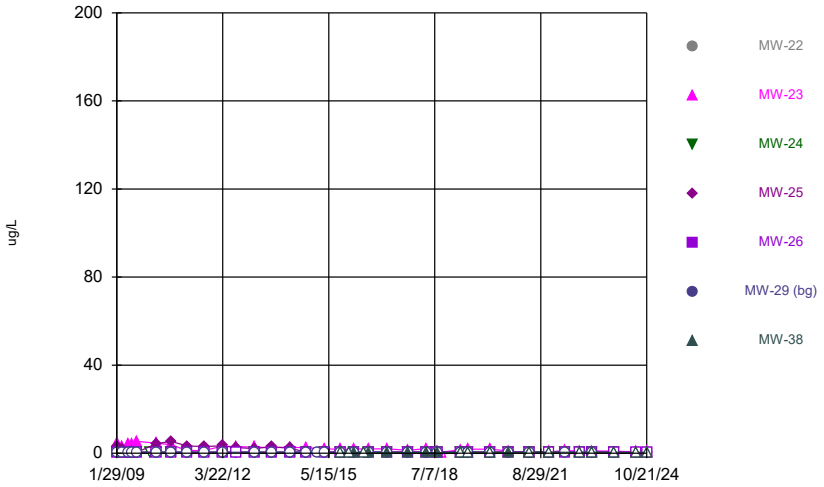
Time Series



Constituent: cis-1,2-Dichloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: cis-1,2-Dichloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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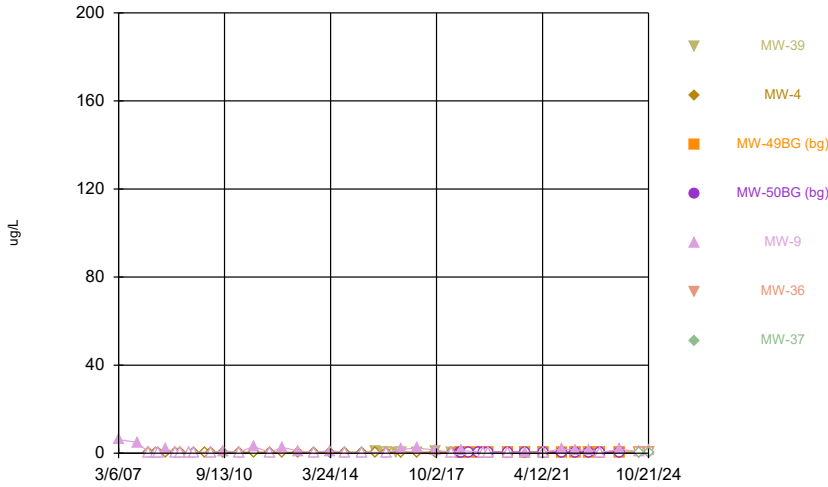
Time Series



Constituent: cis-1,2-Dichloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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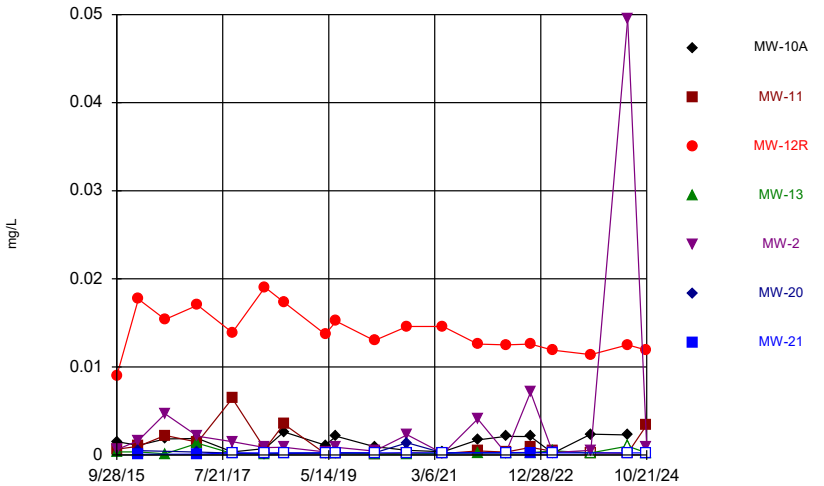
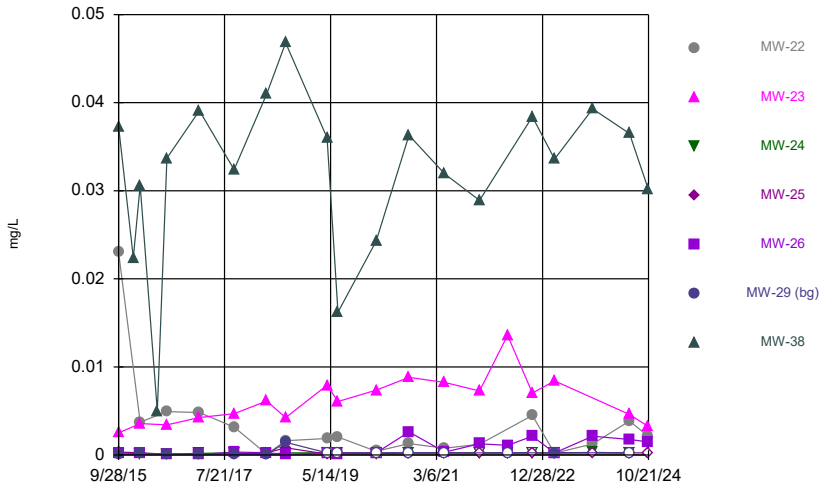


Constituent: Cobalt Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Cobalt Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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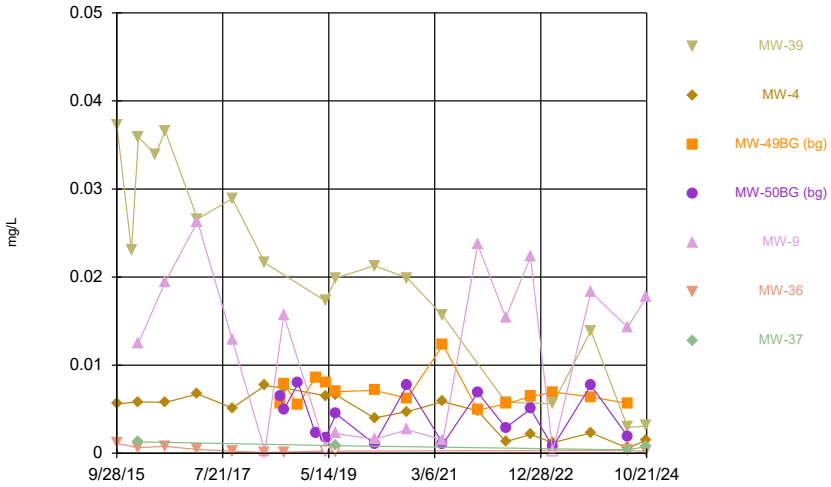
Time Series



Constituent: Cobalt Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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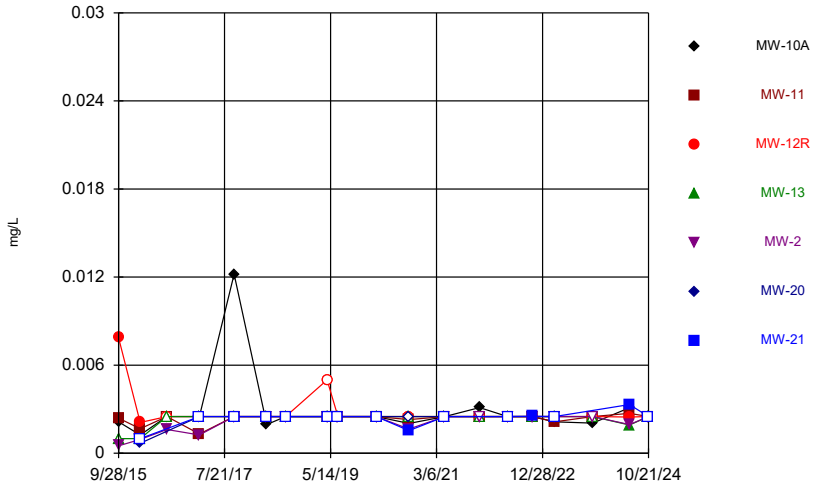
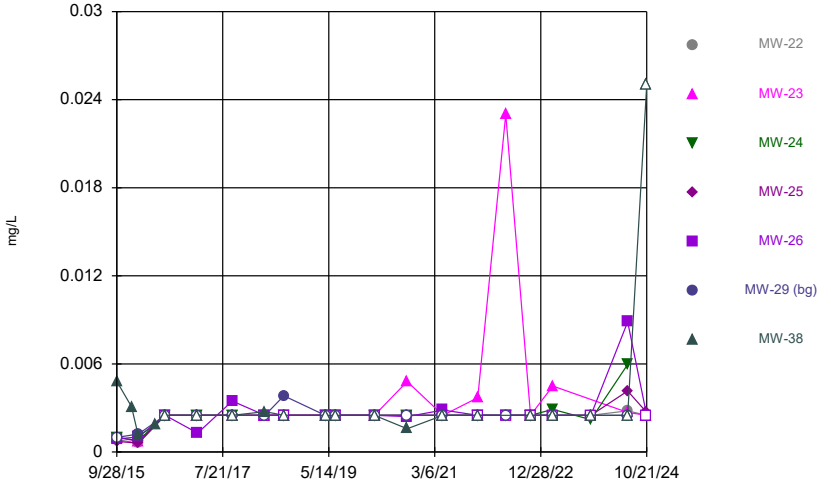


Constituent: Copper Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Copper Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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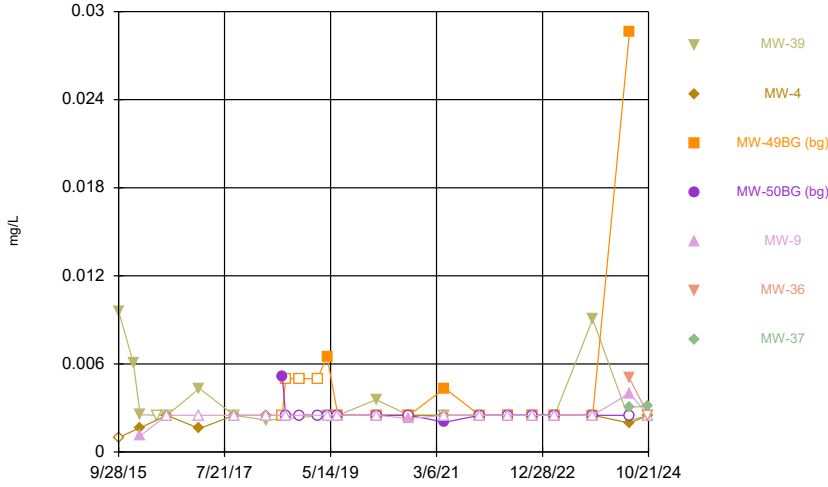

Constituent: Copper Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
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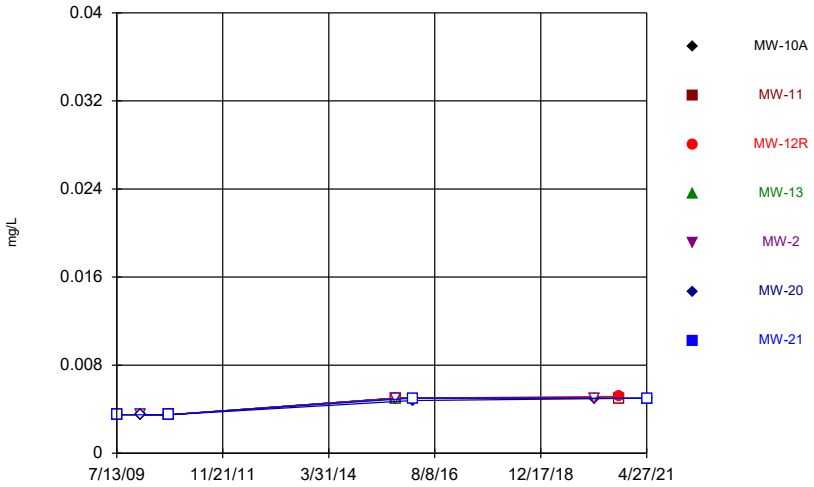

Constituent: Cyanide Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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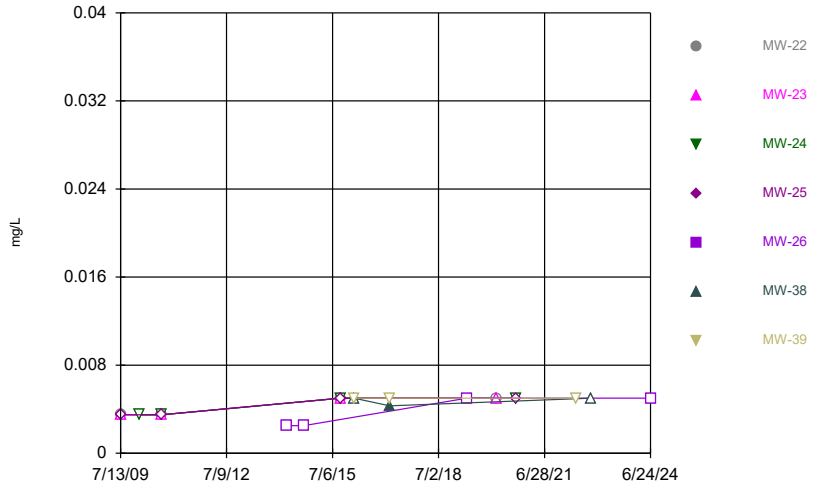

Constituent: Cyanide Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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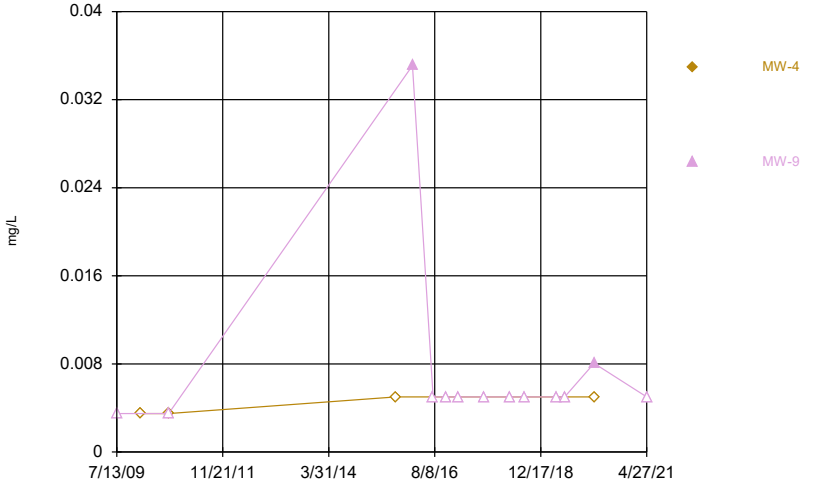

Constituent: Cyanide Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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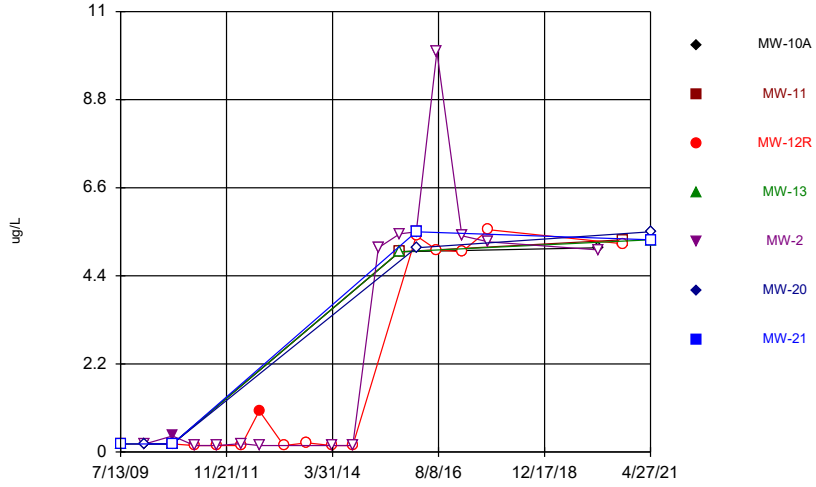
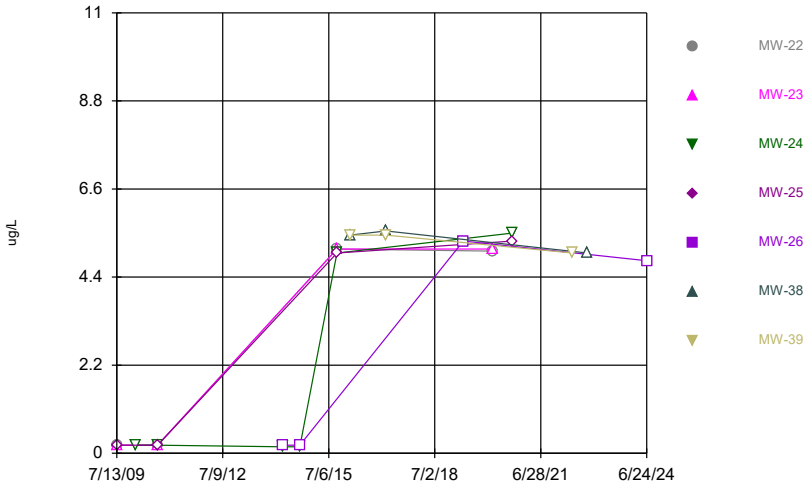


Constituent: Dimethoate Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

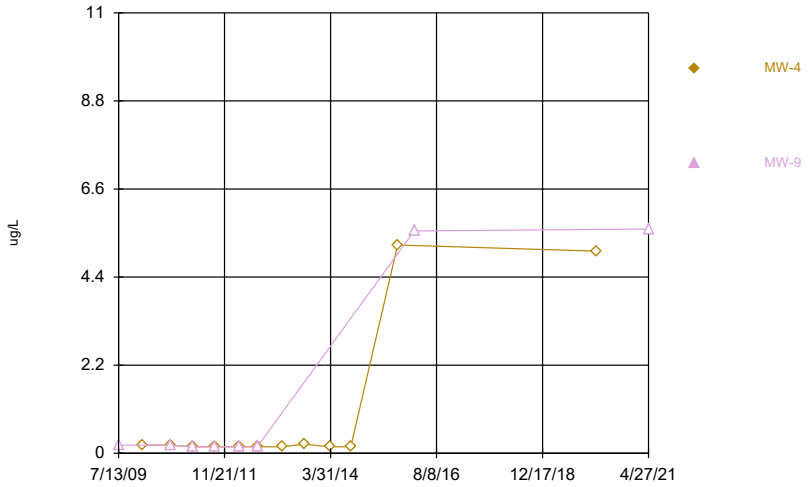
Time Series



Constituent: Dimethoate Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Dimethoate Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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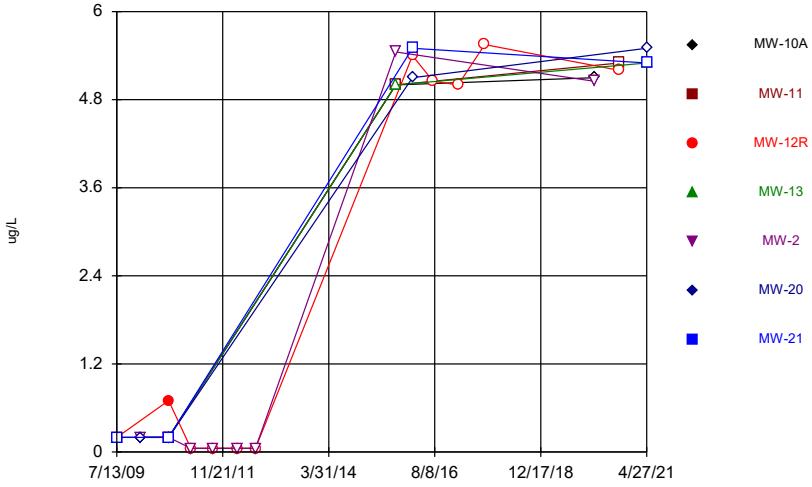
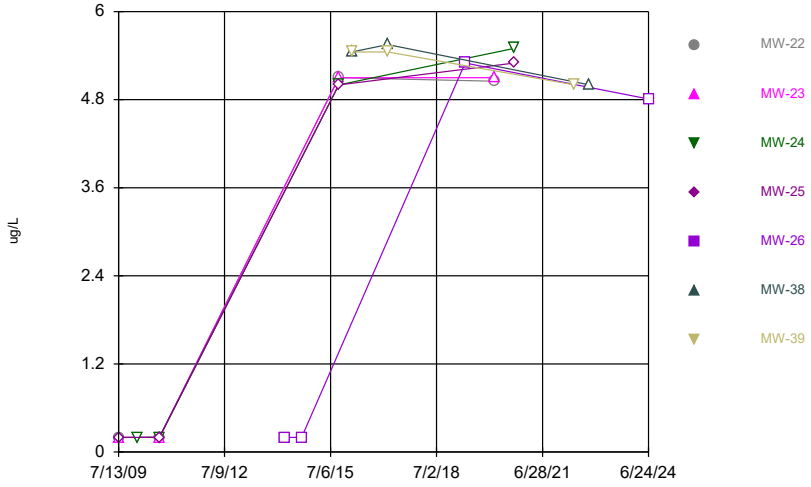


Constituent: Disulfoton Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

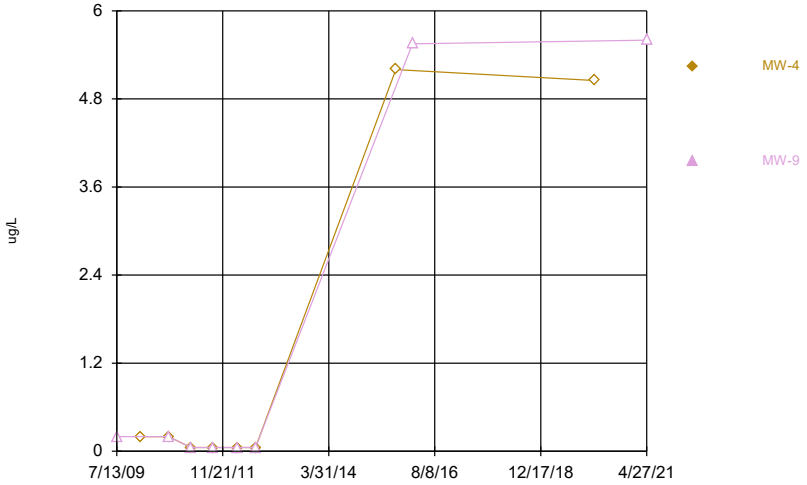
Time Series



Constituent: Disulfoton Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Disulfoton Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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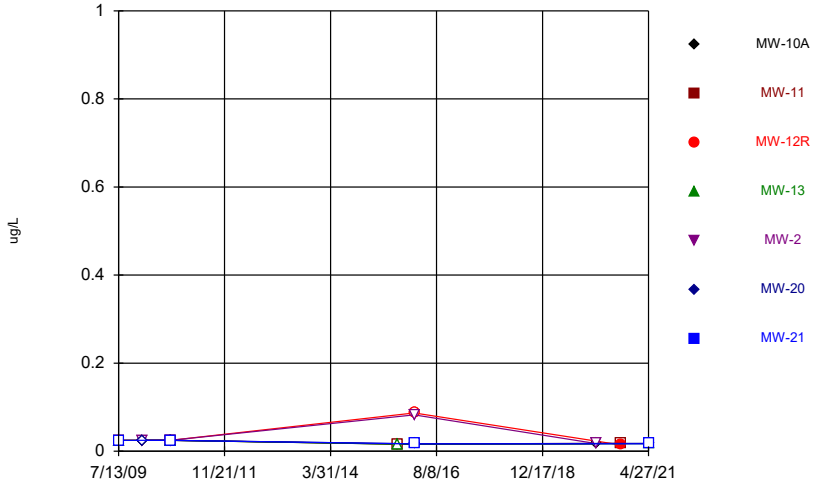
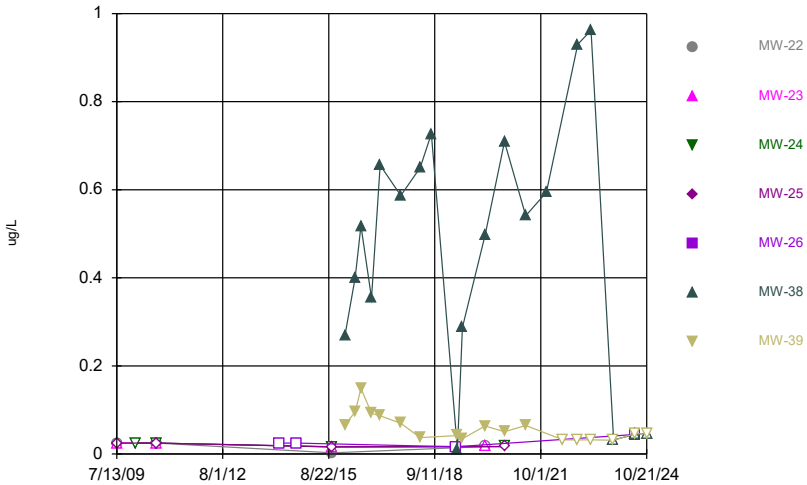


Constituent: Endosulfan I Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

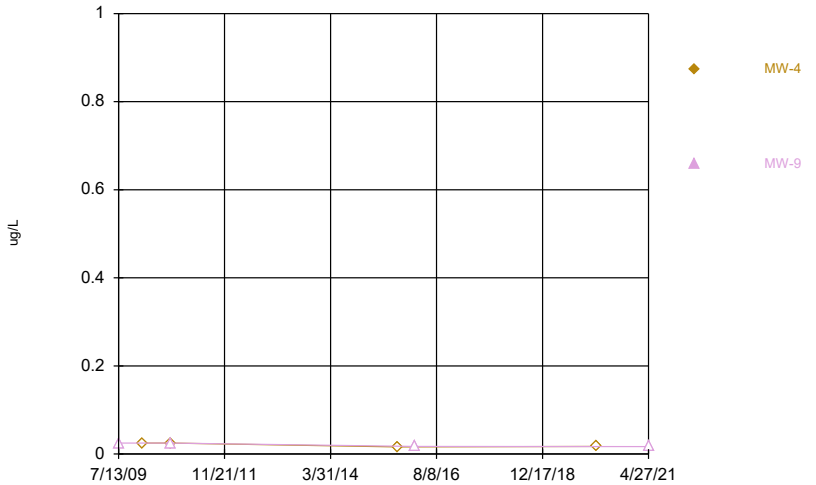
Time Series



Constituent: Endosulfan I Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Endosulfan I Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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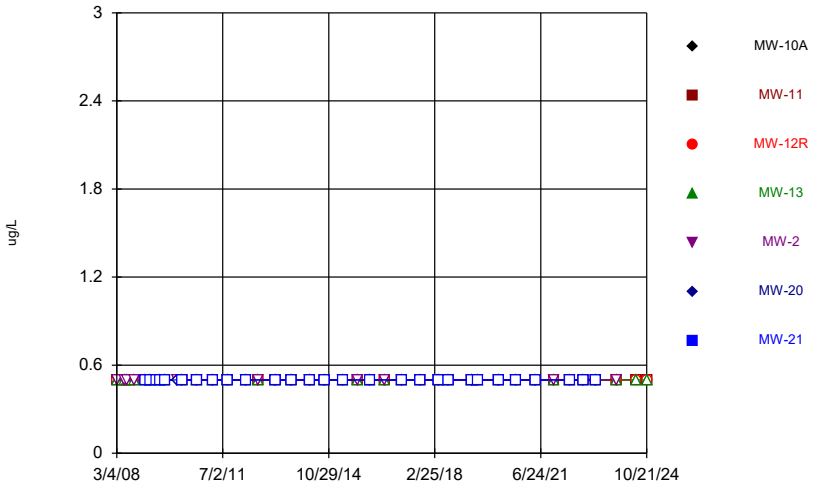
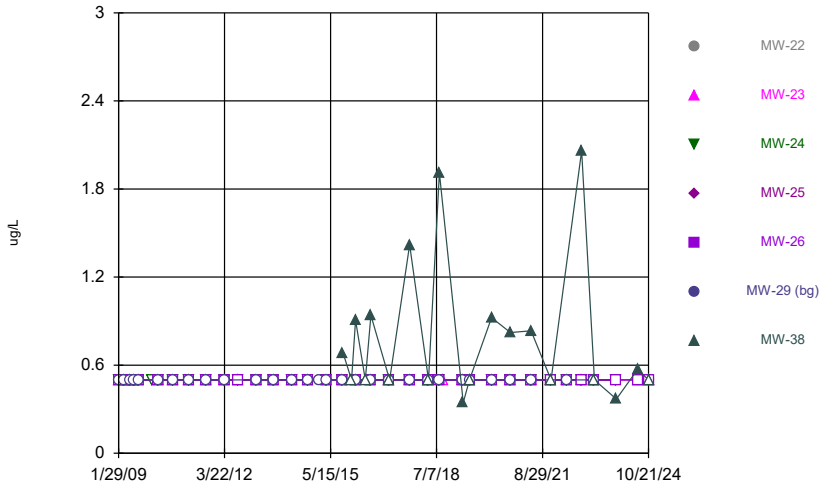
Time Series



Constituent: Ethylbenzene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

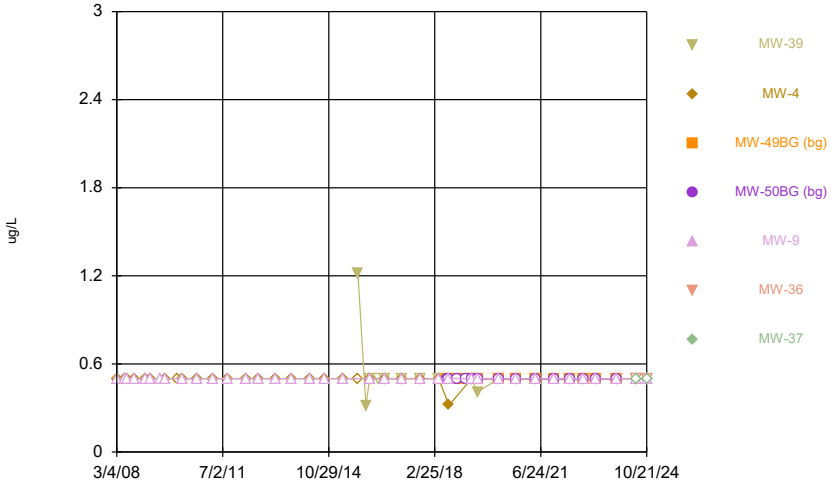
Time Series



Constituent: Ethylbenzene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



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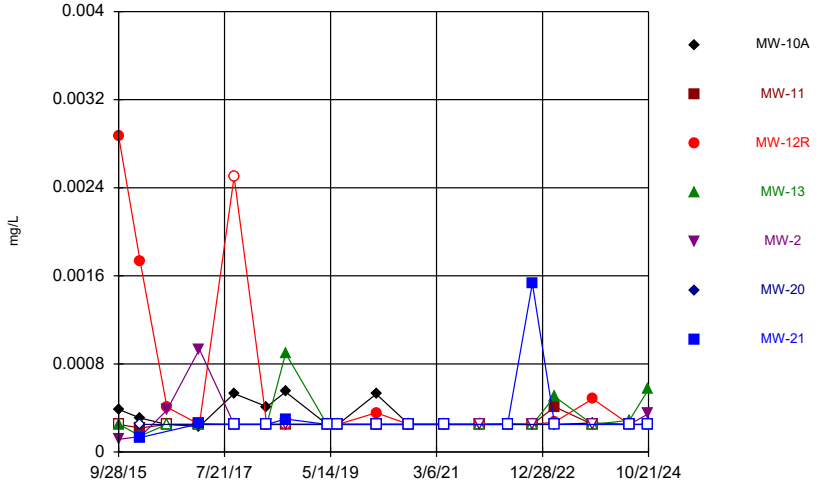
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

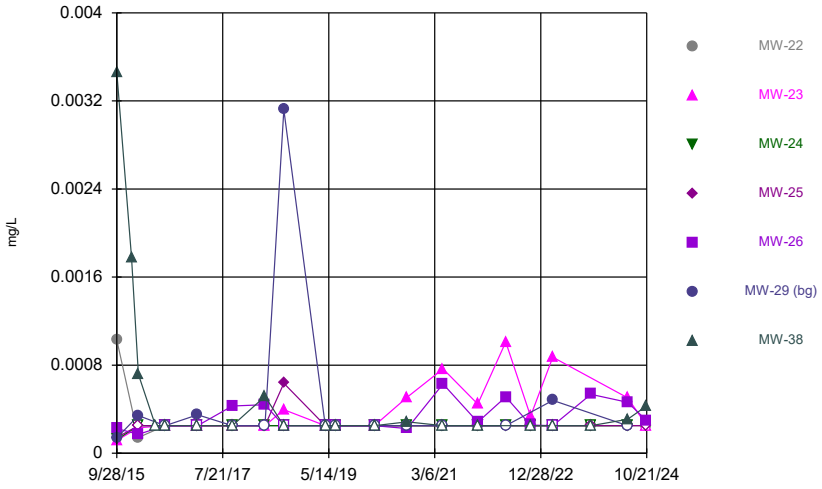
Time Series



Constituent: Lead Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

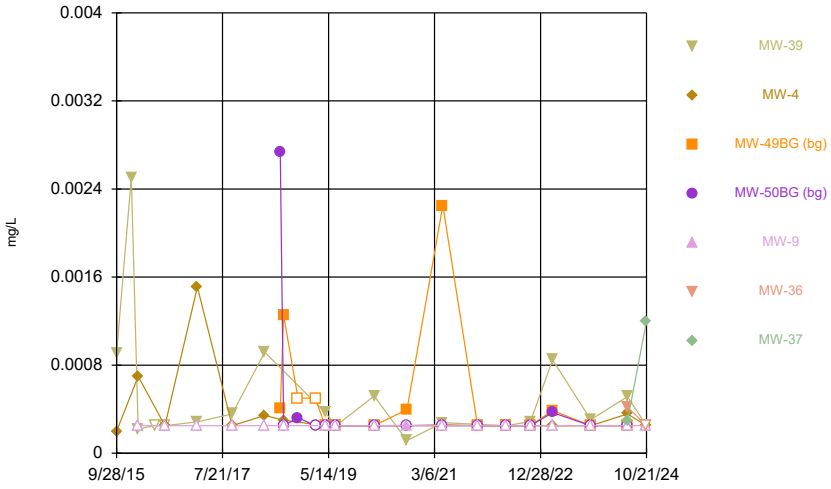
Time Series



Constituent: Lead Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

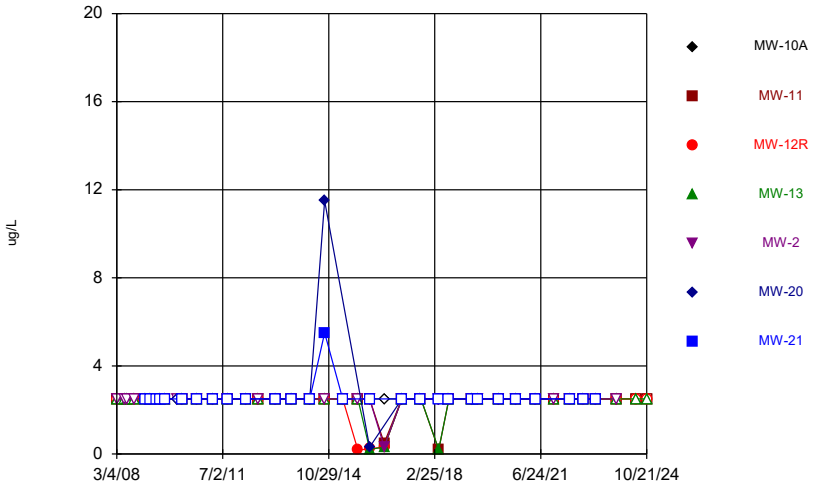
Time Series



Constituent: Lead Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

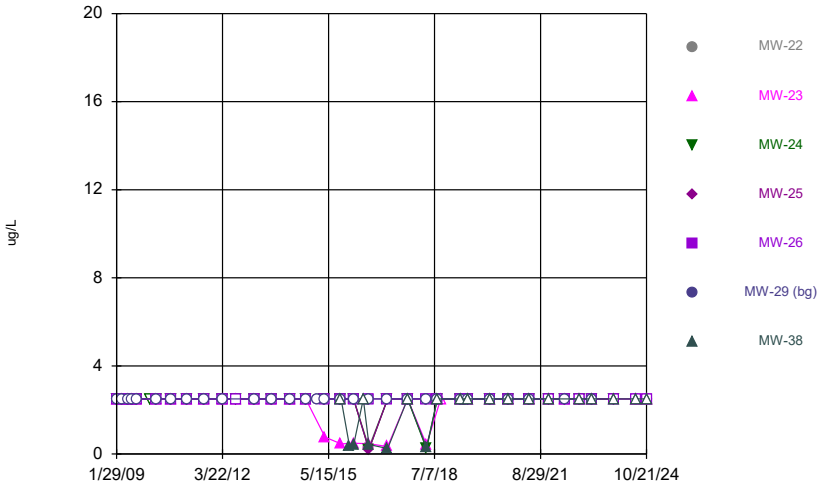
Time Series



Constituent: Methylene Chloride Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

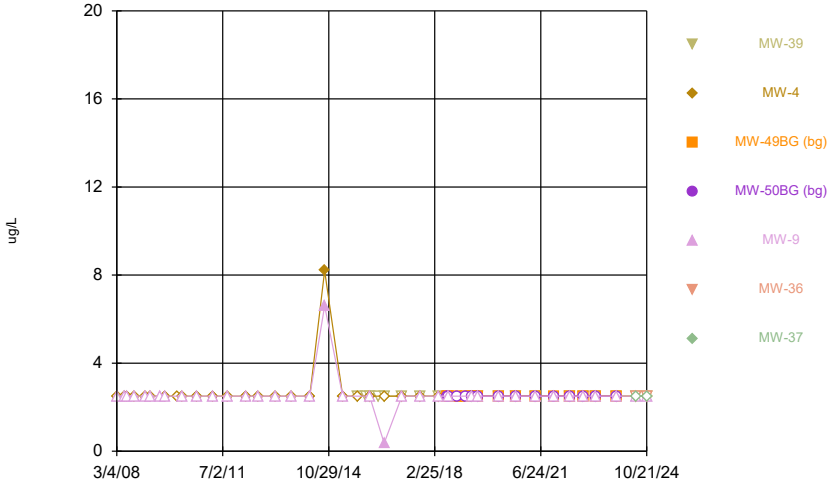
Time Series



Constituent: Methylene Chloride Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

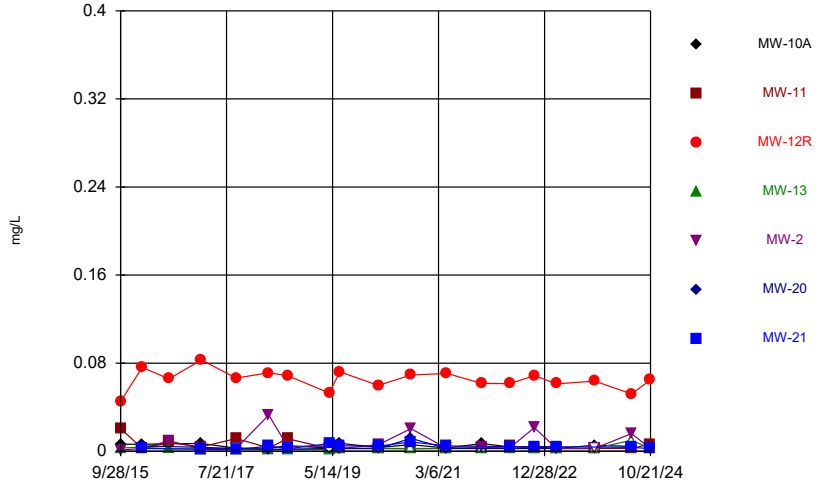
Time Series



Constituent: Methylene Chloride Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

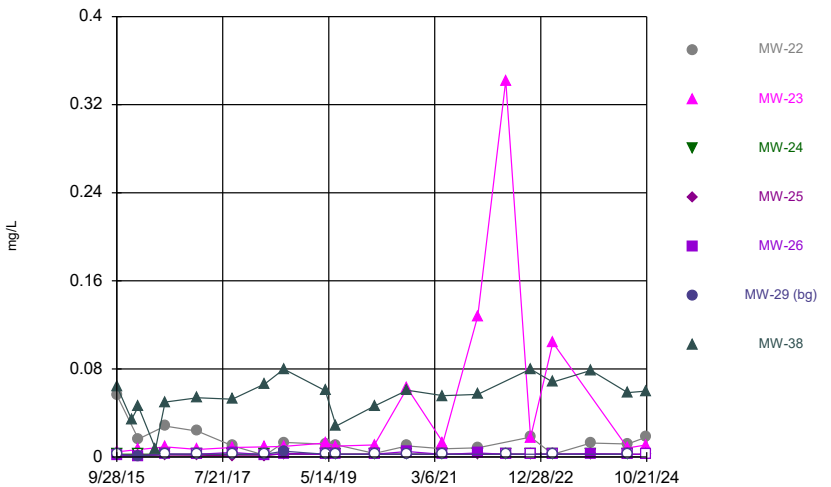
Time Series



Constituent: Nickel Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

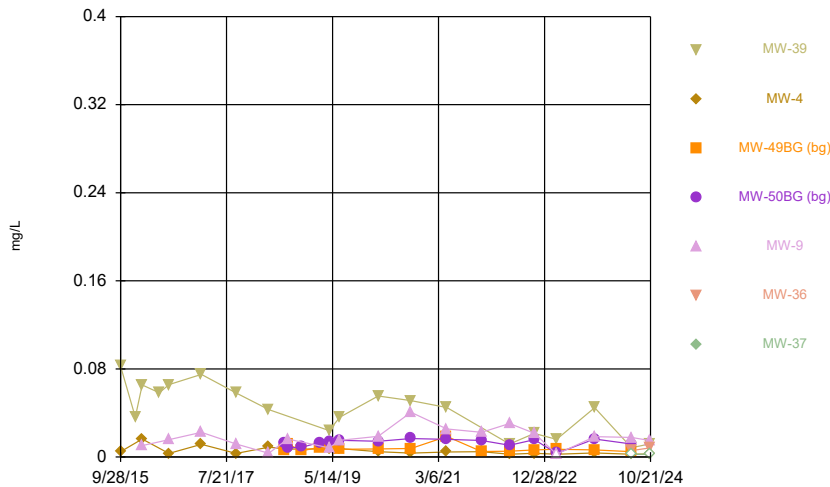
Time Series



Constituent: Nickel Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

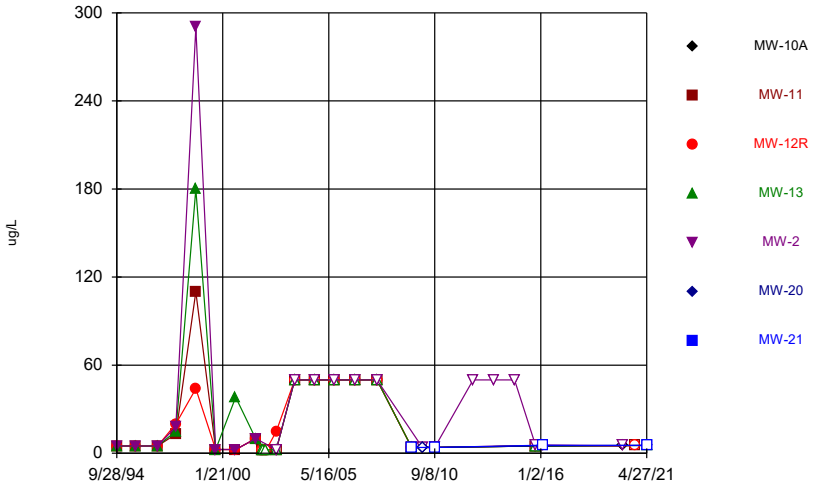
Time Series



Constituent: Nickel Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

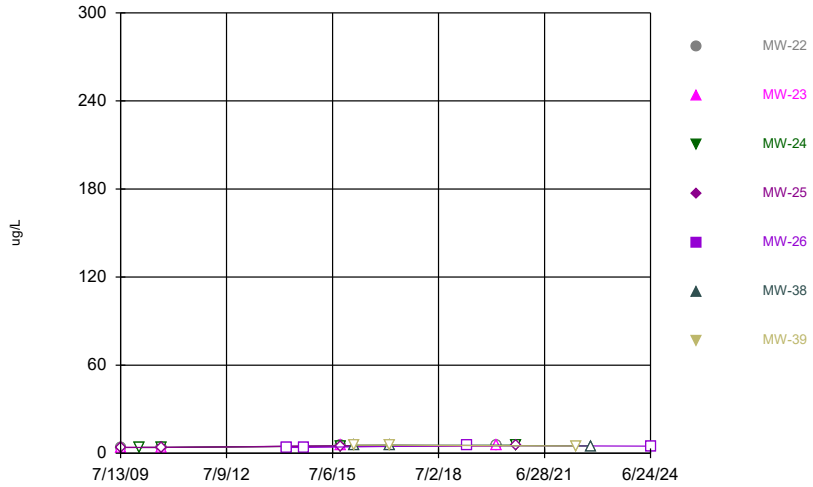
Time Series



Constituent: Phenol Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

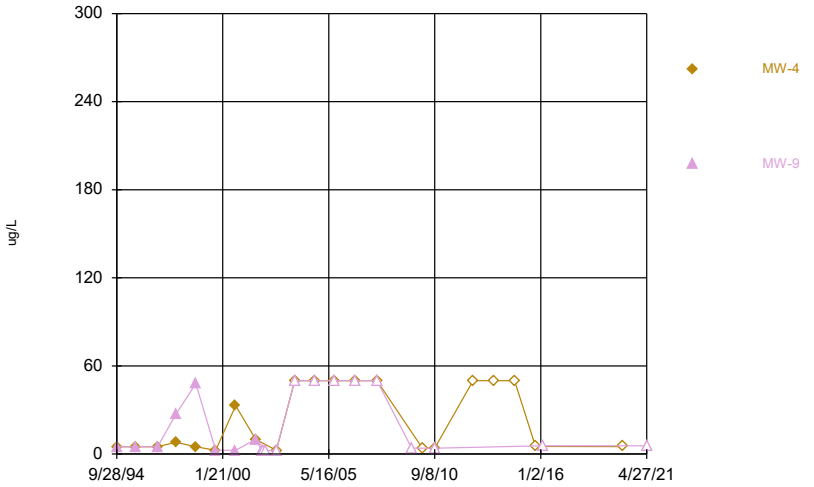
Time Series



Constituent: Phenol Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

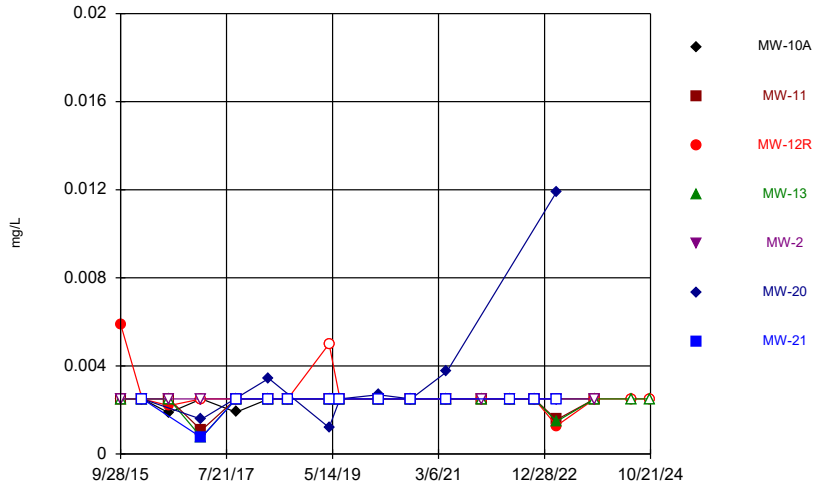
Time Series



Constituent: Phenol Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

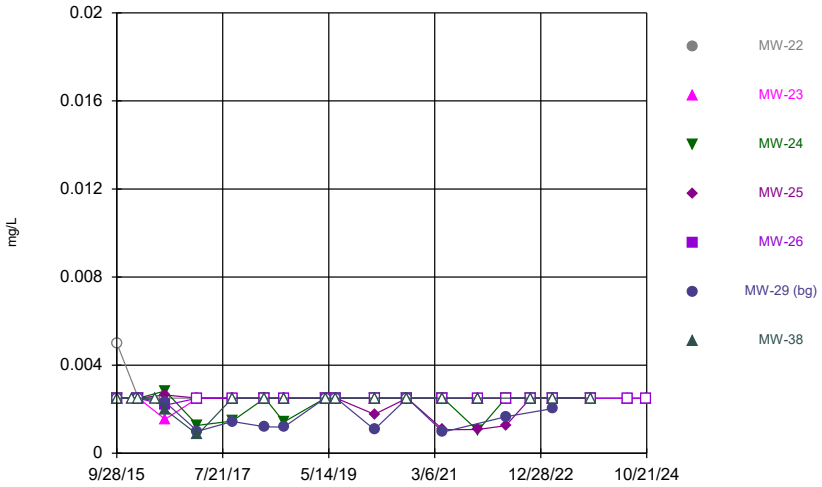
Time Series



Constituent: Selenium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

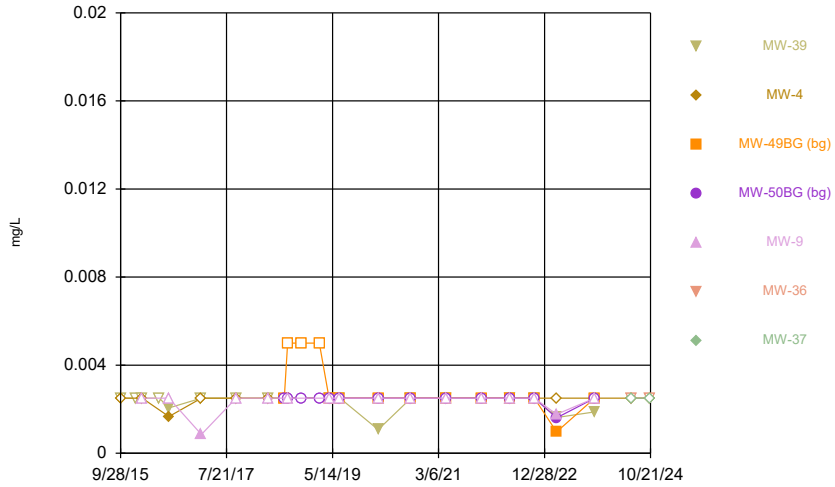
Time Series



Constituent: Selenium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Selenium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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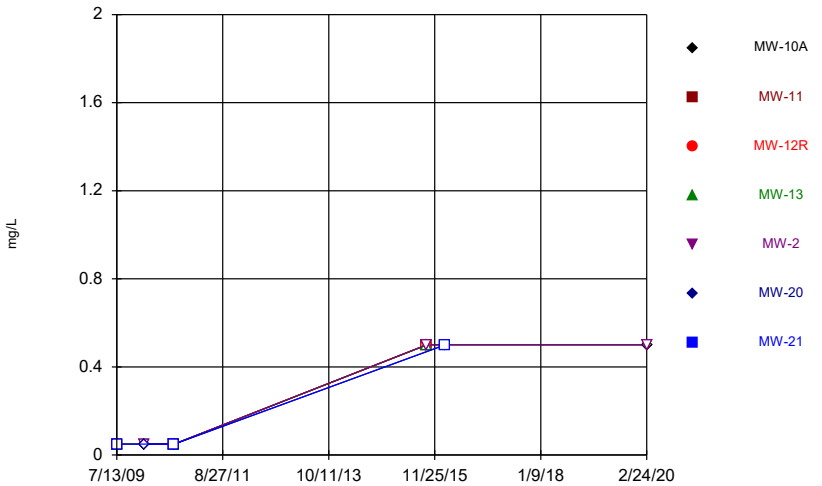
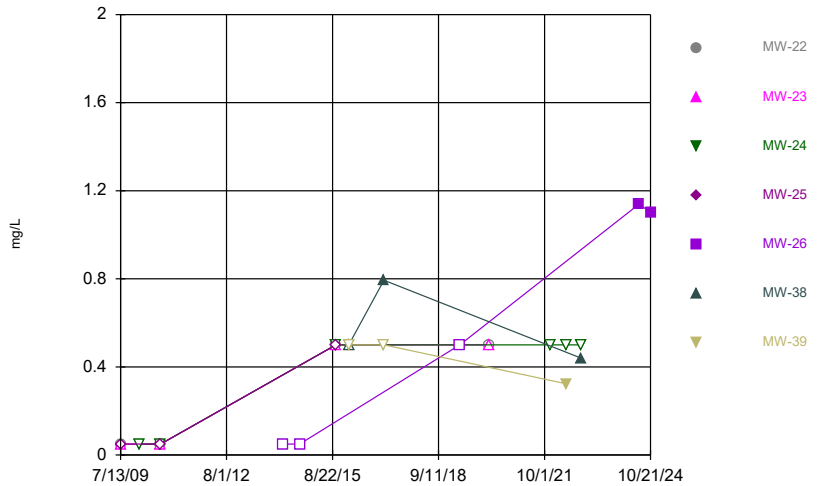


Constituent: Sulfide Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

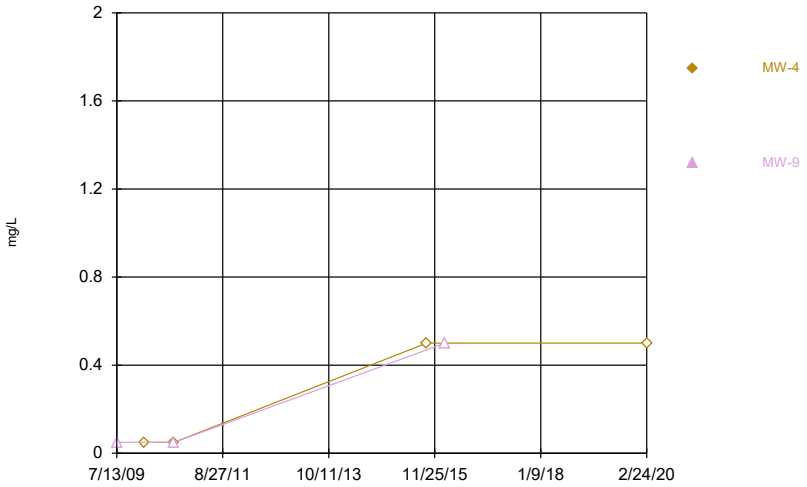
Time Series



Constituent: Sulfide Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

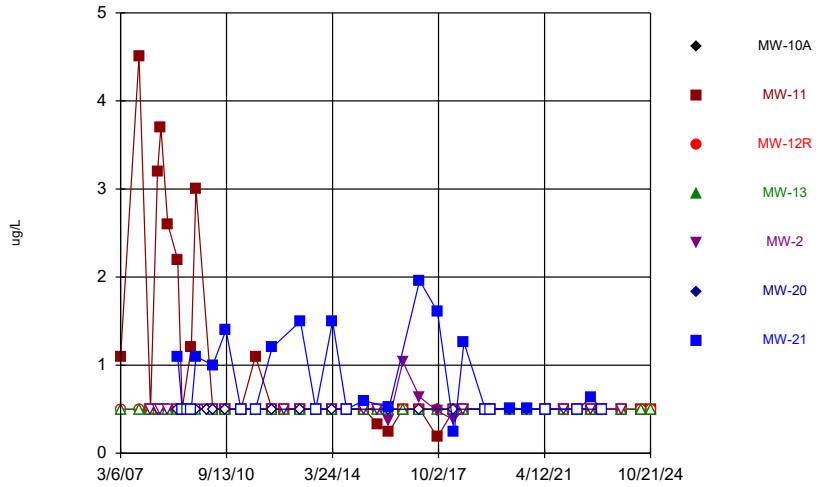
Time Series



Constituent: Sulfide Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

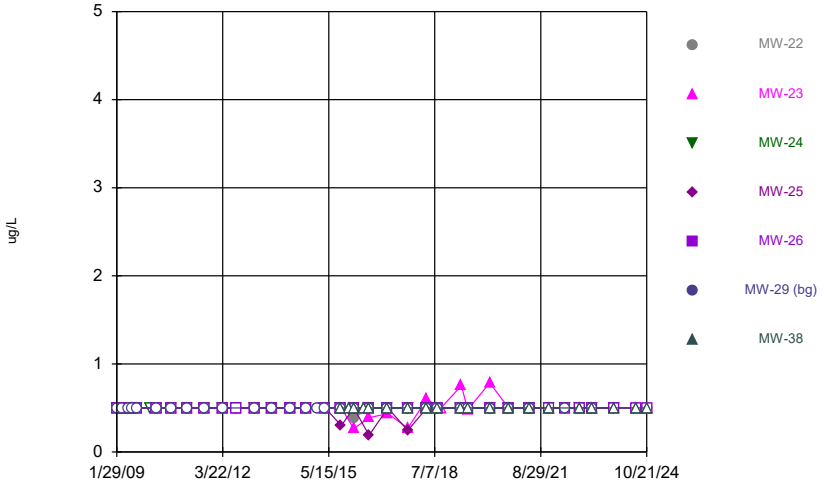
Time Series



Constituent: Tetrachloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

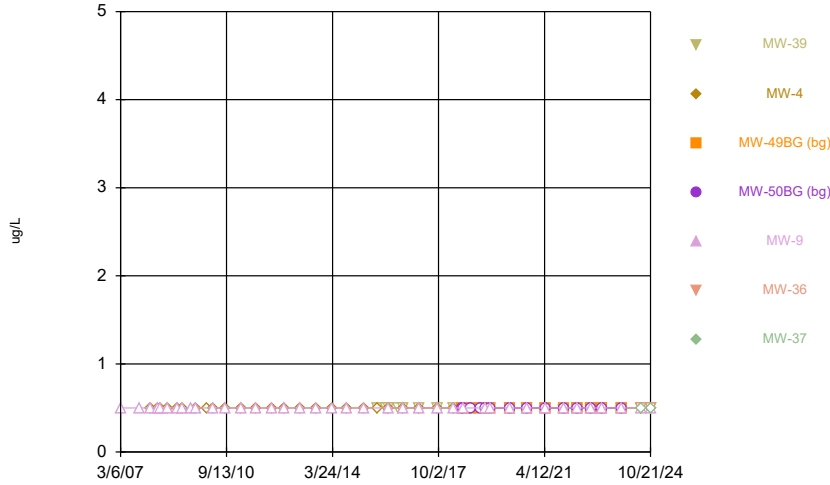
Time Series



Constituent: Tetrachloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

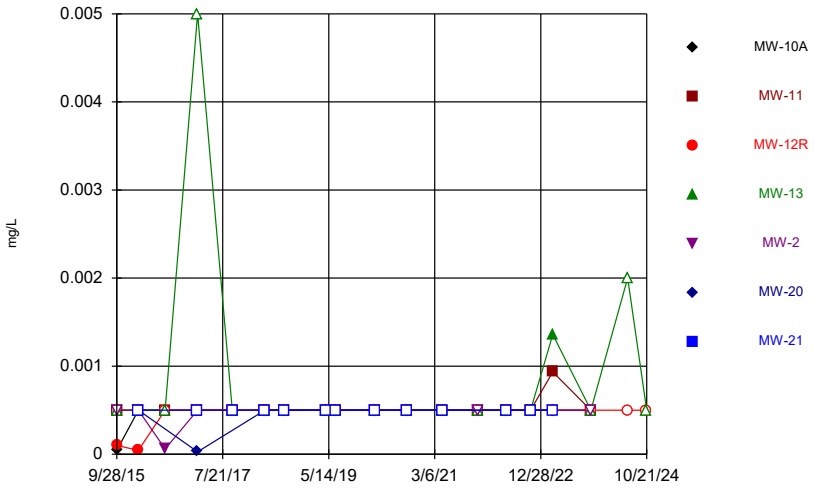
Time Series



Constituent: Tetrachloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

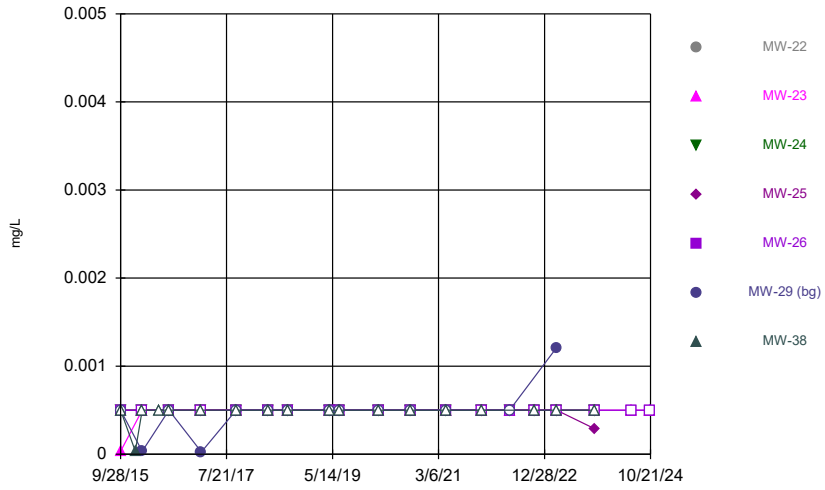
Time Series



Constituent: Thallium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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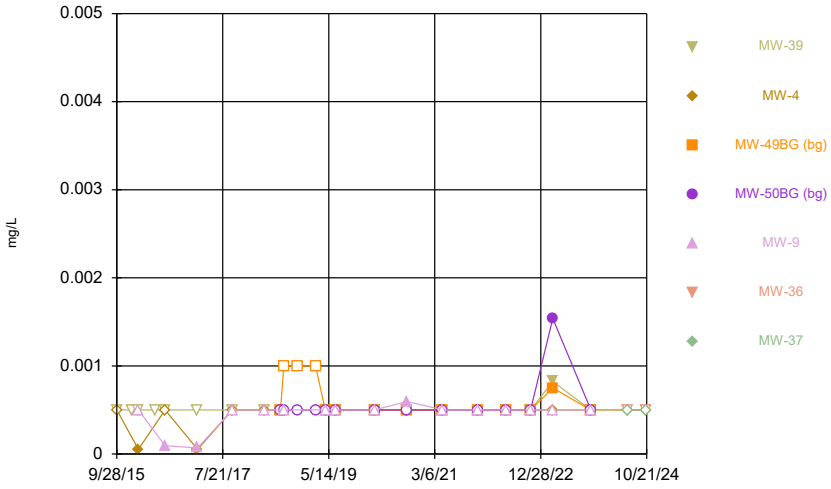
Time Series



Constituent: Thallium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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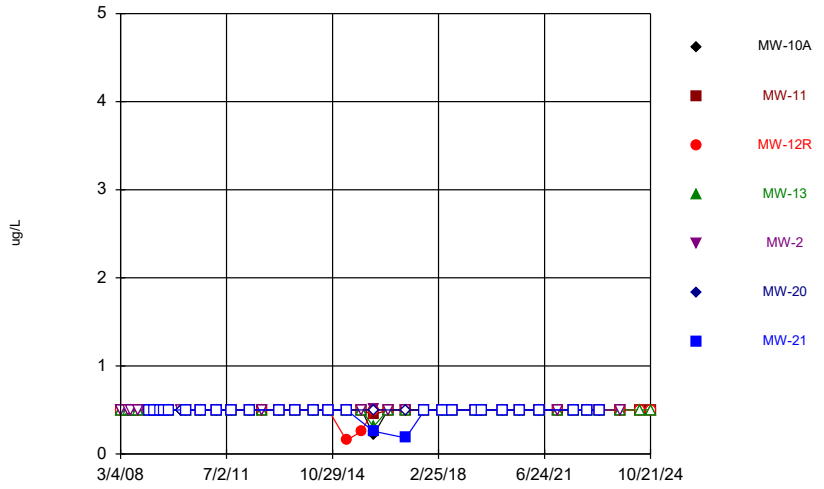
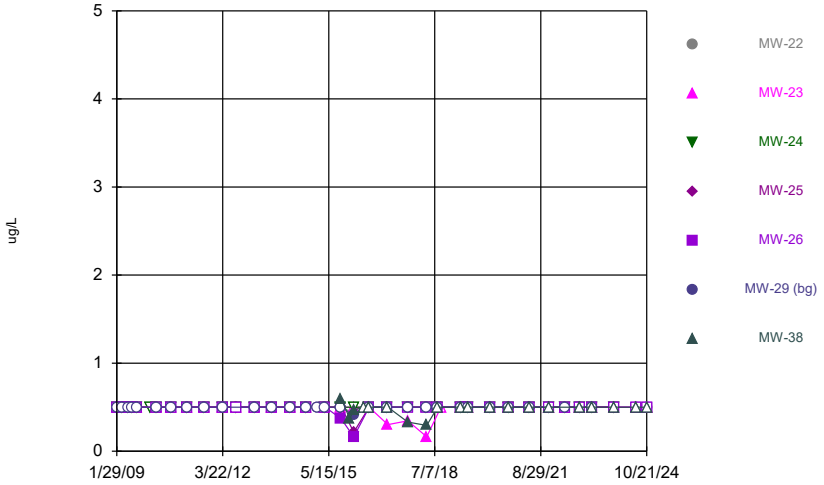
Time Series



Constituent: Toluene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Toluene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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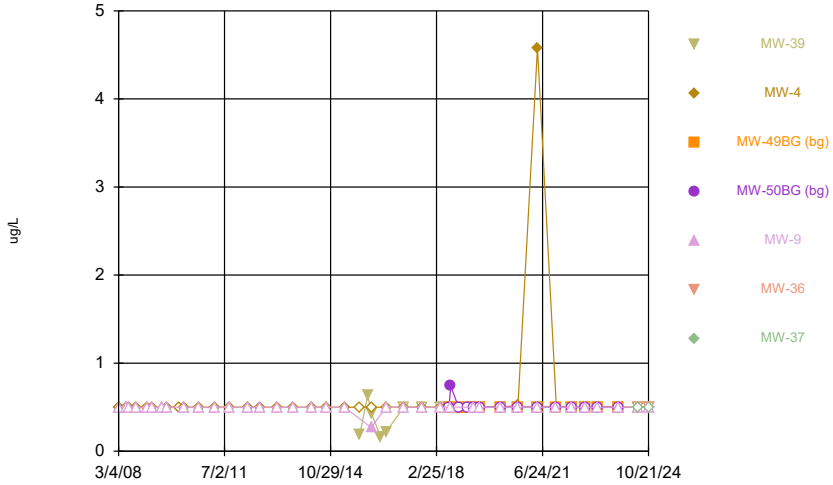

Constituent: Toluene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
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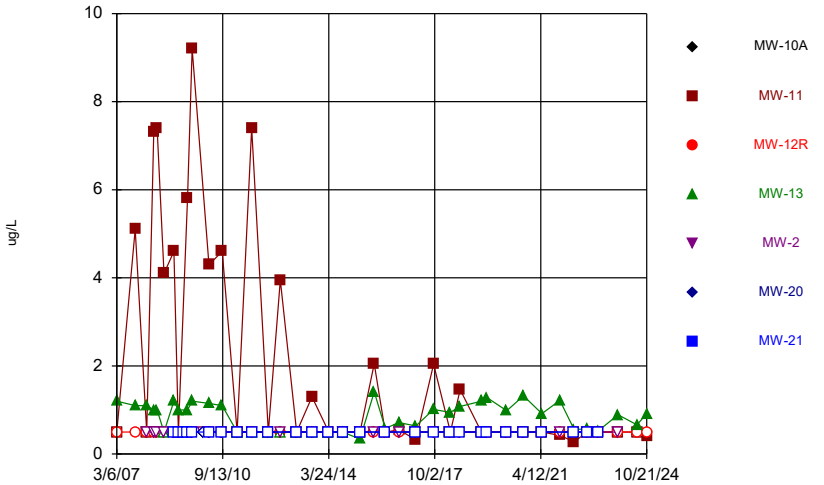
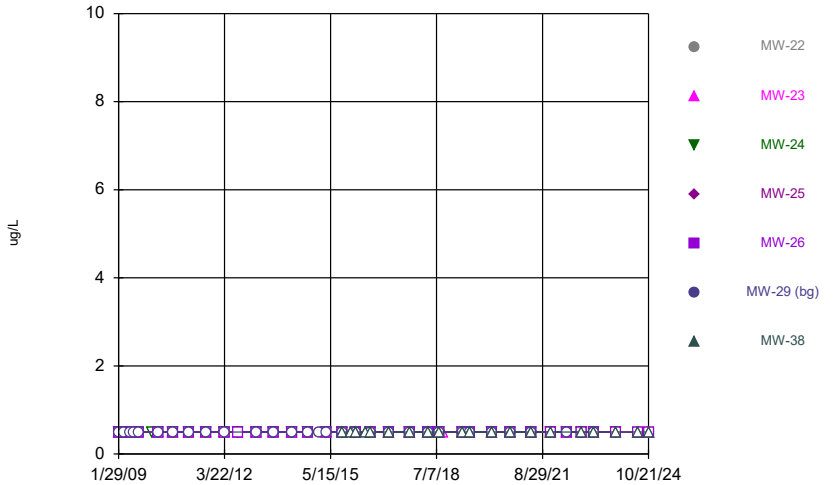
Time Series



Constituent: trans-1,2-Dichloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

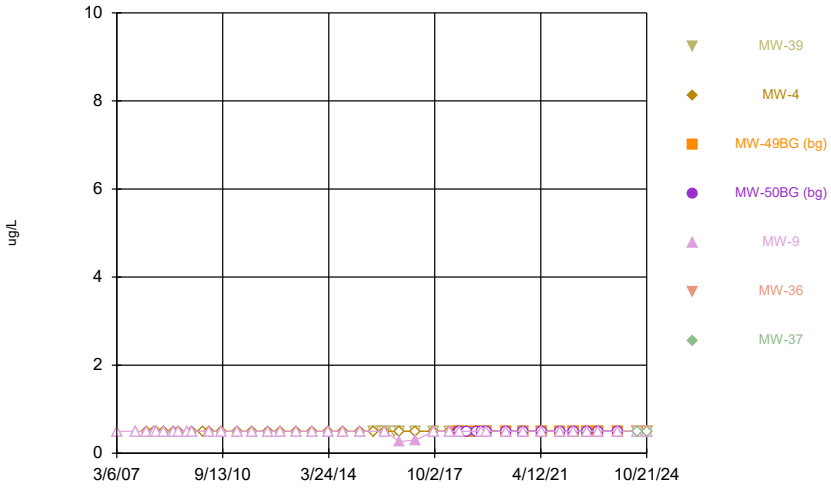
Time Series



Constituent: trans-1,2-Dichloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

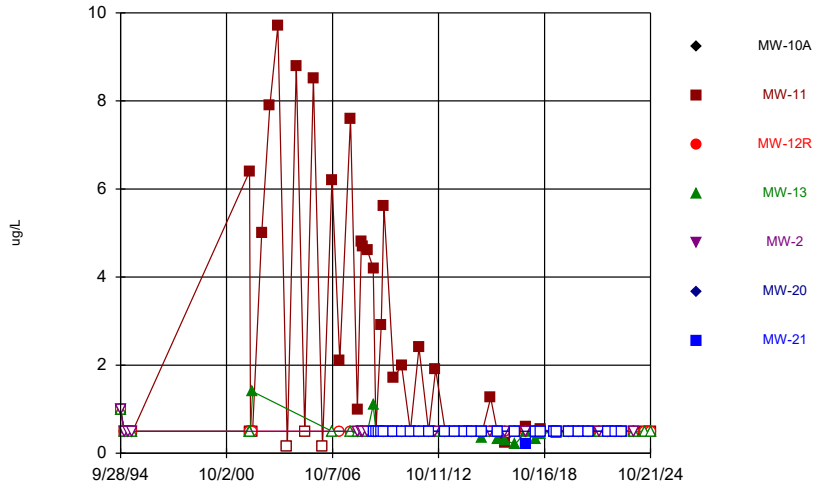
Time Series



Constituent: trans-1,2-Dichloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

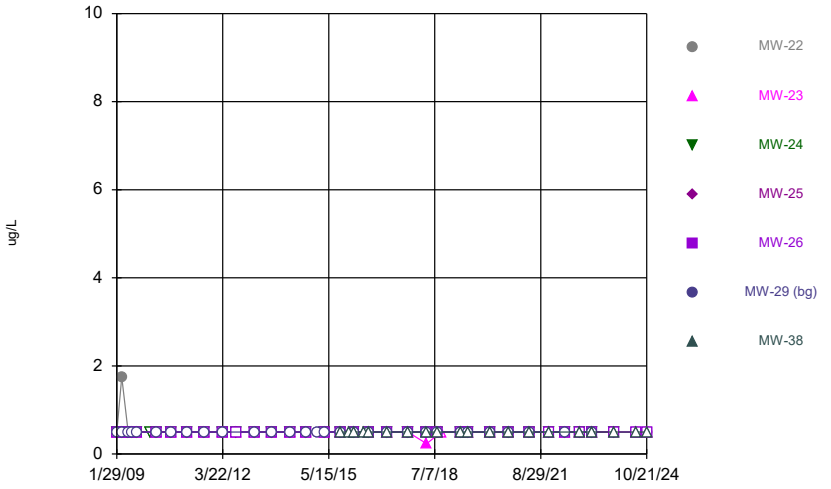
Time Series



Constituent: Trichloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Trichloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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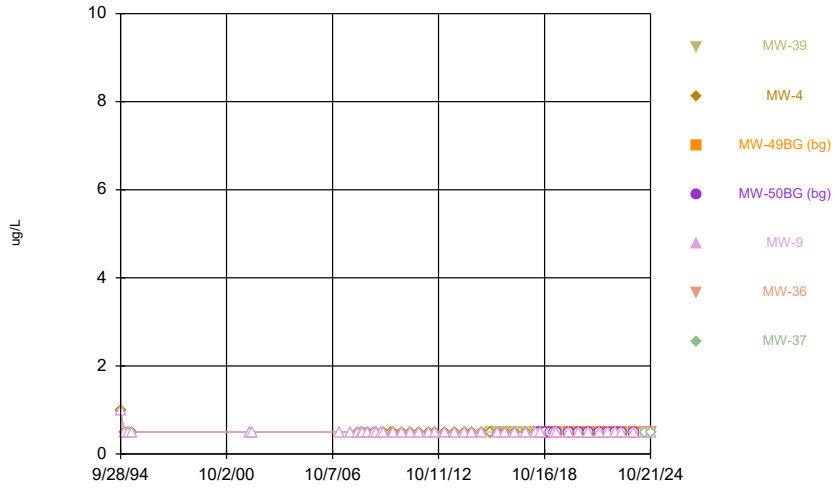
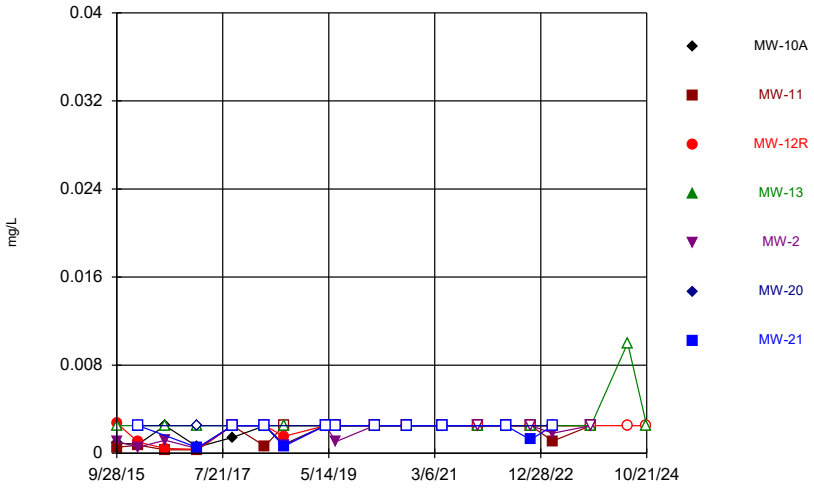


Constituent: Trichloroethene Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

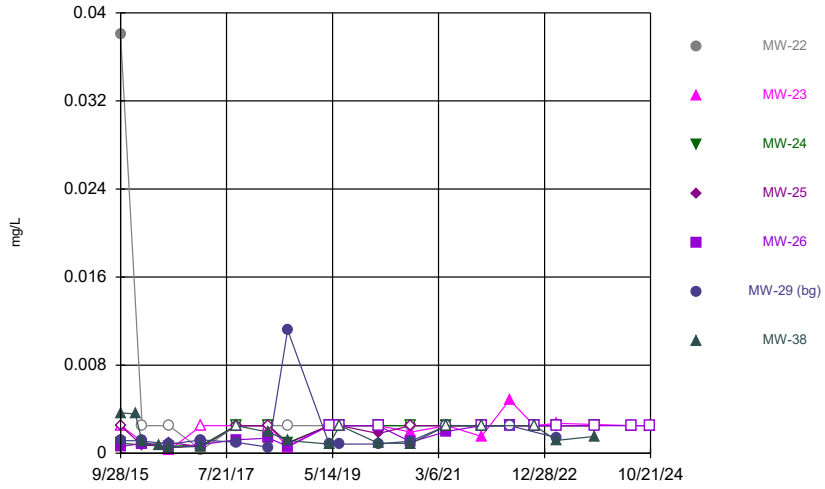
Time Series



Constituent: Vanadium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

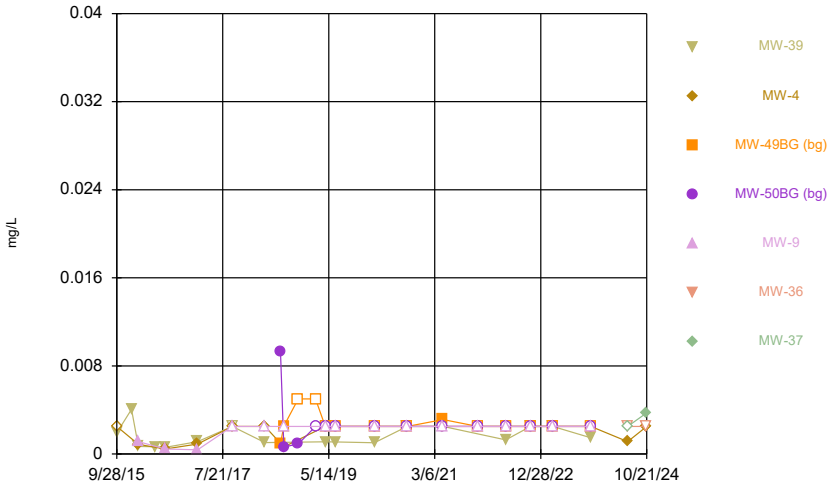
Time Series



Constituent: Vanadium Analysis Run 1/21/2025 5:42 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

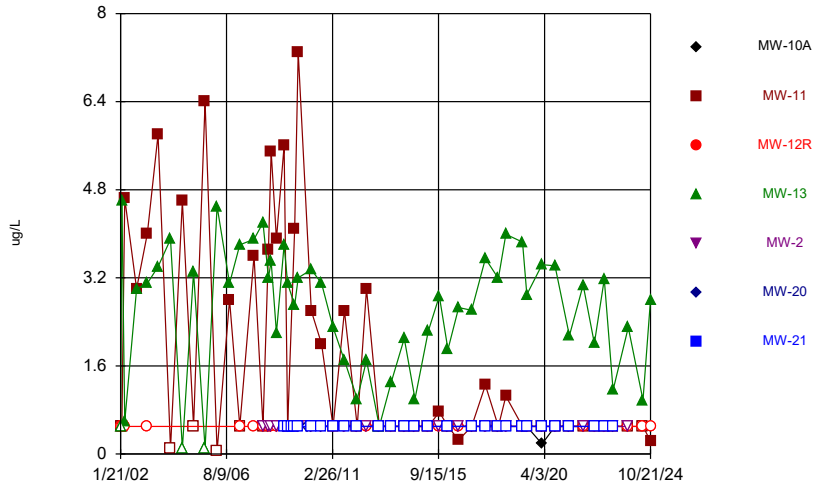
Time Series



Constituent: Vanadium Analysis Run 1/21/2025 5:43 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

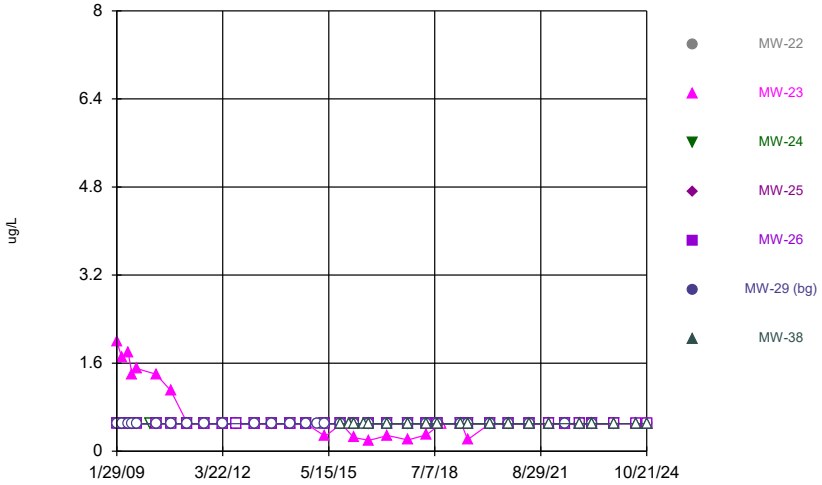
Time Series



Constituent: Vinyl Chloride Analysis Run 1/21/2025 5:43 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

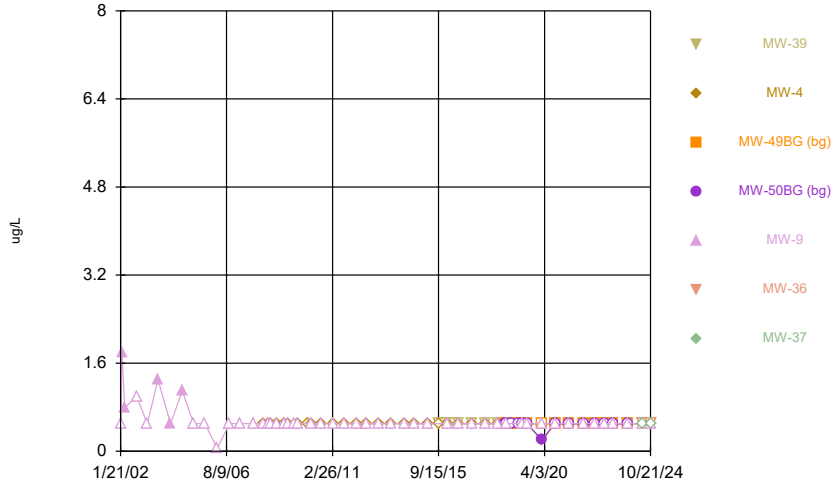
Time Series



Constituent: Vinyl Chloride Analysis Run 1/21/2025 5:43 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

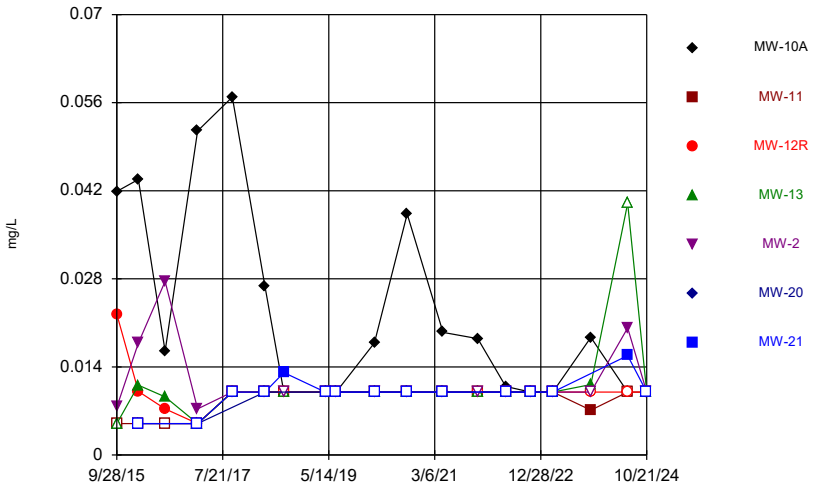
Time Series



Constituent: Vinyl Chloride Analysis Run 1/21/2025 5:43 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

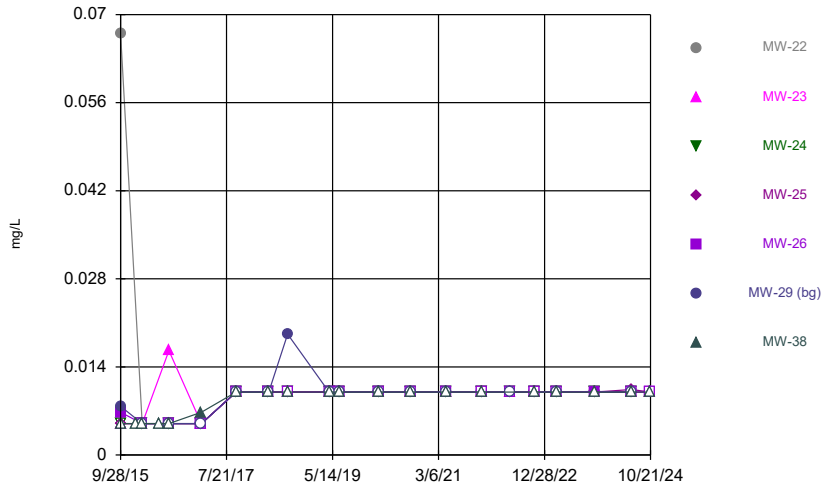
Time Series



Constituent: Zinc Analysis Run 1/21/2025 5:43 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

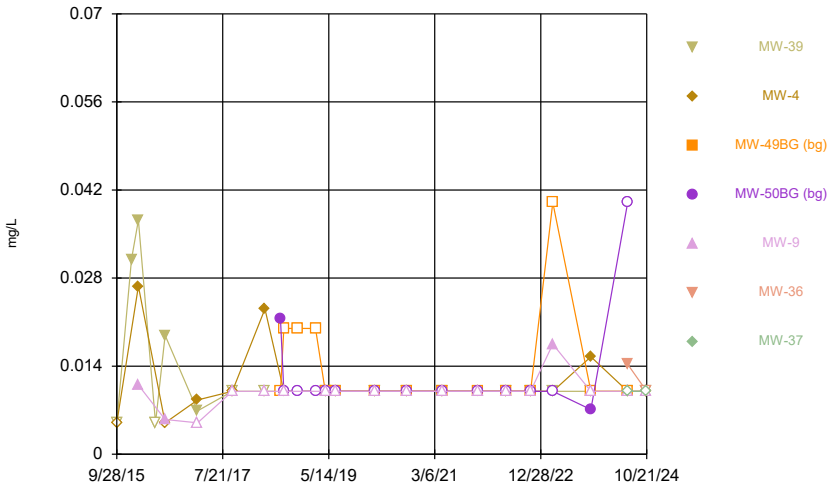
Time Series



Constituent: Zinc Analysis Run 1/21/2025 5:43 PM View: 2024AWQR-Time_Series
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Zinc Analysis Run 1/21/2025 5:43 PM View: 2024AWQR-Time_Series

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Outlier Tests Summary Table and Graphs

MW-29 MW-50BG Outlier Analysis

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master Printed 1/22/2025, 2:57 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Arsenic (mg/L)	**MW-29,MW-50BG**	**Yes**	**0.00768,0.00522**	**n/a w/combined bg**	**OH**	**NaN**	**30**	**0.001482**	**0.001473**	**n/a**	**n/a**
Barium (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	NP (nrm)/OH	NaN	30	0.1528	0.09589	unknown	ShapiroWilk
Cadmium (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	OH	NaN	30	0.0001556	0.00009087	n/a	n/a
Chromium (mg/L)	**MW-29,MW-50BG**	**Yes**	**0.00832**	**n/a w/combined bg**	**NP (nrm)/OH**	**NaN**	**30**	**0.002478**	**0.001305**	**unknown**	**ShapiroWilk**
Cobalt (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	NP (nrm)/OH	NaN	30	0.002231	0.002748	unknown	ShapiroWilk
Copper (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	OH	NaN	30	0.002525	0.0006672	n/a	n/a
Lead (mg/L)	**MW-29,MW-50BG**	**Yes**	**0.00014,0.00312,0.00048,0.00273**	**n/a w/combined bg**	**NP (nrm)/OH**	**NaN**	**30**	**0.0004452**	**0.0006784**	**unknown**	**ShapiroWilk**
Nickel (mg/L)	MW-29,MW-50BG	No	n/a	n/a w/combined bg	NP (nrm)/OH	NaN	30	0.00771	0.00584	unknown	ShapiroWilk
Zinc (mg/L)	**MW-29,MW-50BG**	**Yes**	**0.04**	**n/a w/combined bg**	**OH**	**NaN**	**30**	**0.01102**	**0.006363**	**n/a**	**n/a**

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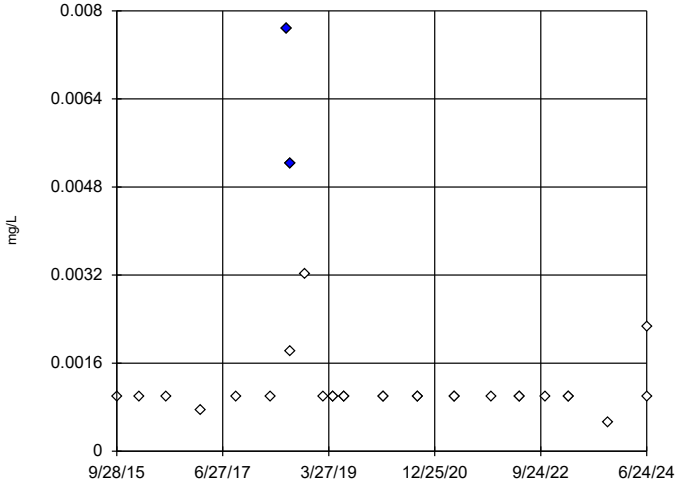
Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

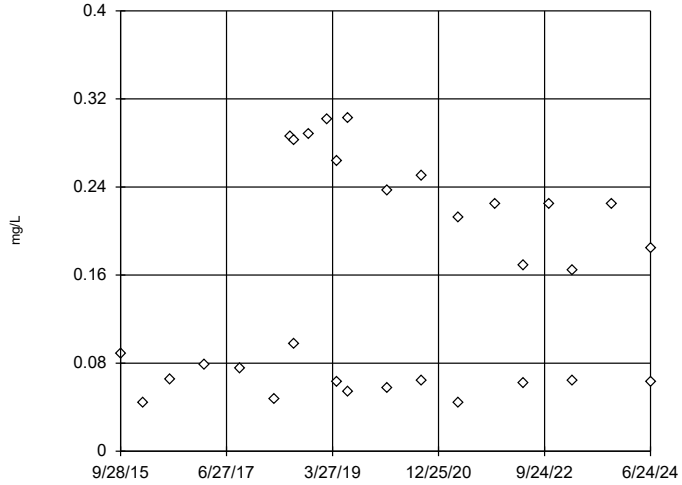
Statistical outliers are drawn as solid.
Outliers per Ohio method.

Constituent: Arsenic Analysis Run 1/22/2025 2:49 PM View: 2024AWQR-BG_Outliers_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

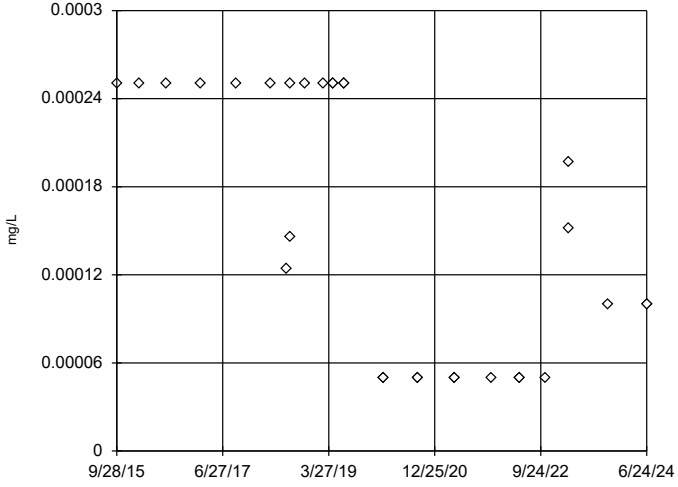
High cutoff = 14.11, low cutoff = 0.001085, based on IQR multiplier of 3.

Constituent: Barium Analysis Run 1/22/2025 2:49 PM View: 2024AWQR-BG_Outliers_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

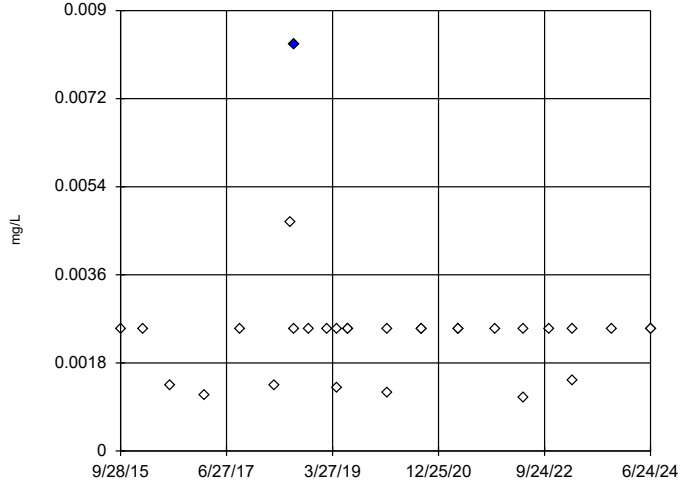
No statistical outliers.

Constituent: Cadmium Analysis Run 1/22/2025 2:49 PM View: 2024AWQR-BG_Outliers_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

Outlier is drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

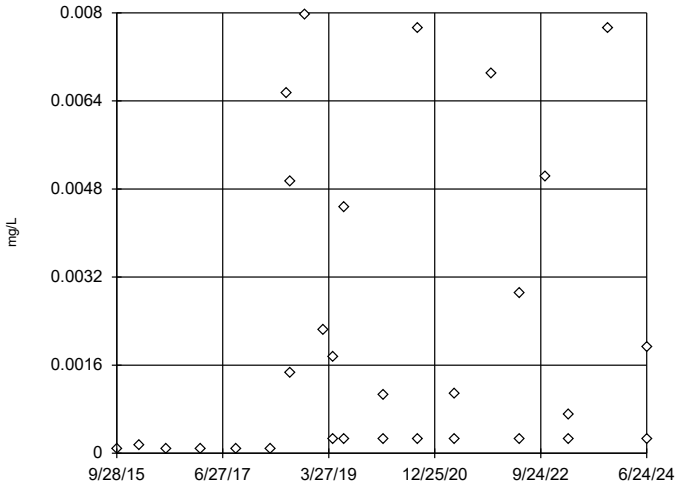
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.005779, low cutoff = 0.000818, based on IQR multiplier of 3.

Constituent: Chromium Analysis Run 1/22/2025 2:49 PM View: 2024AWQR-BG_Outliers_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 31.07, low cutoff = 3.8e-8, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 1/22/2025 2:49 PM View: 2024AWQR-BG_Outliers_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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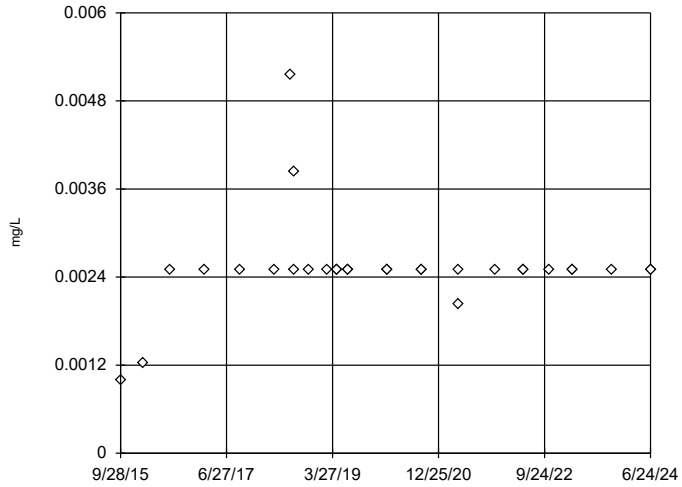
Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

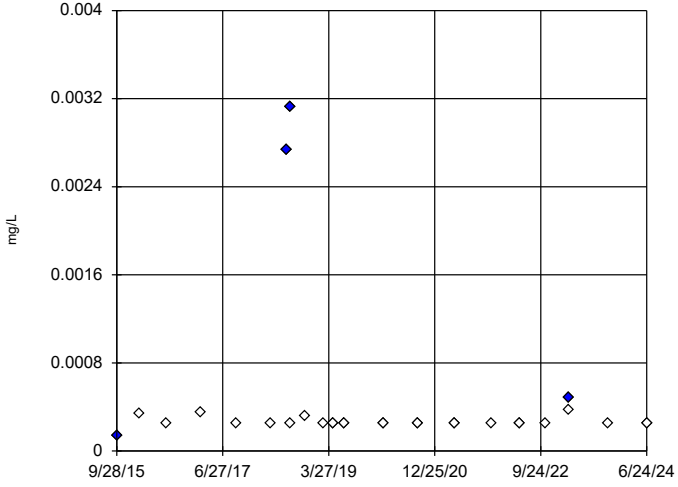
No statistical outliers.

Constituent: Copper Analysis Run 1/22/2025 2:49 PM View: 2024AWQR-BG_Outliers_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

Outliers are drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.0004173, low cutoff = 0.0001702, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 1/22/2025 2:49 PM View: 2024AWQR-BG_Outliers_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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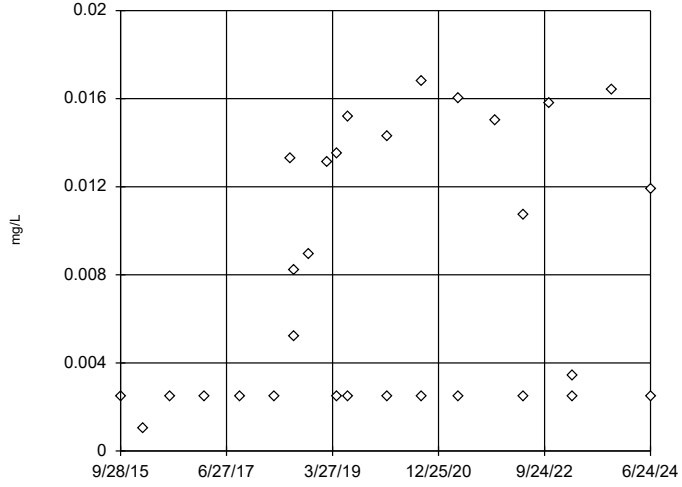
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 2.385, low cutoff = 0.00001456, based on IQR multiplier of 3.

Constituent: Nickel Analysis Run 1/22/2025 2:49 PM View: 2024AWQR-BG_Outliers_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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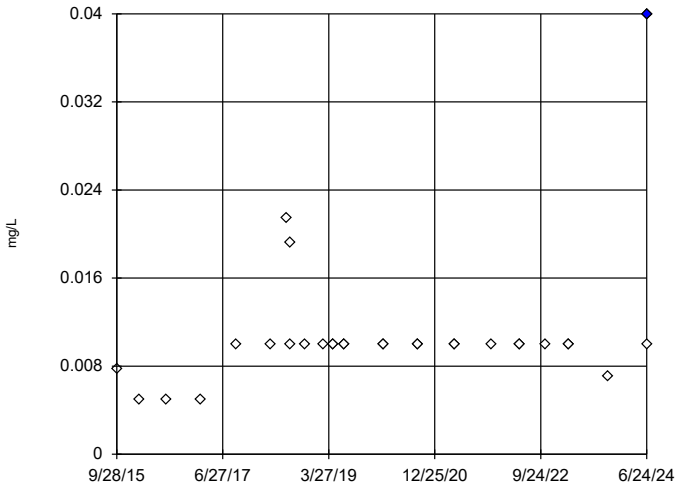
Ohio EPA 0715 Outlier Algorithm, Pooled Background

MW-29,MW-50BG



n = 30

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Zinc Analysis Run 1/22/2025 2:49 PM View: 2024AWQR-BG_Outliers_Water_Table

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

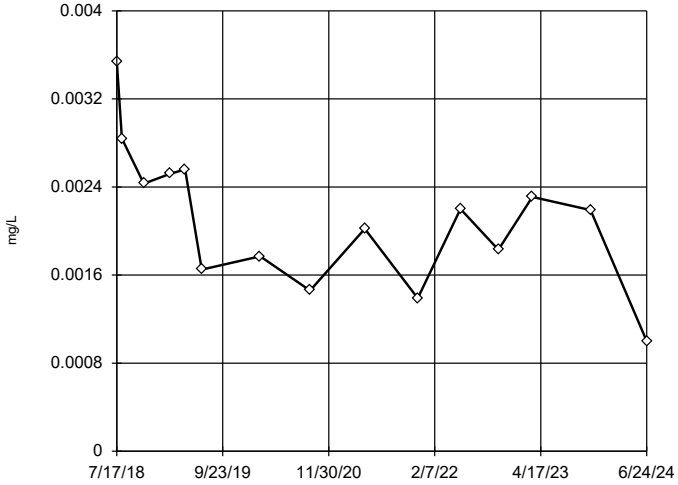
MW-49BG Outlier Analysis

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master Printed 1/22/2025, 1:03 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Arsenic (mg/L)	MW-49BG (bg)	No	n/a	n/a	EPA/OH	0.05	15	0.002114	0.0006376	normal	ShapiroWilk
Barium (mg/L)	**MW-49BG (bg)**	**Yes**	**0.059**	**6/24/2024**	**Dixon/OH**	**0.05**	**15**	**1.932**	**0.5993**	**normal**	**ShapiroWilk**
Cadmium (mg/L)	**MW-49BG (bg)**	**Yes**	**0.0005,0.0005,0.0005**	**8/7/2018,11/5/2018,2/21/2019**	**OH**	**NaN**	**15**	**0.0001991**	**0.0001749**	**n/a**	**n/a**
Chromium (mg/L)	MW-49BG (bg)	No	n/a	n/a	OH	NaN	15	0.002847	0.001189	n/a	n/a
Cobalt (mg/L)	**MW-49BG (bg)**	**Yes**	**0.0123**	**4/27/2021**	**Dixon/OH**	**0.05**	**15**	**0.006946**	**0.001801**	**normal**	**ShapiroWilk**
Copper (mg/L)	**MW-49BG (bg)**	**Yes**	**0.0286**	**6/24/2024**	**OH**	**NaN**	**15**	**0.005127**	**0.006631**	**n/a**	**n/a**
Lead (mg/L)	MW-49BG (bg)	No	n/a	n/a	NP (nrm)/OH	NaN	15	0.0005125	0.0005448	unknown	ShapiroWilk
Nickel (mg/L)	**MW-49BG (bg)**	**Yes**	**0.0186**	**4/27/2021**	**Dixon/OH**	**0.05**	**15**	**0.007835**	**0.003464**	**normal**	**ShapiroWilk**

EPA Screening (suspected outliers for Dixon's Test)

MW-49BG (bg)



n = 15

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.002114, std. dev. 0.0006376, critical Tn 2.409

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9824
Critical = 0.901
The distribution was found to be normally distributed.

Constituent: Arsenic Analysis Run 1/22/2025 1:00 PM View: 2024AWQR-BG_Outliers_Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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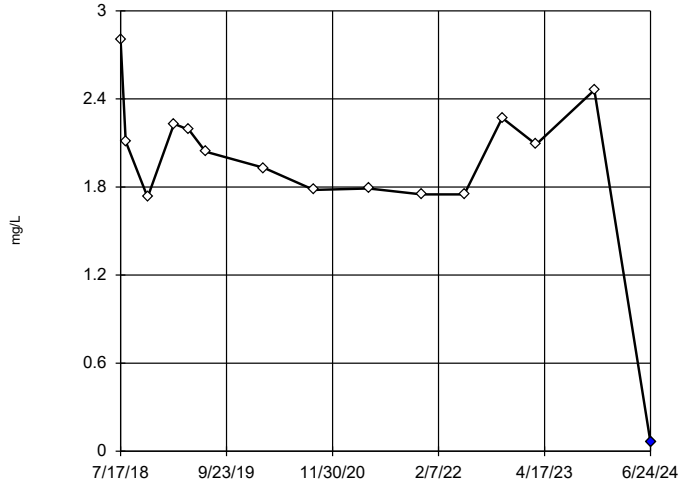
Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

Statistical outlier is drawn as solid.
Testing for 1 low outlier.
Mean = 1.932.
Std. Dev. = 0.5993.
0.059: c = 0.7648
tabl = 0.525.
Alpha = 0.05.

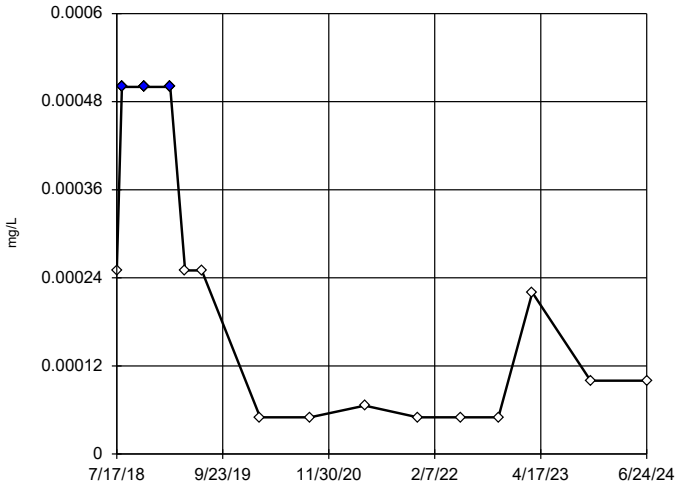
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.902
Critical = 0.895
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Barium Analysis Run 1/22/2025 1:00 PM View: 2024AWQR-BG_Outliers_Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

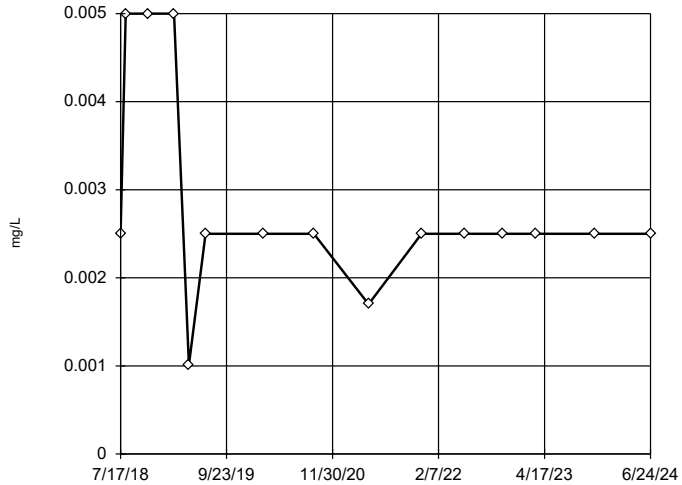
Statistical outliers are drawn as solid.
Outliers per Ohio method.

Constituent: Cadmium Analysis Run 1/22/2025 1:00 PM View: 2024AWQR-BG_Outliers_Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

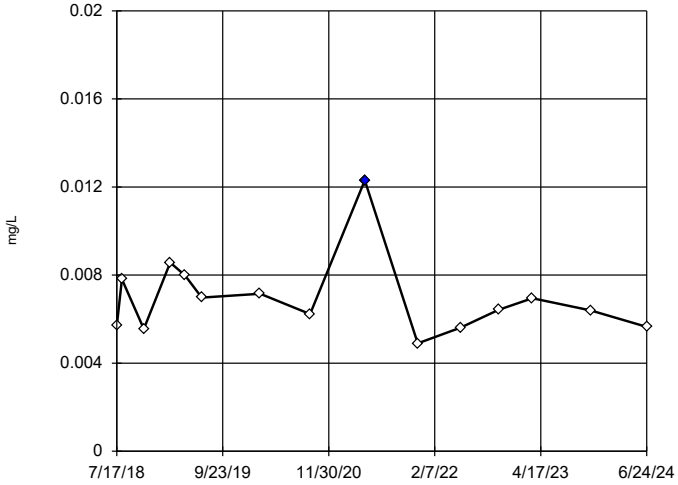
No statistical outliers.

Constituent: Chromium Analysis Run 1/22/2025 1:00 PM View: 2024AWQR-BG_Outliers_Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 0.006946.
Std. Dev. = 0.001801.
0.0123: c = 0.6457
tabl = 0.525.
Alpha = 0.05.

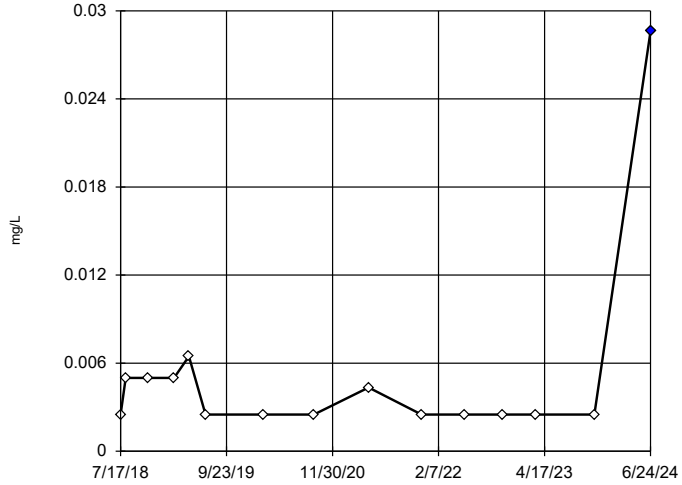
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9597
Critical = 0.895
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Cobalt Analysis Run 1/22/2025 1:00 PM View: 2024AWQR-BG_Outliers_Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Copper Analysis Run 1/22/2025 1:00 PM View: 2024AWQR-BG_Outliers_Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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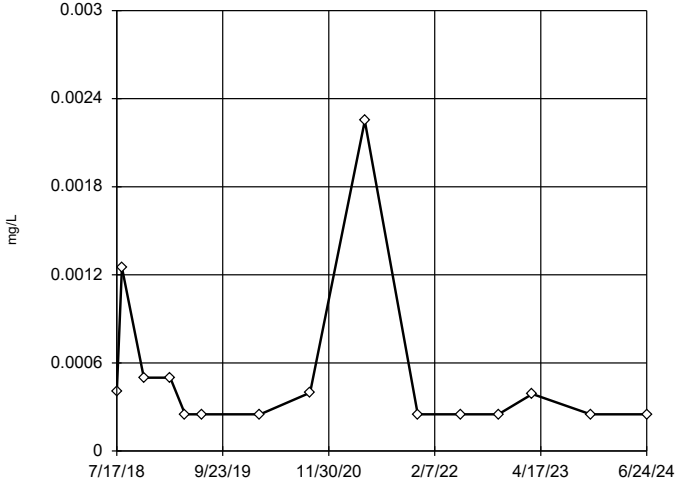
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

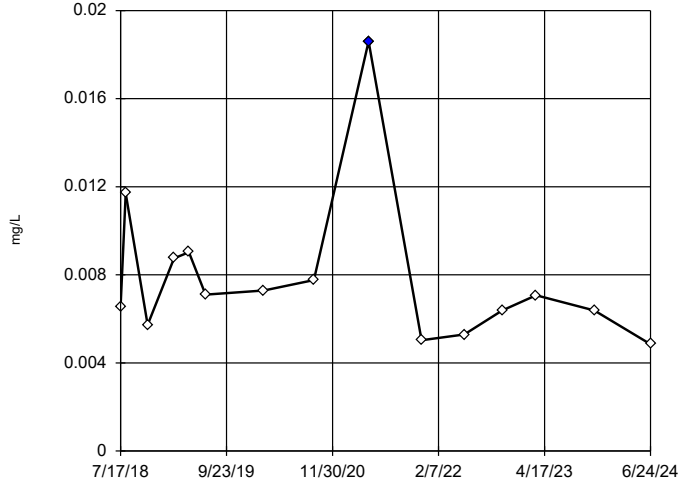
The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Lead Analysis Run 1/22/2025 1:00 PM View: 2024AWQR-BG_Outliers_Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-49BG (bg)



n = 15

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 0.007835.
Std. Dev. = 0.003464.
0.0186: c = 0.719
tabl = 0.525.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9097
Critical = 0.895
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Nickel Analysis Run 1/22/2025 1:00 PM View: 2024AWQR-BG_Outliers_Bedrock
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Prediction Limit Summary Table and Graphs

WaterTable Prediction Limit

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master Printed 1/22/2025, 6:02 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	MW-37	0.00768	n/a	10/21/2024	0.00438	No	30	76.67	n/a	0.001895	NP Inter (NDs) 1 of 2
Barium (mg/L)	**MW-2**	**0.303**	**n/a**	**10/21/2024**	**0.363**	**Yes**	**30**	**0**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Barium (mg/L)	MW-21	0.303	n/a	10/21/2024	0.128	No	30	0	n/a	0.001895	NP Inter (normality) ...
Barium (mg/L)	**MW-22**	**0.303**	**n/a**	**10/21/2024**	**0.732**	**Yes**	**30**	**0**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Barium (mg/L)	MW-25	0.303	n/a	10/21/2024	0.3	No	30	0	n/a	0.001895	NP Inter (normality) ...
Barium (mg/L)	MW-26	0.303	n/a	10/21/2024	0.1255	No	30	0	n/a	0.001895	NP Inter (normality) ...
Barium (mg/L)	**MW-9**	**0.303**	**n/a**	**10/21/2024**	**0.991**	**Yes**	**30**	**0**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Barium (mg/L)	**MW-36**	**0.303**	**n/a**	**10/21/2024**	**0.398**	**Yes**	**30**	**0**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Barium (mg/L)	MW-37	0.303	n/a	10/21/2024	0.224	No	30	0	n/a	0.001895	NP Inter (normality) ...
Cadmium (mg/L)	MW-22	0.00025	n/a	10/21/2024	0.000219	No	30	86.67	n/a	0.001895	NP Inter (NDs) 1 of 2
Cobalt (mg/L)	MW-2	0.00797	n/a	10/21/2024	0.000917	No	30	23.33	n/a	0.001895	NP Inter (normality) ...
Cobalt (mg/L)	MW-22	0.00797	n/a	10/21/2024	0.00212	No	30	23.33	n/a	0.001895	NP Inter (normality) ...
Cobalt (mg/L)	MW-26	0.00797	n/a	10/21/2024	0.00147	No	30	23.33	n/a	0.001895	NP Inter (normality) ...
Cobalt (mg/L)	**MW-9**	**0.00797**	**n/a**	**10/21/2024**	**0.0178**	**Yes**	**30**	**23.33**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Cobalt (mg/L)	MW-37	0.00797	n/a	10/21/2024	0.000766	No	30	23.33	n/a	0.001895	NP Inter (normality) ...
Lead (mg/L)	MW-37	0.00312	n/a	10/21/2024	0.0012	No	30	73.33	n/a	0.001895	NP Inter (NDs) 1 of 2
Nickel (mg/L)	**MW-22**	**0.0168**	**n/a**	**10/21/2024**	**0.0182**	**Yes**	**30**	**43.33**	**n/a**	**0.001895**	**NP Inter (normality) ...**
Nickel (mg/L)	MW-9	0.0168	n/a	10/21/2024	0.0149	No	30	43.33	n/a	0.001895	NP Inter (normality) ...
Nickel (mg/L)	MW-36	0.0168	n/a	10/21/2024	0.0083	No	30	43.33	n/a	0.001895	NP Inter (normality) ...

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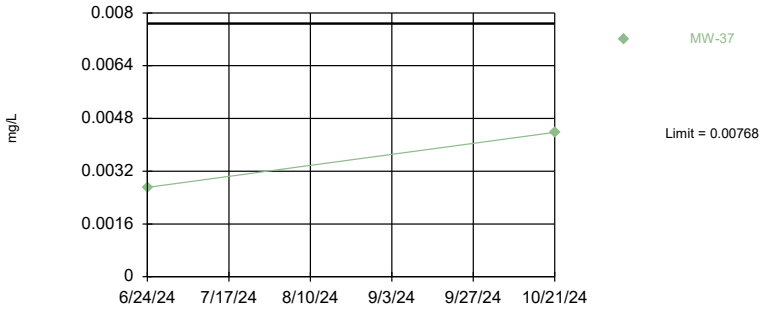
Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 76.67% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Assumes 7 future values.

Constituent: Arsenic Analysis Run 1/22/2025 6:00 PM View: 2024AWQR-AM_Interwell_PL_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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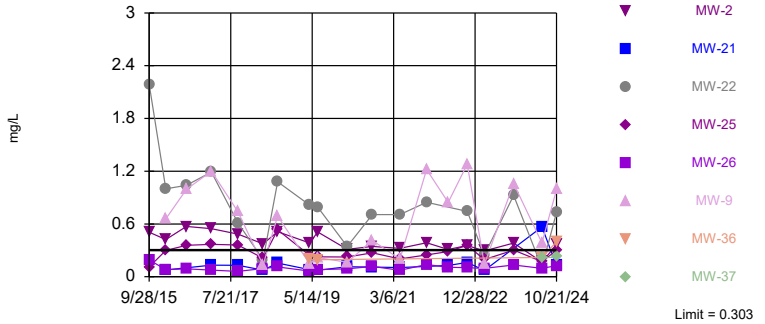
Exceeds Limit: MW-2, MW-22, MW-9, MW-36

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 30 background values. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Comparing 8 points to limit.

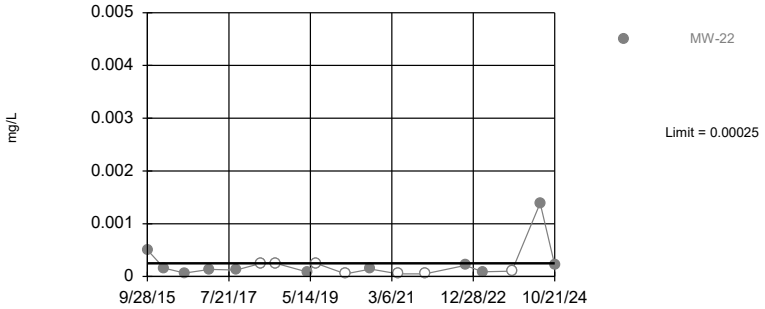
Constituent: Barium Analysis Run 1/22/2025 6:00 PM View: 2024AWQR-AM_Interwell_PL_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 86.67% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Assumes 7 future values.

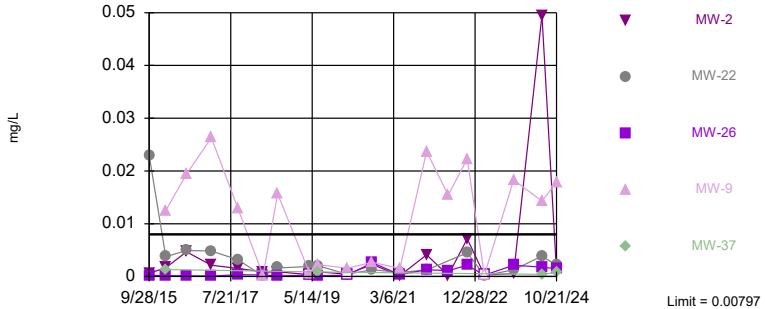
Constituent: Cadmium Analysis Run 1/22/2025 6:00 PM View: 2024AWQR-AM_Interwell_PL_Water_Tabl
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Exceeds Limit: MW-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 30 background values. 23.33% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Comparing 5 points to limit. Assumes 3 future values.

Constituent: Cobalt Analysis Run 1/22/2025 6:00 PM View: 2024AWQR-AM_Interwell_PL_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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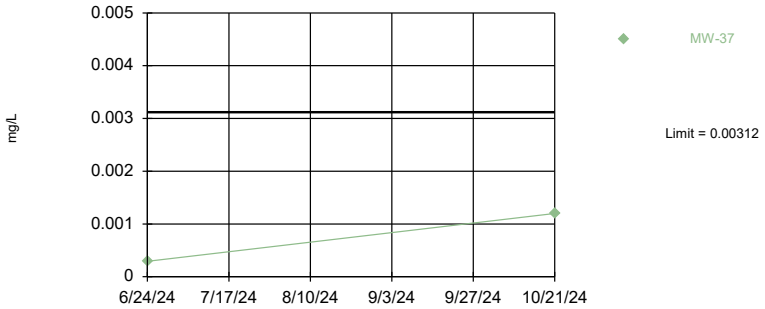
Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 73.33% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Assumes 7 future values.

Constituent: Lead Analysis Run 1/22/2025 6:00 PM View: 2024AWQR-AM_Interwell_PL_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

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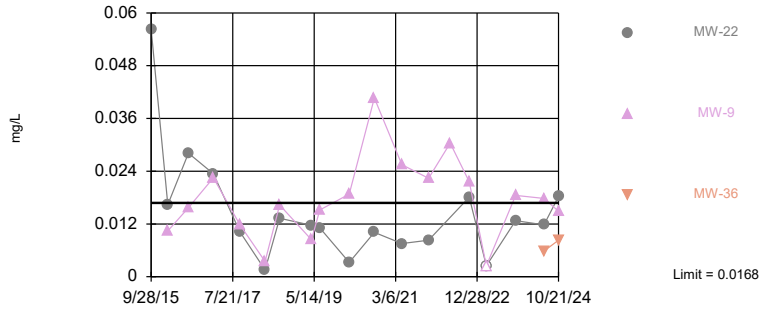
Hollow symbols indicate censored values.

Exceeds Limit: MW-22

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 30 background values. 43.33% NDs. Annual per-constituent alpha = 0.0299. Individual comparison alpha = 0.001895 (1 of 2). Comparing 3 points to limit. Assumes 5 future values.

Constituent: Nickel Analysis Run 1/22/2025 6:00 PM View: 2024AWQR-AM_Interwell_PL_Water_Table
Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Bedrock Prediction Limit

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master Printed 2/3/2025, 8:50 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	%NDs	Transform	Alpha	Method
Barium (mg/L)	MW-11	2.716	n/a	10/21/2024	0.178	No	15	MW-49BG	0	x^2	0.003287	Param Inter 1 of 2
Cobalt (mg/L)	MW-11	0.01036	n/a	10/21/2024	0.0034	No	15	MW-49BG	0	sqrt(x)	0.003287	Param Inter 1 of 2
Nickel (mg/L)	MW-11	0.0142	n/a	10/21/2024	0.00653	No	15	MW-49BG	0	x^(1/3)	0.003287	Param Inter 1 of 2

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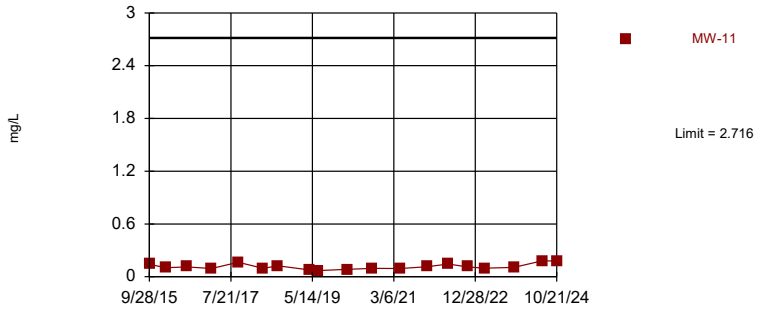
Within Limit

Prediction Limit

Interwell Parametric



Background Data Summary (based on square transformation): Mean=4.068, Std. Dev.=1.738, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9338, critical = 0.835. Kappa = 1.902 (c=8, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.006563. Individual comparison alpha = 0.003287. Assumes 1 future value.

Constituent: Barium Analysis Run 2/3/2025 8:49 AM View: 2024AWQR-AM_Interwell_PL_Bedrock

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

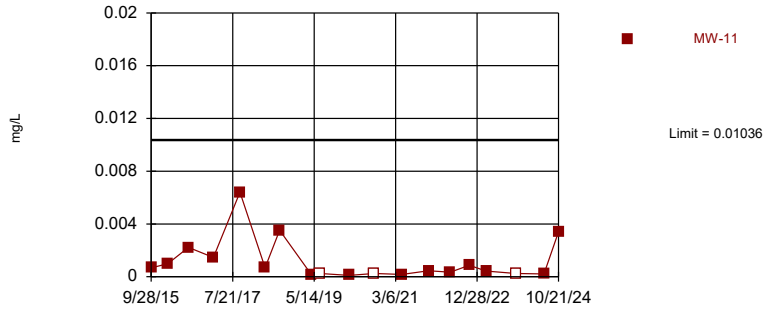
Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation): Mean=0.08278, Std. Dev.=0.01, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.87, critical = 0.835. Kappa = 1.902 (c=8, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.006563. Individual comparison alpha = 0.003287. Assumes 1 future value.

Constituent: Cobalt Analysis Run 2/3/2025 8:49 AM View: 2024AWQR-AM_Interwell_PL_Bedrock

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

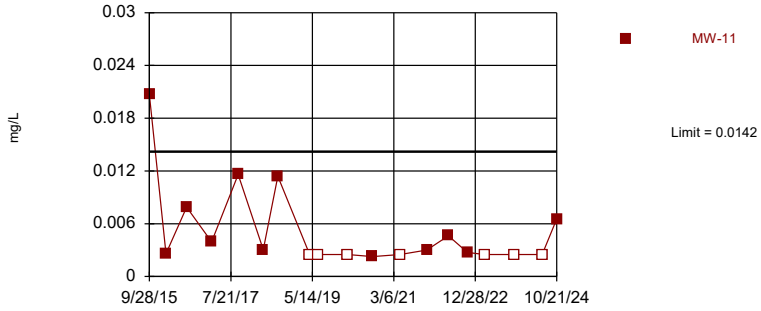
Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Parametric



Background Data Summary (based on cube root transformation): Mean=0.1956, Std. Dev.=0.02448, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8392, critical = 0.835. Kappa = 1.902 (c=8, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.006563. Individual comparison alpha = 0.003287. Assumes 1 future value.

Constituent: Nickel Analysis Run 2/3/2025 8:49 AM View: 2024AWQR-AM_Interwell_PL_Bedrock

Muscatine County SLF Client: SCS Engineers Data: MCSWA Sanitas Master

Mann-Kendall Trend Test Summary Table and Graphs

Trend Test

Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM Printed 1/22/2025, 10:17 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
1,1-Dichloroethane (ug/L)	MW-13	-0.01225	-2	-21	No	8	0	0.01	NP
1,1-Dichloroethane (ug/L)	MW-38	-0.02342	-2	-21	No	8	0	0.01	NP
1,2-Dichlorobenzene (ug/L)	MW-39	-0.156	-20	-21	No	8	50	0.01	NP
1,4-Dichlorobenzene (ug/L)	MW-38	0.03801	2	21	No	8	0	0.01	NP
1,4-Dichlorobenzene (ug/L)	MW-39	-0.3462	-15	-21	No	8	25	0.01	NP
2,4,5-TP [Silvex] [2C] (ug/L)	MW-12R	0.006284	1	21	No	8	50	0.01	NP
Acetone (ug/L)	MW-13	0	5	21	No	8	87.5	0.01	NP
Acetone (ug/L)	MW-38	-0.3823	-2	-21	No	8	0	0.01	NP
Arsenic (mg/L)	MW-4	-0.003167	-12	-21	No	8	0	0.01	NP
Arsenic (mg/L)	MW-9	-0.0007867	-8	-21	No	8	0	0.01	NP
Arsenic (mg/L)	MW-10A	0.001498	18	21	No	8	12.5	0.01	NP
Arsenic (mg/L)	MW-11	0	8	21	No	8	62.5	0.01	NP
Arsenic (mg/L)	MW-12R	0.002601	10	21	No	8	12.5	0.01	NP
Arsenic (mg/L)	MW-13	0.00006913	4	21	No	8	0	0.01	NP
Arsenic (mg/L)	MW-21	0	3	21	No	8	75	0.01	NP
Arsenic (mg/L)	MW-22	-0.000215	-13	-21	No	8	25	0.01	NP
Arsenic (mg/L)	MW-23	-0.0009433	-6	-21	No	8	0	0.01	NP
Arsenic (mg/L)	MW-26	0.00001387	2	21	No	8	12.5	0.01	NP
Arsenic (mg/L)	MW-38	-0.001352	-4	-21	No	8	0	0.01	NP
Arsenic (mg/L)	MW-39	0.0002222	2	21	No	8	0	0.01	NP
Barium (mg/L)	MW-2	-0.01003	-4	-21	No	8	0	0.01	NP
Barium (mg/L)	**MW-4**	**-0.1824**	**-26**	**-21**	**Yes**	**8**	**0**	**0.01**	**NP**
Barium (mg/L)	MW-9	0.01414	0	21	No	8	0	0.01	NP
Barium (mg/L)	MW-10A	0.03619	10	21	No	8	0	0.01	NP
Barium (mg/L)	MW-11	0.01638	10	21	No	8	0	0.01	NP
Barium (mg/L)	MW-12R	0.2131	6	21	No	8	0	0.01	NP
Barium (mg/L)	MW-13	-0.00463	0	21	No	8	0	0.01	NP
Barium (mg/L)	MW-20	0.003902	16	21	No	8	0	0.01	NP
Barium (mg/L)	MW-21	0.006779	7	21	No	8	0	0.01	NP
Barium (mg/L)	MW-22	-0.00195	0	21	No	8	0	0.01	NP
Barium (mg/L)	MW-23	-0.03147	-10	-21	No	8	0	0.01	NP
Barium (mg/L)	MW-24	-0.006295	-10	-21	No	8	0	0.01	NP
Barium (mg/L)	MW-25	0.007839	2	21	No	8	0	0.01	NP
Barium (mg/L)	MW-26	0.003925	2	21	No	8	0	0.01	NP
Barium (mg/L)	MW-36	0.02049	4	8	No	4	0	0.01	NP
Barium (mg/L)	MW-38	1.258	12	21	No	8	0	0.01	NP
Barium (mg/L)	MW-39	-0.07727	-16	-21	No	8	0	0.01	NP
Benzene (ug/L)	MW-9	-0.1797	-10	-21	No	8	12.5	0.01	NP
Benzene (ug/L)	MW-12R	0.1684	12	21	No	8	0	0.01	NP
Benzene (ug/L)	MW-13	-0.001603	0	21	No	8	12.5	0.01	NP
Benzene (ug/L)	MW-22	0.03462	6	21	No	8	12.5	0.01	NP
Benzene (ug/L)	MW-23	-0.1588	-4	-21	No	8	0	0.01	NP
Benzene (ug/L)	MW-38	0.362	12	21	No	8	0	0.01	NP
Benzene (ug/L)	MW-39	-0.07628	-16	-21	No	8	62.5	0.01	NP
Cadmium (mg/L)	MW-2	0.00001655	14	21	No	8	75	0.01	NP
Cadmium (mg/L)	MW-4	0.00001642	8	21	No	8	75	0.01	NP
Cadmium (mg/L)	MW-9	0.00002074	3	21	No	8	25	0.01	NP
Cadmium (mg/L)	MW-11	0.00002488	15	21	No	8	75	0.01	NP
Cadmium (mg/L)	MW-13	0.00001174	10	21	No	8	75	0.01	NP
Cadmium (mg/L)	MW-21	0.00002527	15	21	No	8	37.5	0.01	NP

Trend Test

Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM Printed 1/22/2025, 10:17 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
Cadmium (mg/L)	MW-22	0.00002847	13	21	No	8	37.5	0.01	NP
Cadmium (mg/L)	MW-23	0	3	21	No	8	87.5	0.01	NP
Cadmium (mg/L)	MW-24	0	11	21	No	8	87.5	0.01	NP
Cadmium (mg/L)	MW-26	0.000004014	6	21	No	8	75	0.01	NP
Cadmium (mg/L)	MW-39	0.00001379	13	21	No	8	87.5	0.01	NP
Carbon Disulfide (ug/L)	MW-23	-0.01048	-3	-21	No	8	37.5	0.01	NP
Chlorobenzene (ug/L)	MW-9	-0.818	0	21	No	8	12.5	0.01	NP
Chlorobenzene (ug/L)	MW-12R	0.4393	16	21	No	8	0	0.01	NP
Chlorobenzene (ug/L)	MW-23	1.521	14	21	No	8	0	0.01	NP
Chlorobenzene (ug/L)	**MW-38**	**1.41**	**22**	**21**	**Yes**	**8**	**0**	**0.01**	**NP**
Chlorobenzene (ug/L)	MW-39	-1.036	-17	-21	No	8	37.5	0.01	NP
Chloroethane (ug/L)	MW-23	-0.2694	-2	-21	No	8	0	0.01	NP
Chromium (mg/L)	MW-23	-0.0003012	-2	-21	No	8	12.5	0.01	NP
cis-1,2-Dichloroethene (ug/L)	MW-9	0.01864	1	21	No	8	25	0.01	NP
cis-1,2-Dichloroethene (ug/L)	MW-11	0.001183	3	21	No	8	25	0.01	NP
cis-1,2-Dichloroethene (ug/L)	MW-13	0.1461	0	21	No	8	0	0.01	NP
cis-1,2-Dichloroethene (ug/L)	MW-23	0.02886	2	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-2	0.0002523	12	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-4	-0.0012	-14	-21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-9	-0.0005249	-2	-21	No	8	12.5	0.01	NP
Cobalt (mg/L)	MW-10A	0.0003835	12	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-11	0.00006634	4	21	No	8	12.5	0.01	NP
Cobalt (mg/L)	MW-12R	-0.0005821	-17	-21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-20	0.000006807	6	21	No	8	50	0.01	NP
Cobalt (mg/L)	MW-22	0.0002567	6	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-23	-0.00121	-16	-21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-26	0.0002596	7	21	No	8	12.5	0.01	NP
Cobalt (mg/L)	MW-37	-0.00007729	-4	-8	No	4	0	0.01	NP
Cobalt (mg/L)	MW-38	0.0002339	2	21	No	8	0	0.01	NP
Cobalt (mg/L)	MW-39	-0.002003	-20	-21	No	8	0	0.01	NP
Copper (mg/L)	MW-23	-0.0004022	-7	-21	No	8	37.5	0.01	NP
Copper (mg/L)	MW-24	0	6	21	No	8	62.5	0.01	NP
Copper (mg/L)	MW-26	0	-1	-21	No	8	75	0.01	NP
Copper (mg/L)	MW-39	0	-1	-21	No	8	75	0.01	NP
Endosulfan I (ug/L)	MW-38	-0.1592	-6	-21	No	8	37.5	0.01	NP
Endosulfan I (ug/L)	MW-39	-0.0008131	-7	-21	No	8	75	0.01	NP
Ethylbenzene (ug/L)	MW-38	-0.08085	-9	-21	No	8	37.5	0.01	NP
Lead (mg/L)	MW-13	0.0000165	14	21	No	8	62.5	0.01	NP
Lead (mg/L)	MW-21	0	1	21	No	8	87.5	0.01	NP
Lead (mg/L)	MW-23	-0.00006545	-8	-21	No	8	12.5	0.01	NP
Lead (mg/L)	MW-26	-0.00002628	-6	-21	No	8	12.5	0.01	NP
Lead (mg/L)	MW-39	0.00004942	11	21	No	8	25	0.01	NP
Nickel (mg/L)	MW-2	0	-2	-21	No	8	50	0.01	NP
Nickel (mg/L)	MW-9	-0.002883	-18	-21	No	8	12.5	0.01	NP
Nickel (mg/L)	MW-10A	-0.0001938	-4	-21	No	8	12.5	0.01	NP
Nickel (mg/L)	MW-11	0	0	21	No	8	50	0.01	NP
Nickel (mg/L)	MW-12R	-0.001499	-8	-21	No	8	0	0.01	NP
Nickel (mg/L)	MW-20	0	2	21	No	8	62.5	0.01	NP
Nickel (mg/L)	**MW-21**	**-0.0004386**	**-22**	**-21**	**Yes**	**8**	**0**	**0.01**	**NP**
Nickel (mg/L)	MW-22	0.001359	10	21	No	8	12.5	0.01	NP

Trend Test

Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM Printed 1/22/2025, 10:17 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
Nickel (mg/L)	MW-23	-0.009132	-8	-21	No	8	0	0.01	NP
Nickel (mg/L)	MW-38	0.0009455	4	21	No	8	0	0.01	NP
Nickel (mg/L)	MW-39	-0.008615	-14	-21	No	8	0	0.01	NP
Selenium (mg/L)	MW-20	0.000787	15	21	No	8	25	0.01	NP
Sulfide (mg/L)	MW-26	0.1015	7	12	No	5	60	0.01	NP
Thallium (mg/L)	MW-13	0	7	21	No	8	87.5	0.01	NP
Toluene (ug/L)	MW-4	0	-11	-21	No	8	75	0.01	NP
trans-1,2-Dichloroethene (ug/L)	MW-13	-0.005548	-2	-21	No	8	0	0.01	NP
Vinyl Chloride (ug/L)	MW-13	-0.1354	-4	-21	No	8	0	0.01	NP
Zinc (mg/L)	MW-2	0	5	21	No	8	87.5	0.01	NP
Zinc (mg/L)	MW-10A	-0.004183	-17	-21	No	8	37.5	0.01	NP

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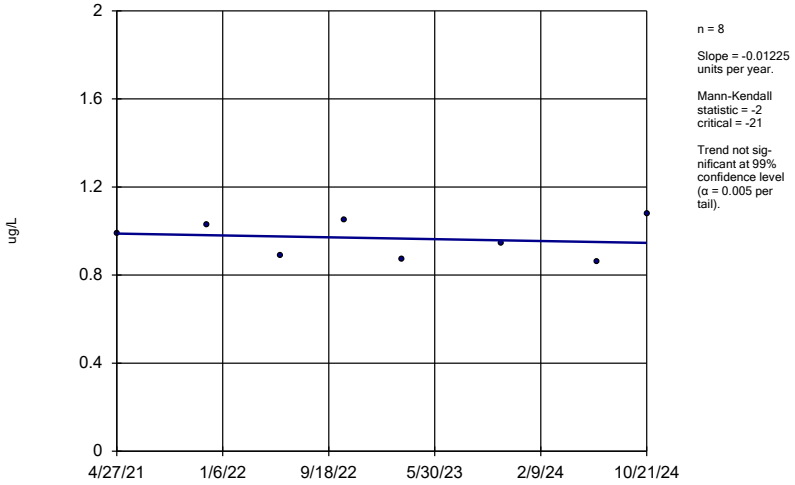
Sen's Slope Estimator

MW-13

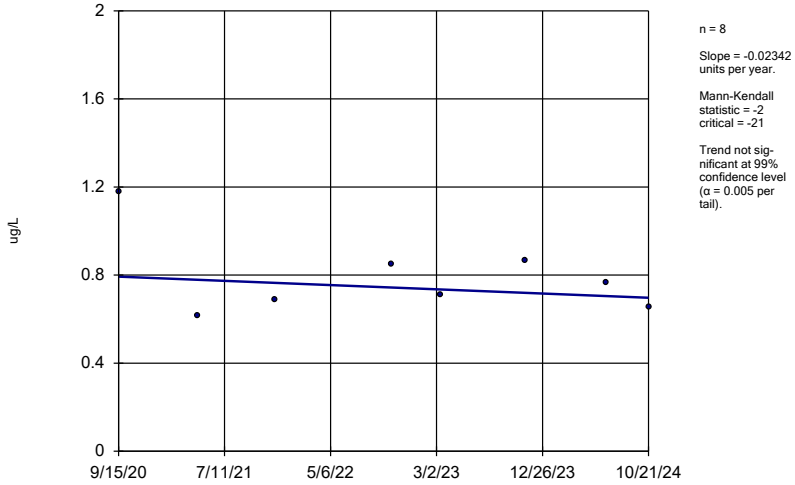


Constituent: 1,1-Dichloroethane Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-38

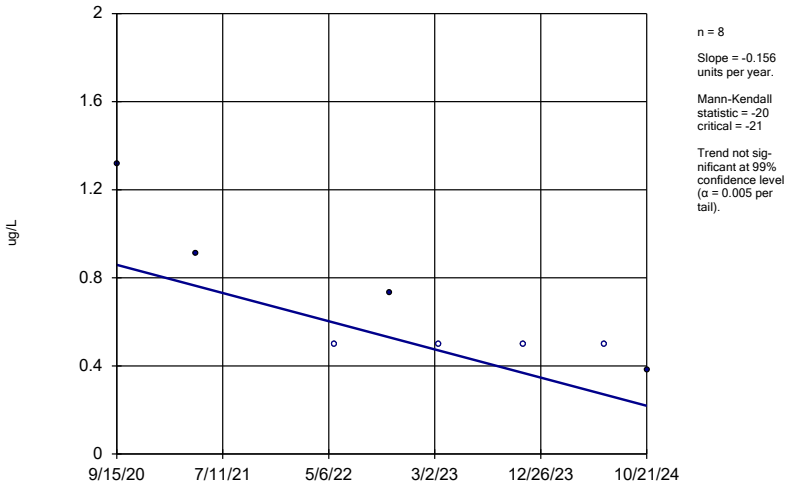


Constituent: 1,1-Dichloroethane Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-39

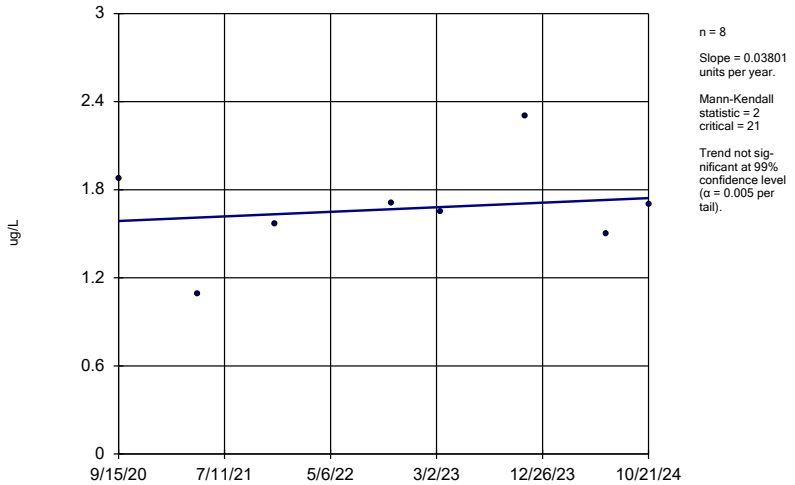


Constituent: 1,2-Dichlorobenzene Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-38

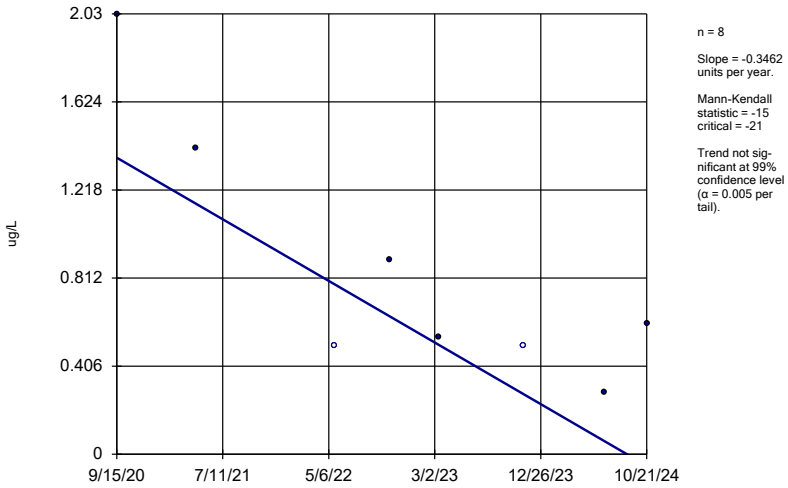


Constituent: 1,4-Dichlorobenzene Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-39

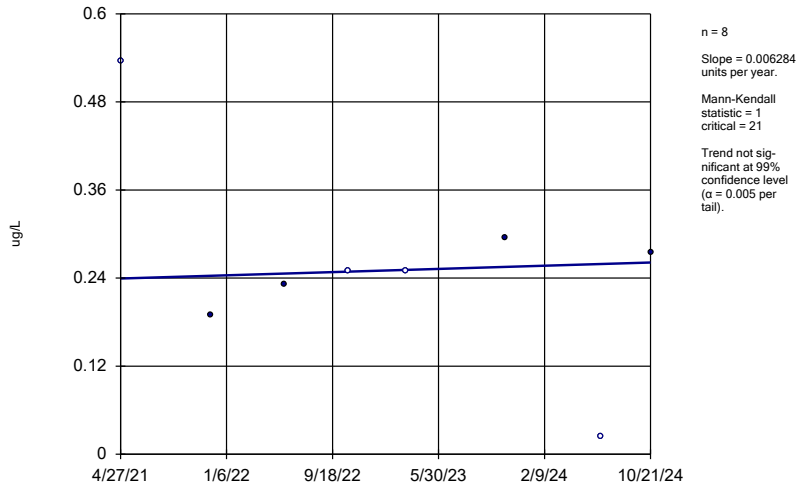


Constituent: 1,4-Dichlorobenzene Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-12R



Constituent: 2,4,5-TP [Silvex] [2C] Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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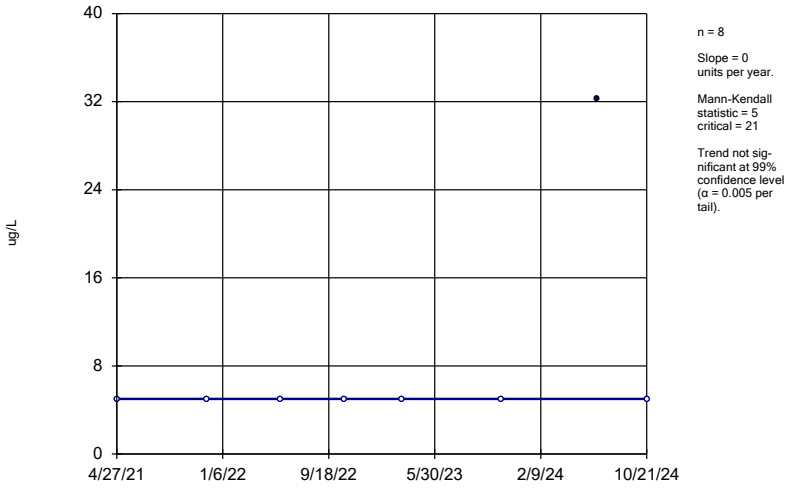
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-13



Constituent: Acetone Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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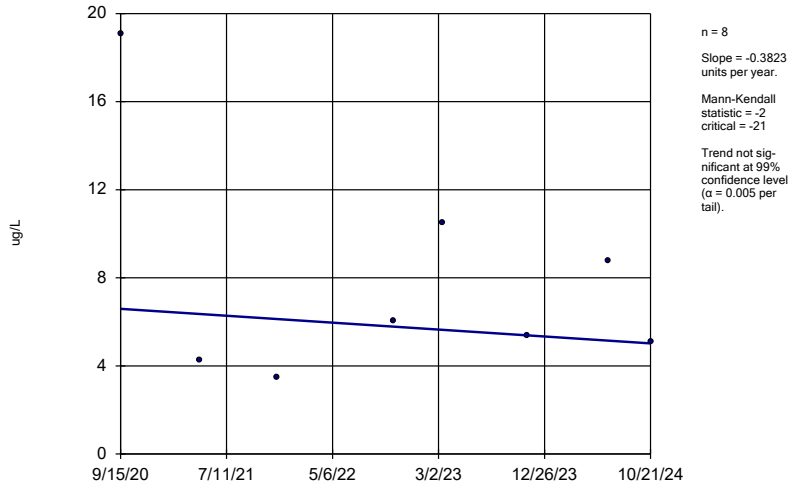
Sen's Slope Estimator

MW-38



Constituent: Acetone Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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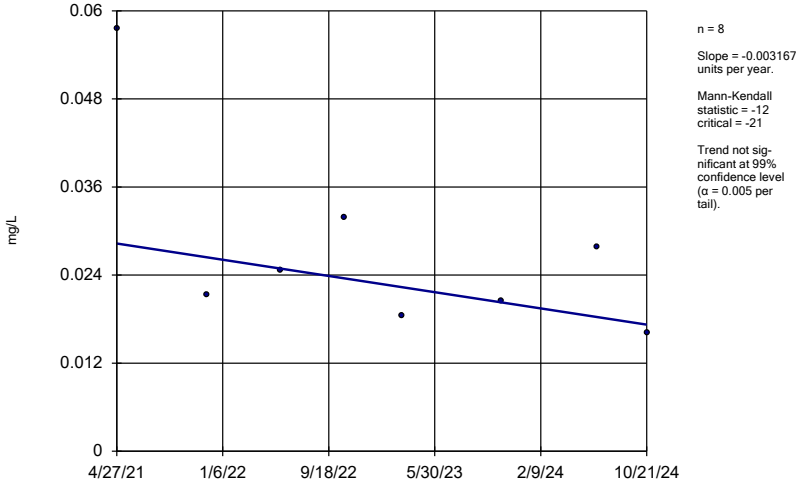
Sen's Slope Estimator

MW-4



Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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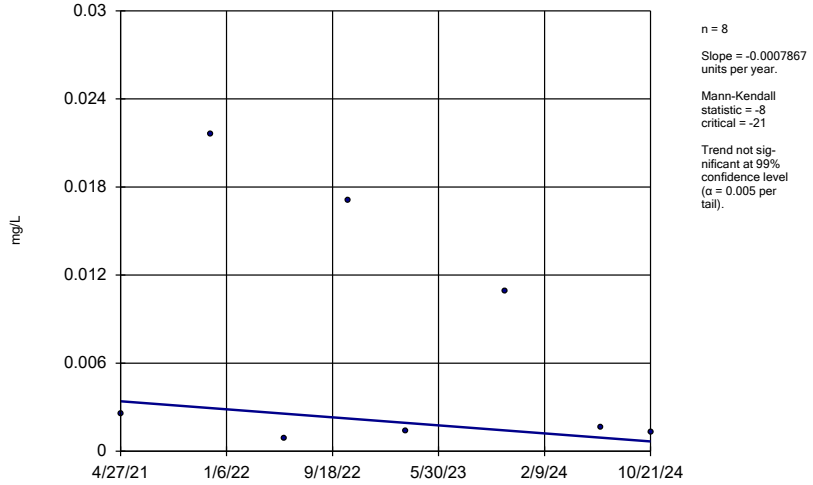
Sen's Slope Estimator

MW-9



Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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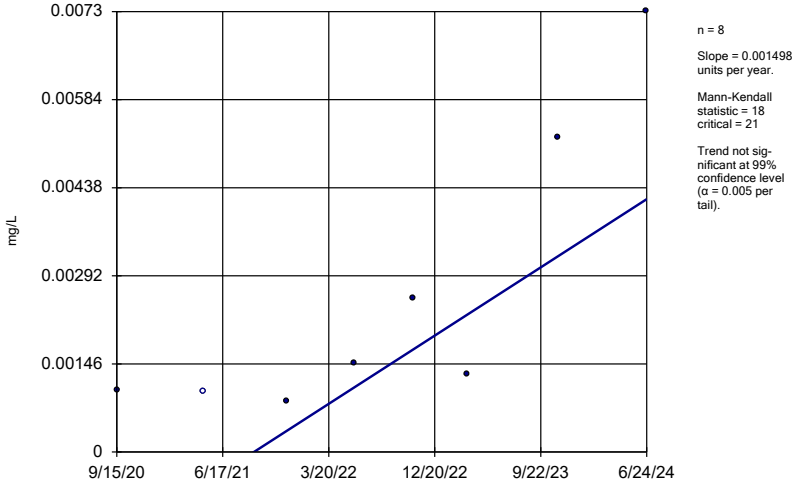
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-10A

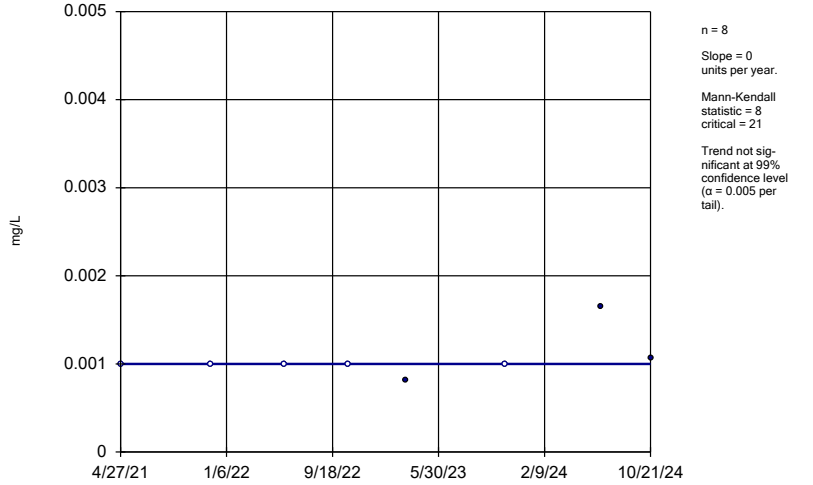


Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11

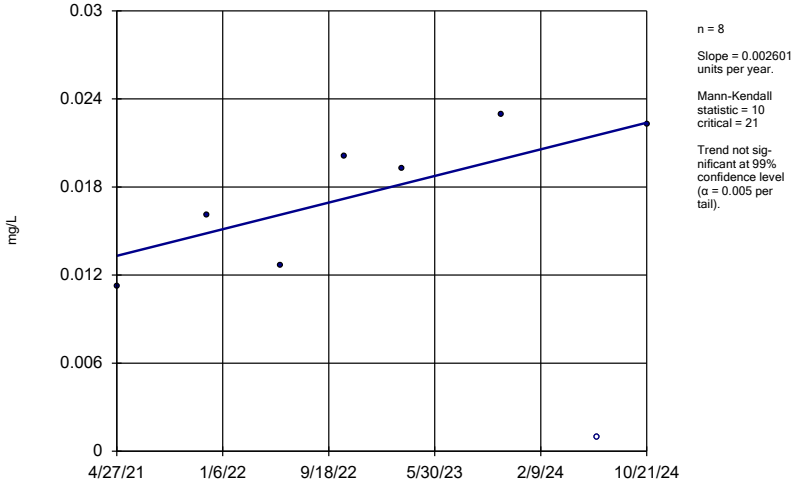


Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-12R



n = 8

Slope = 0.002601 units per year.

Mann-Kendall statistic = 10
critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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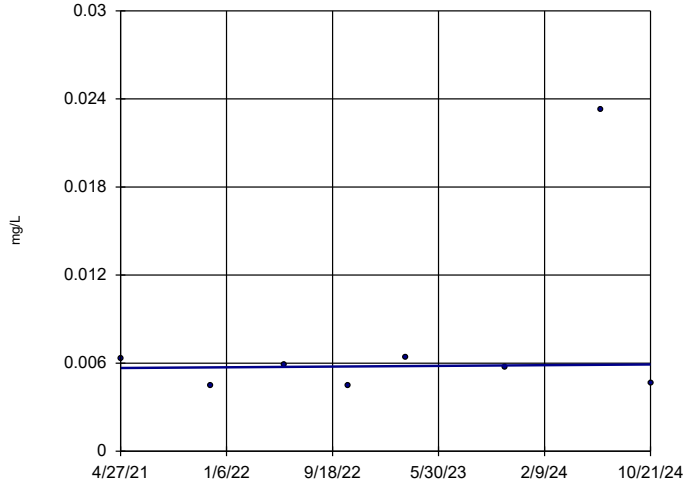
Sen's Slope Estimator

MW-13



n = 8

Slope = 0.00006913 units per year.

Mann-Kendall statistic = 4
critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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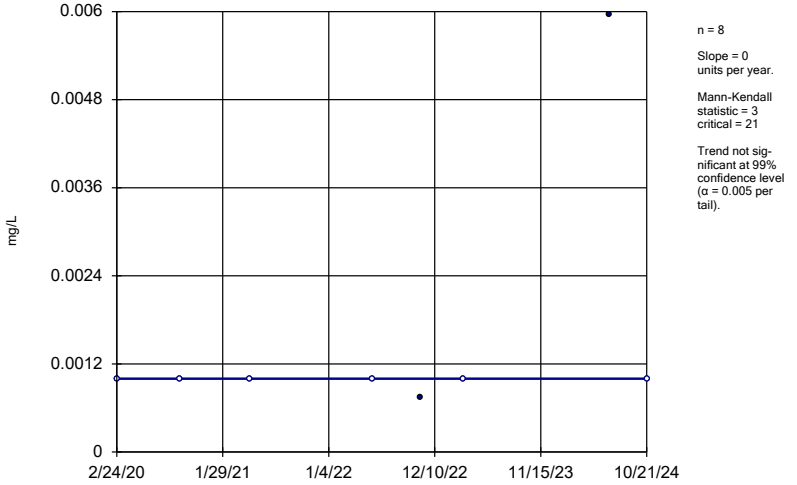
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-21



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 3
critical = 21

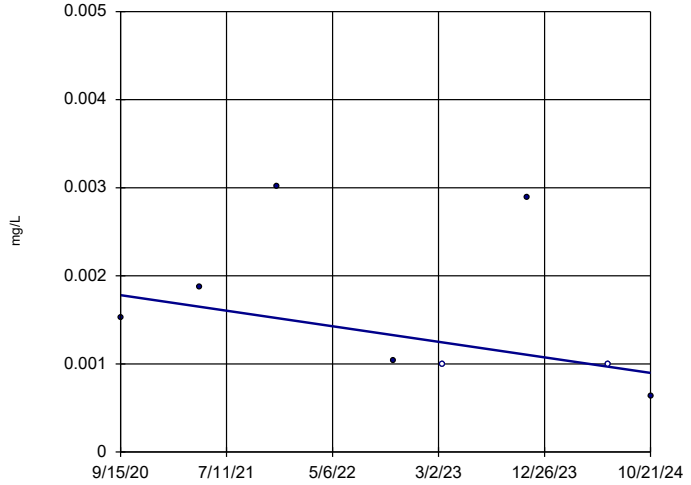
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-22



n = 8

Slope = -0.000215 units per year.

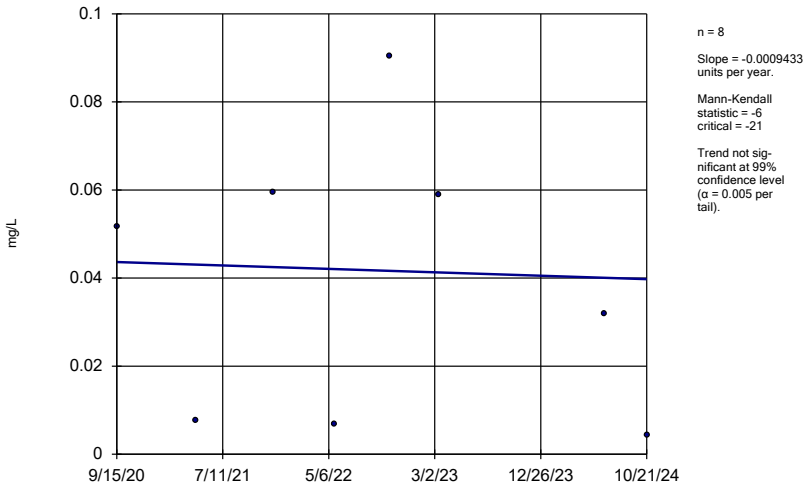
Mann-Kendall statistic = -13
critical = -21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sen's Slope Estimator

MW-23

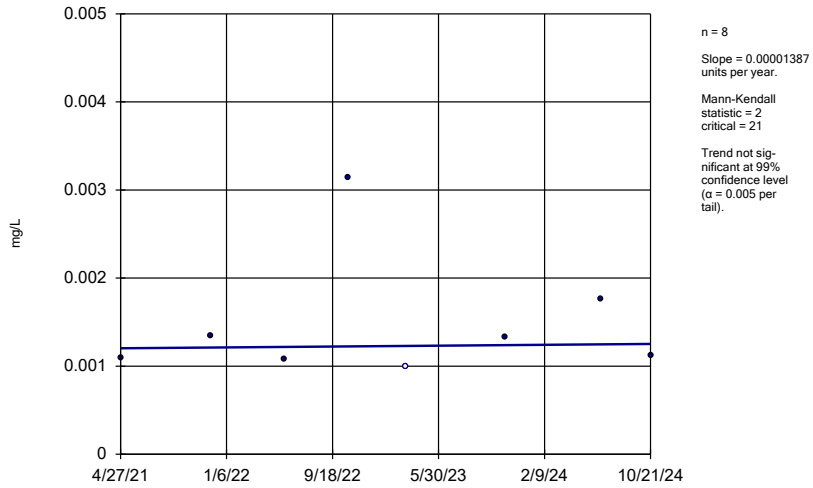


Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Hollow symbols indicate censored values.

Sen's Slope Estimator

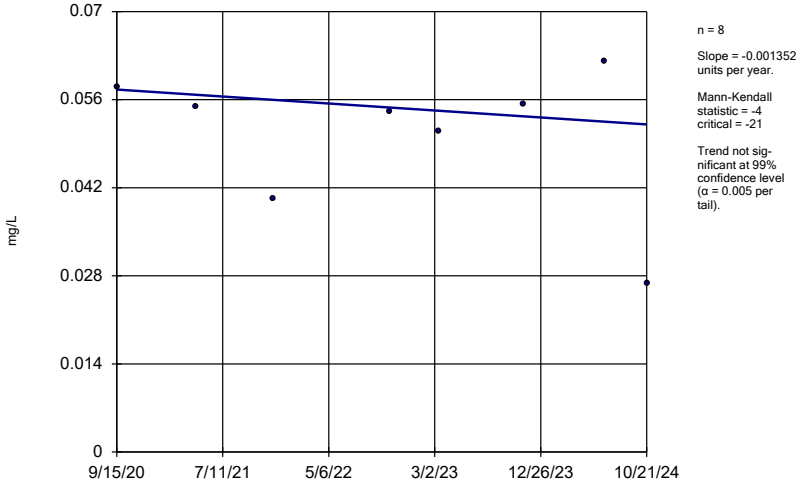
MW-26



Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sen's Slope Estimator

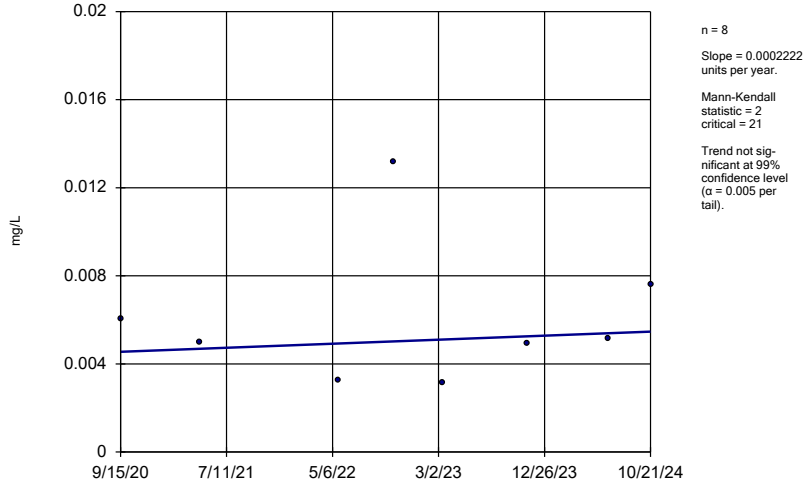
MW-38



Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sen's Slope Estimator

MW-39



Constituent: Arsenic Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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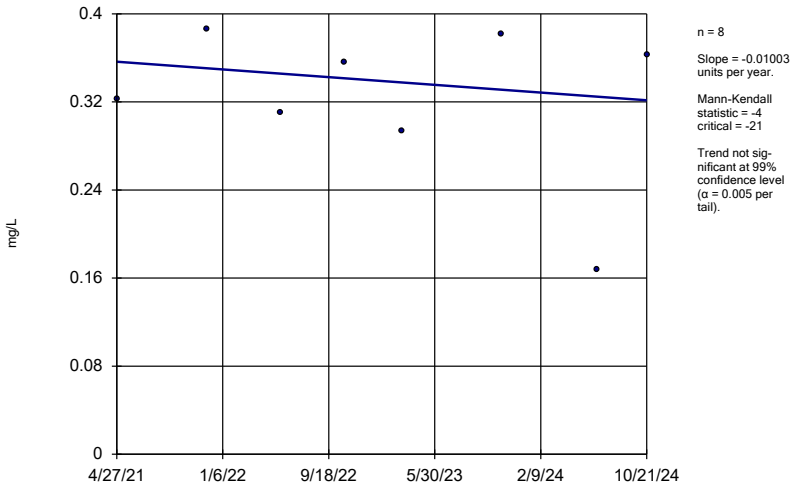
Sen's Slope Estimator

MW-2



n = 8

Slope = -0.01003 units per year.

Mann-Kendall statistic = -4
critical = -21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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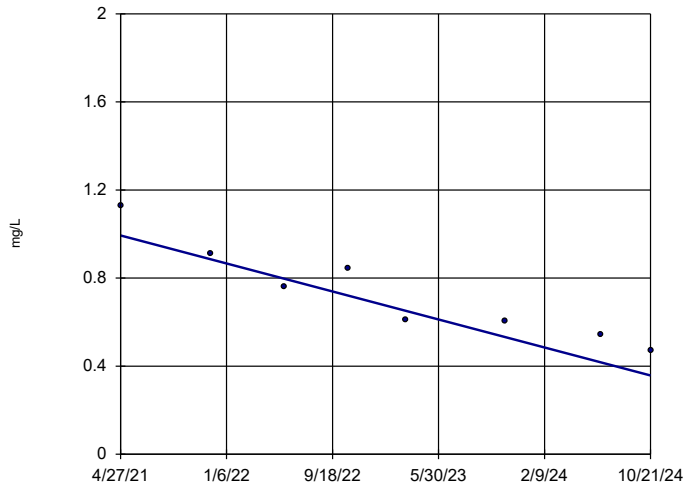
Sen's Slope Estimator

MW-4



n = 8

Slope = -0.1824 units per year.

Mann-Kendall statistic = -26
critical = -21

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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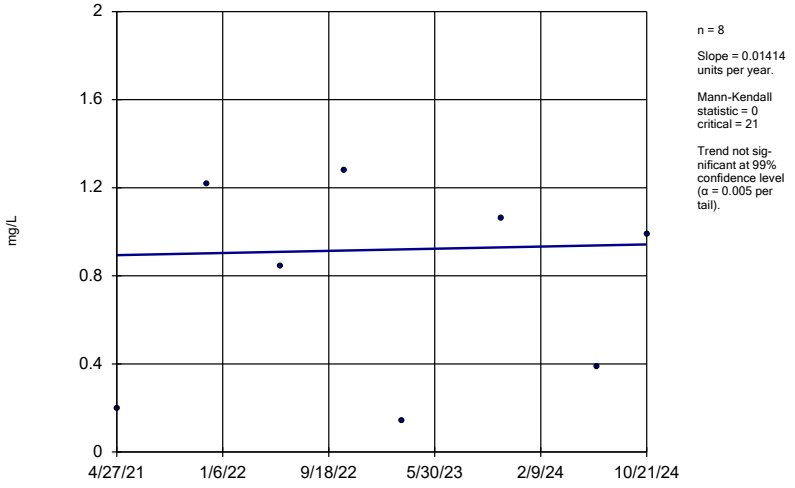
Sen's Slope Estimator

MW-9



n = 8

Slope = 0.01414 units per year.

Mann-Kendall statistic = 0
critical = 21

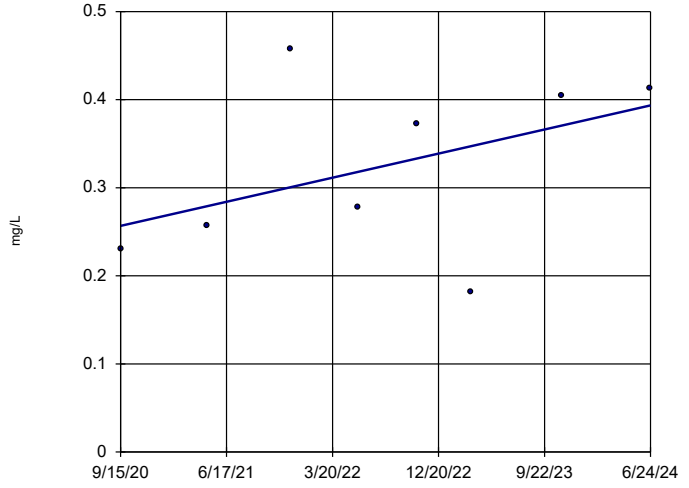
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-10A



n = 8

Slope = 0.03619 units per year.

Mann-Kendall statistic = 10
critical = 21

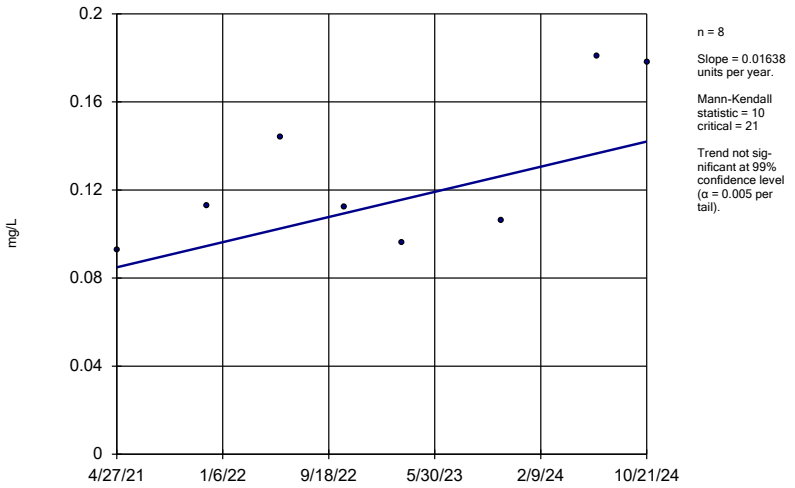
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-11



n = 8

Slope = 0.01638 units per year.

Mann-Kendall statistic = 10 critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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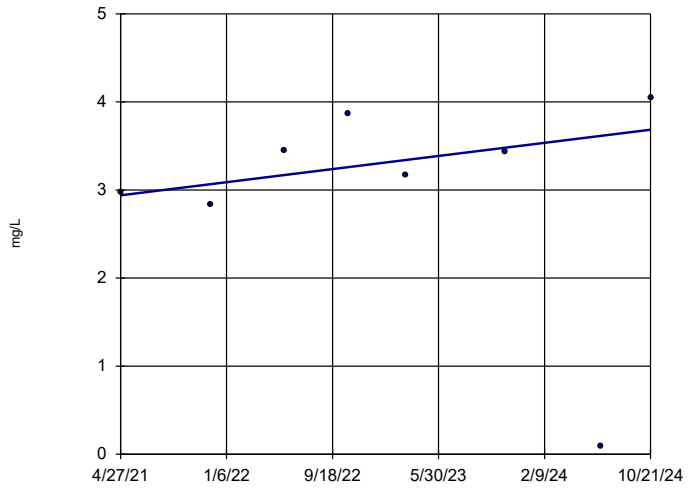
Sen's Slope Estimator

MW-12R



n = 8

Slope = 0.2131 units per year.

Mann-Kendall statistic = 6 critical = 21

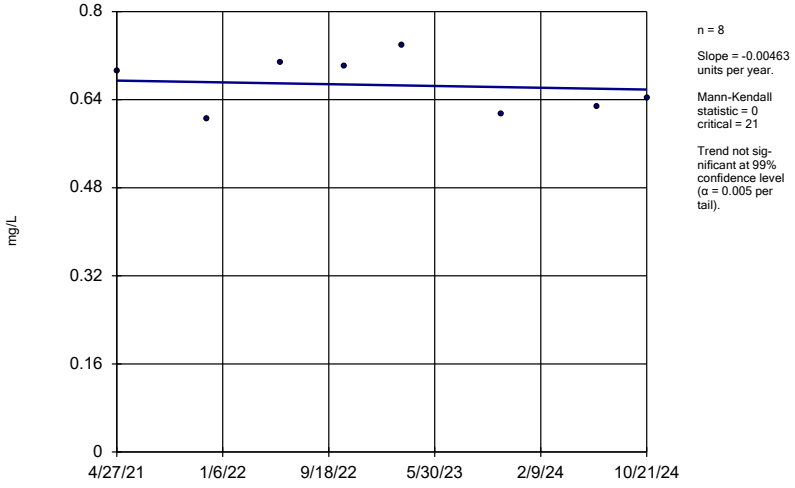
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-13



n = 8

Slope = -0.00463 units per year.

Mann-Kendall statistic = 0 critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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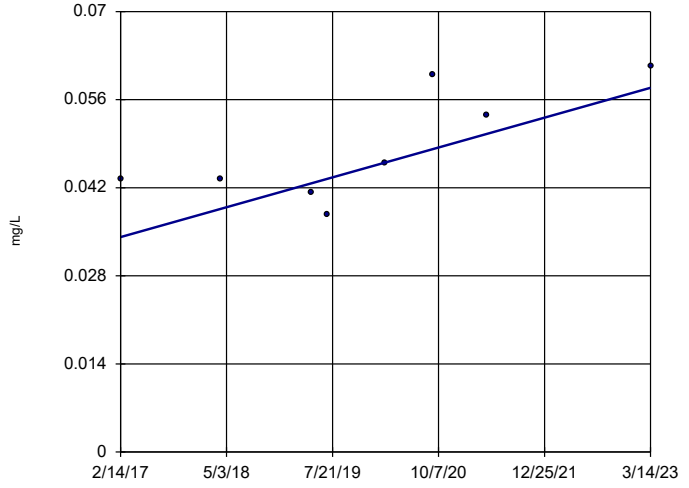
Sen's Slope Estimator

MW-20



n = 8

Slope = 0.003902 units per year.

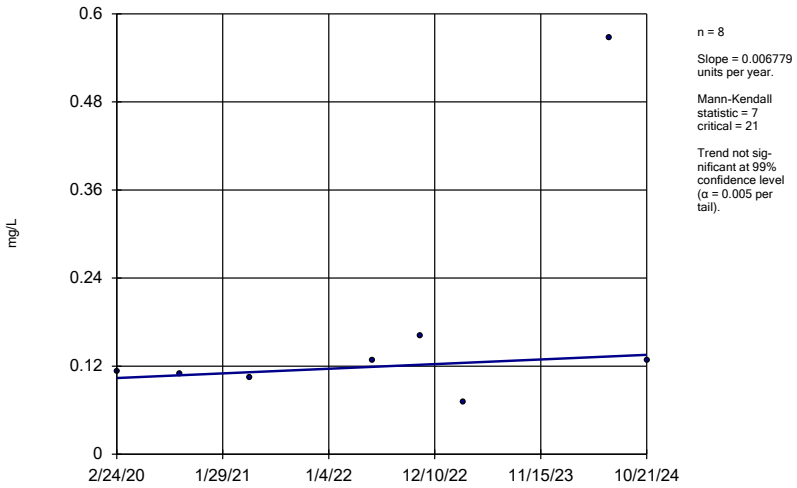
Mann-Kendall statistic = 16 critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sen's Slope Estimator

MW-21

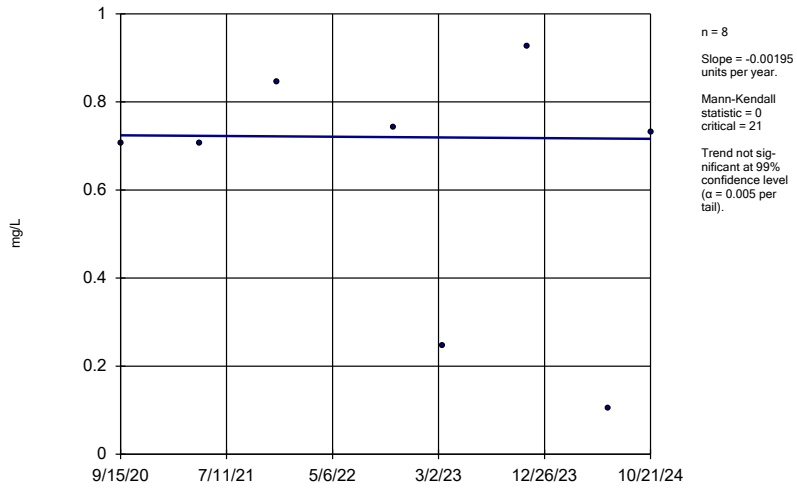


Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-22

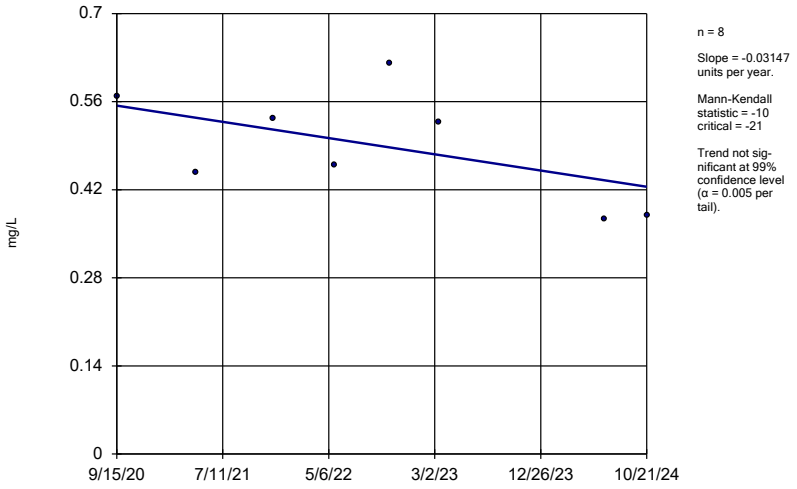


Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-23



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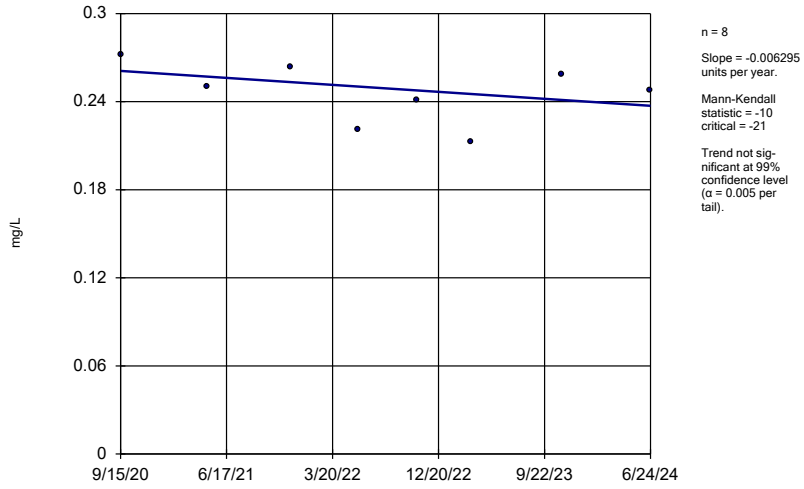
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-24

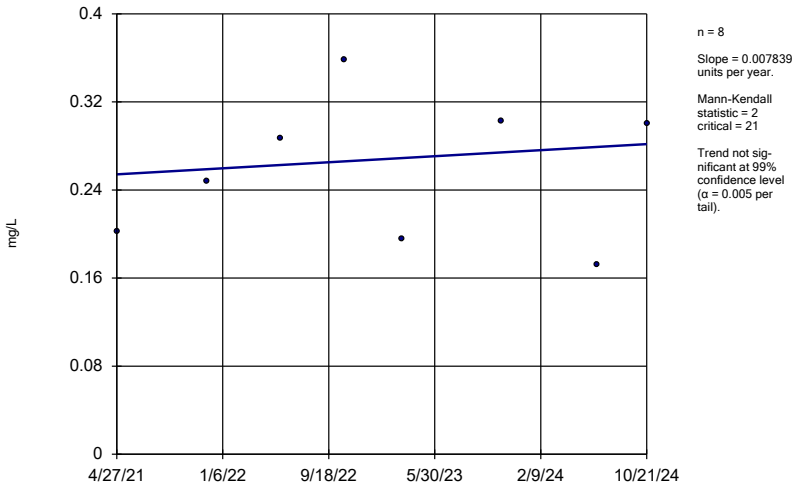


Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-25



n = 8

Slope = 0.007839 units per year.

Mann-Kendall statistic = 2
critical = 21

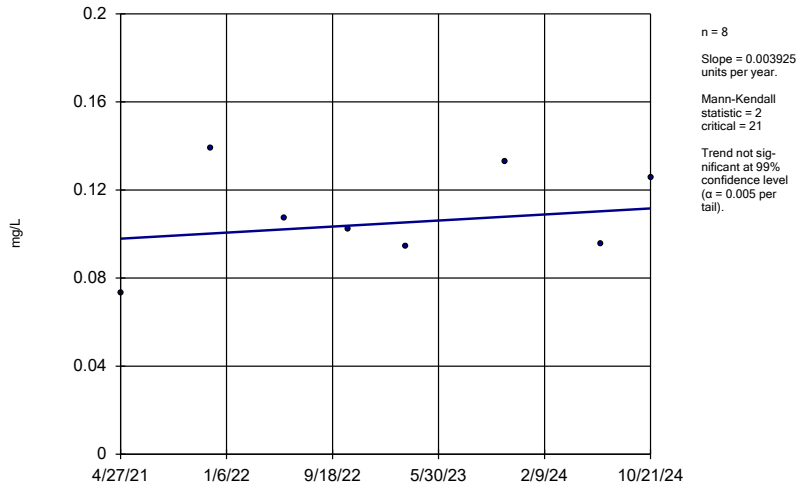
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-26



n = 8

Slope = 0.003925 units per year.

Mann-Kendall statistic = 2
critical = 21

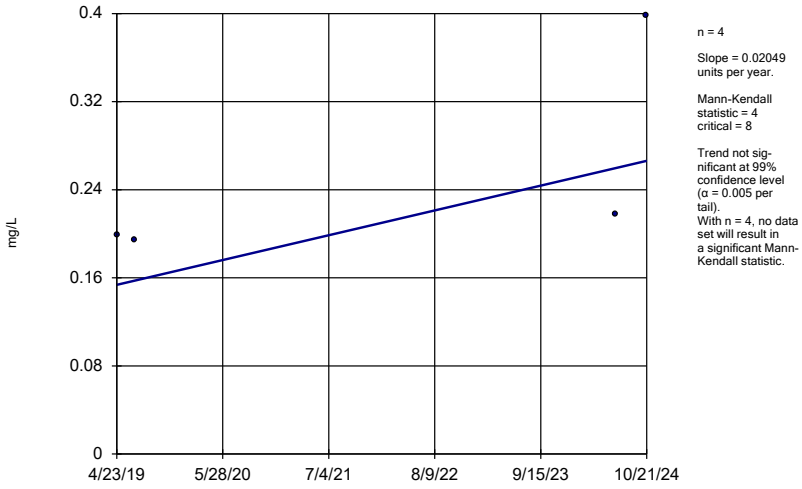
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-36



n = 4

Slope = 0.02049 units per year.

Mann-Kendall statistic = 4
critical = 8

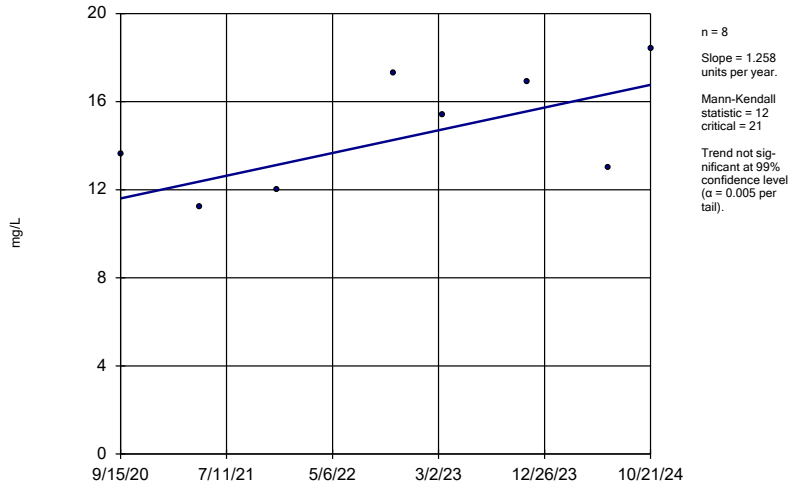
Trend not significant at 99% confidence level (α = 0.005 per tail).
With n = 4, no data set will result in a significant Mann-Kendall statistic.

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-38



n = 8

Slope = 1.258 units per year.

Mann-Kendall statistic = 12
critical = 21

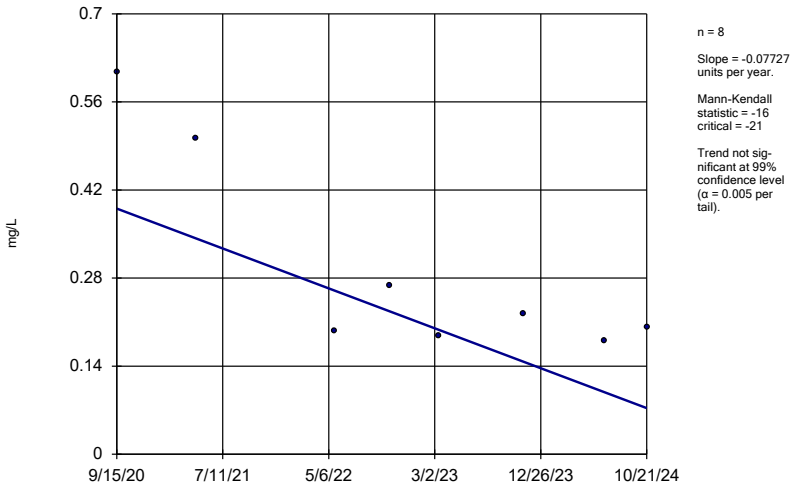
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-39

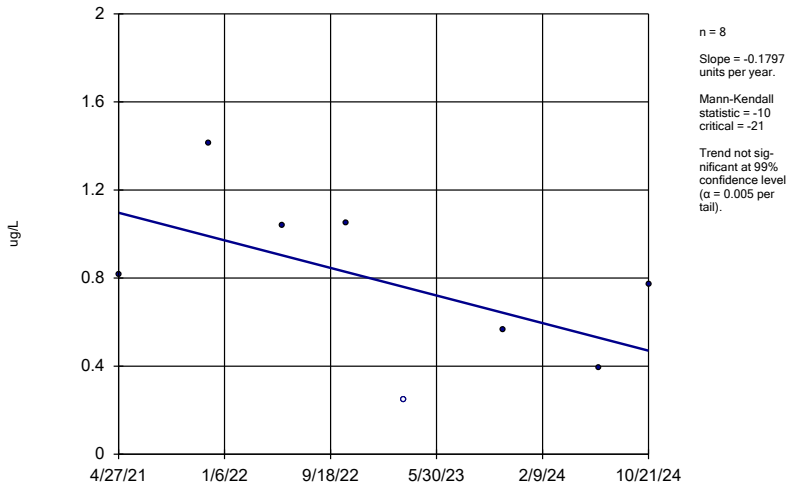


Constituent: Barium Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9

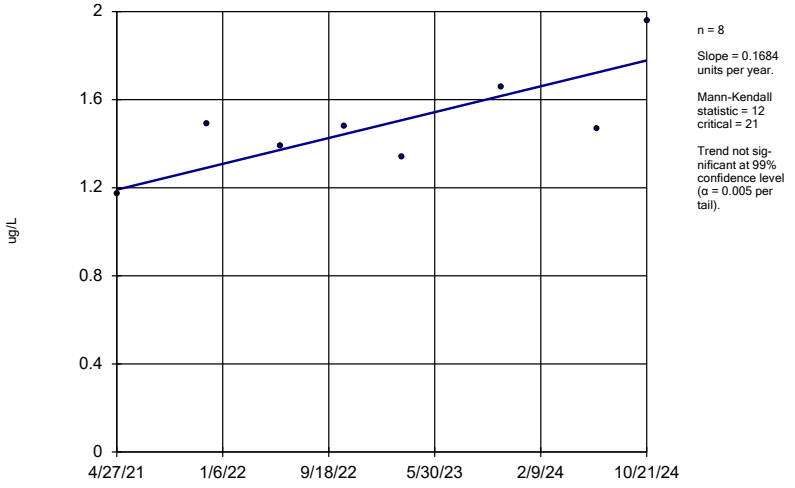


Constituent: Benzene Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-12R

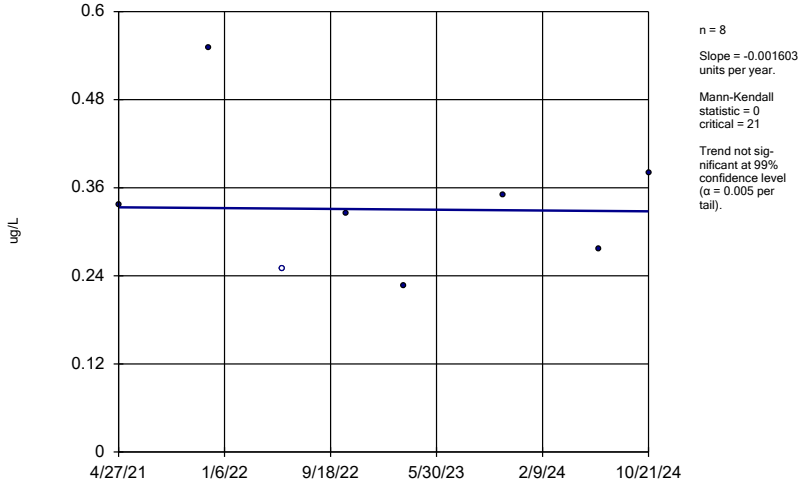


Constituent: Benzene Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-13

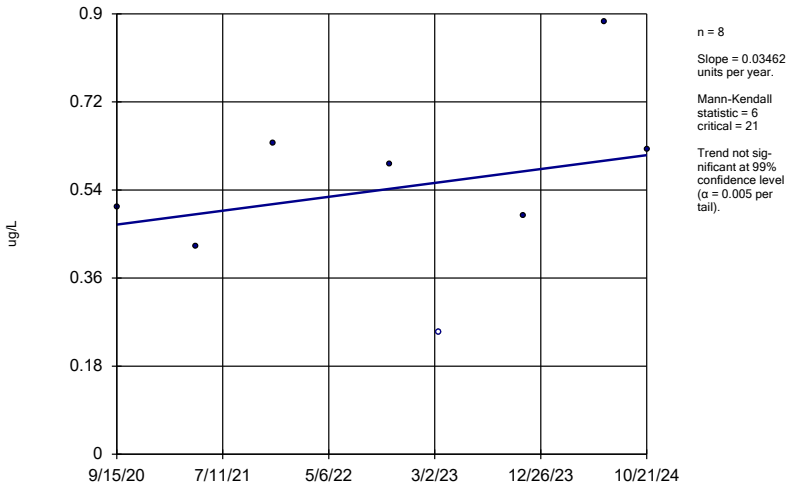


Constituent: Benzene Analysis Run 1/22/2025 10:12 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-22

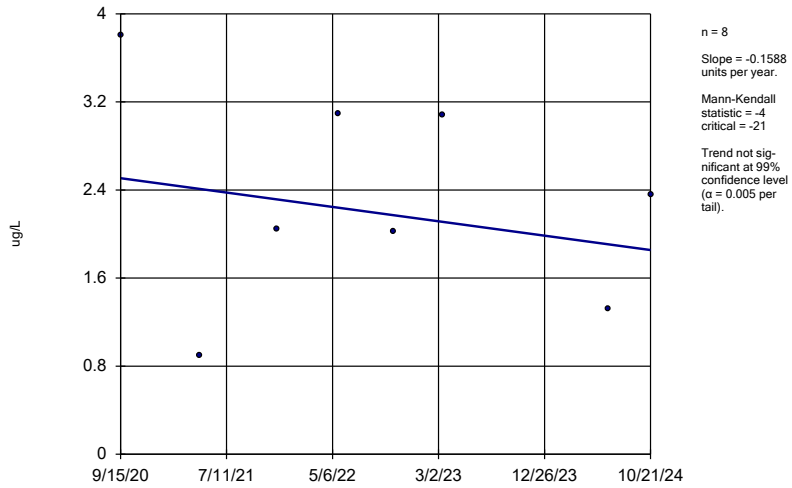


Constituent: Benzene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-23

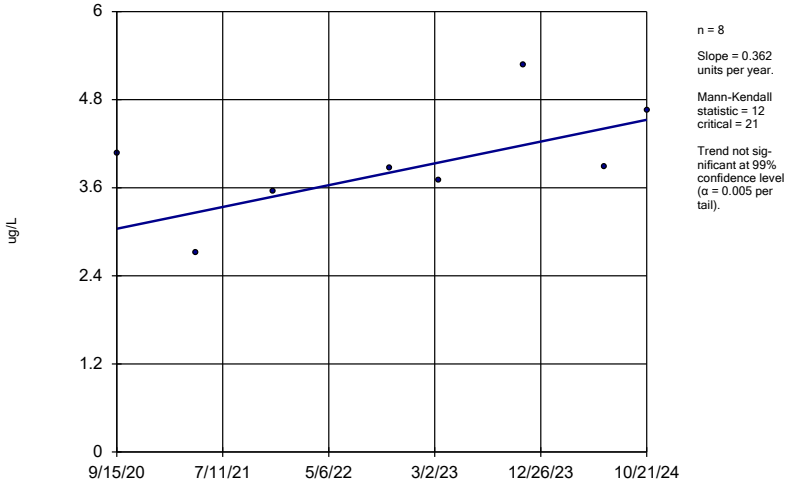


Constituent: Benzene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-38

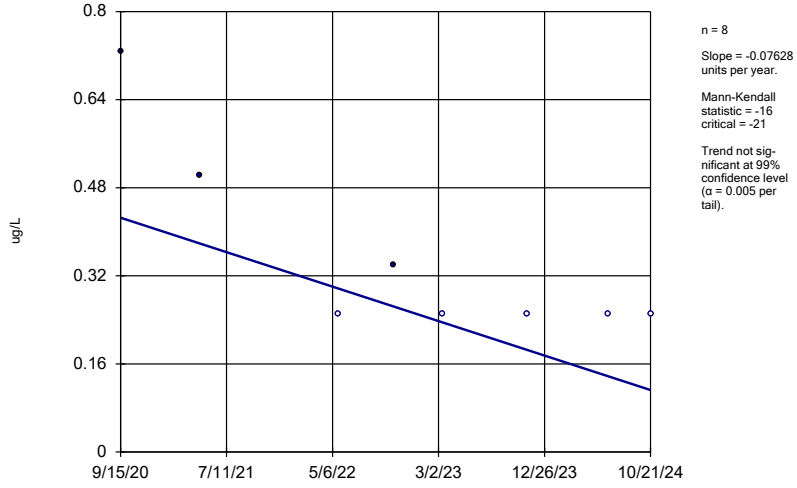


Constituent: Benzene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-39

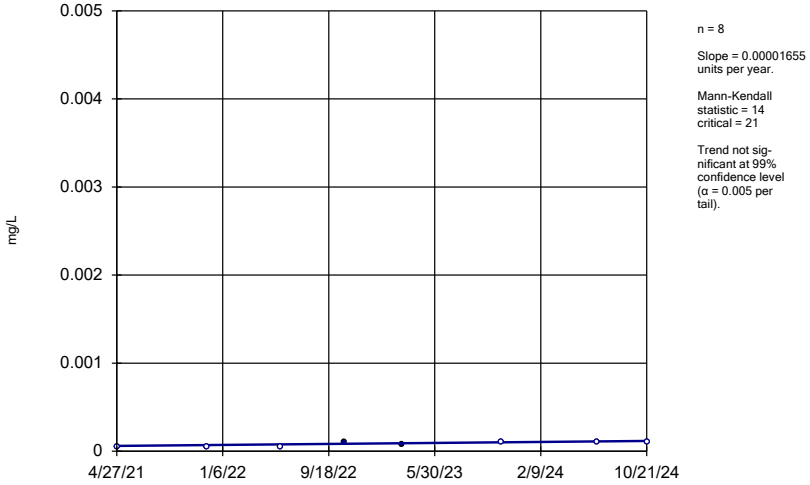


Constituent: Benzene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-2

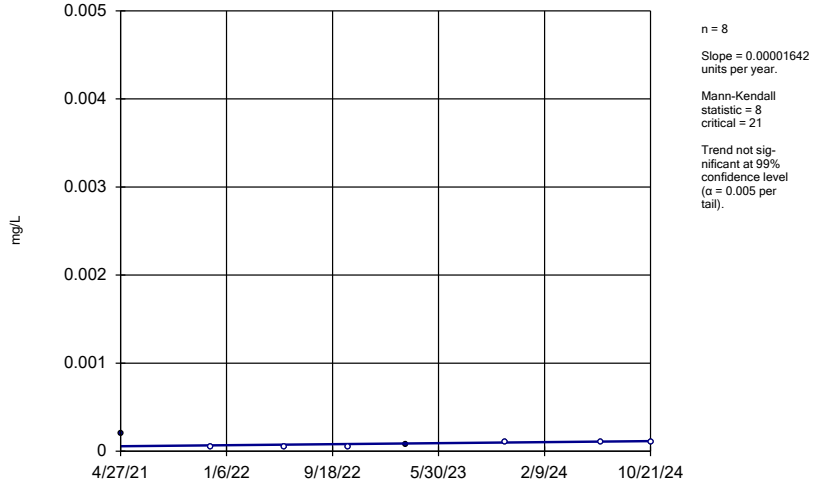


Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-4

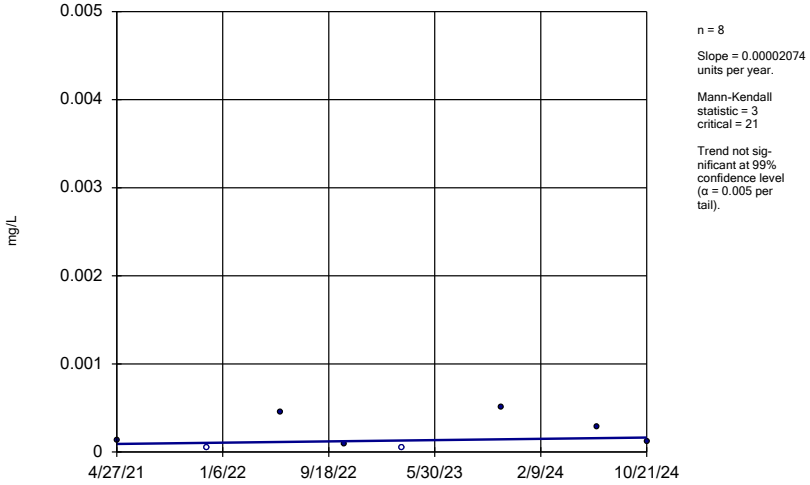


Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9

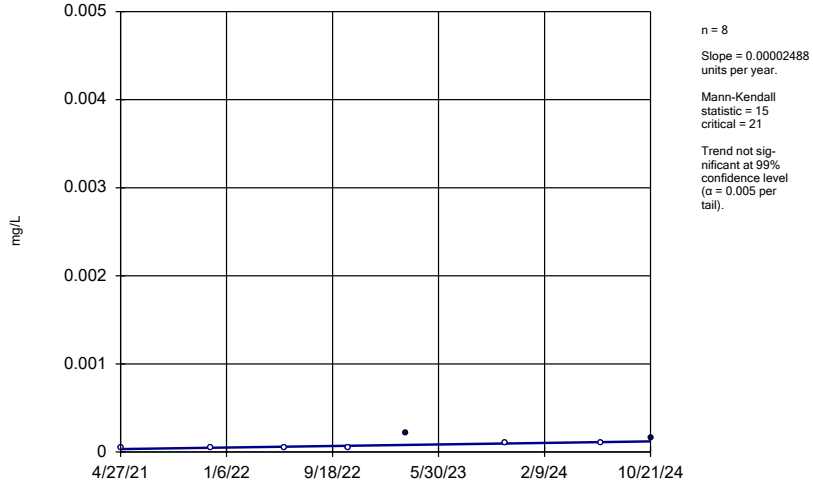


Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11

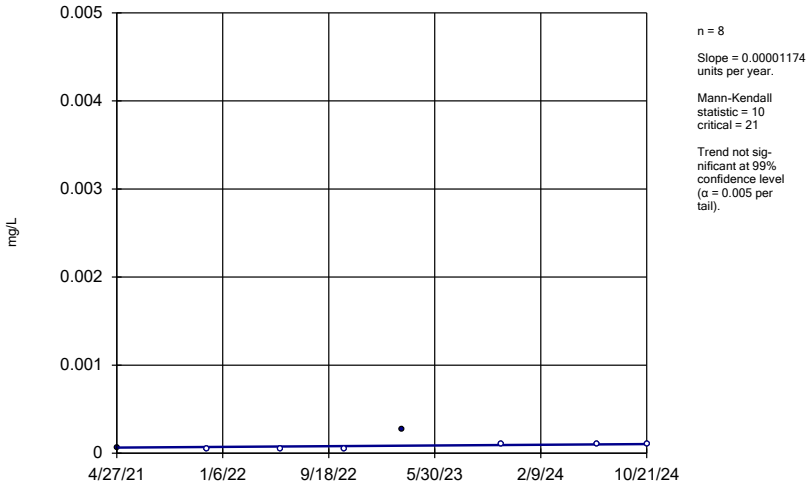


Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-13



n = 8

Slope = 0.00001174 units per year.

Mann-Kendall statistic = 10
critical = 21

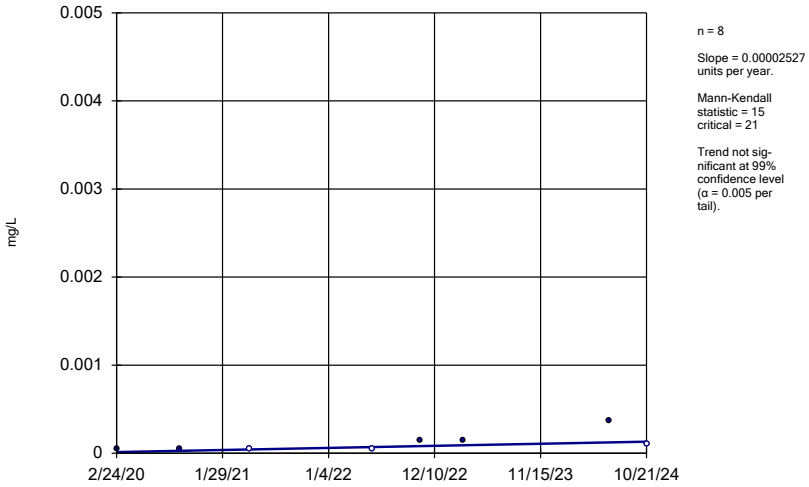
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-21



n = 8

Slope = 0.00002527 units per year.

Mann-Kendall statistic = 15
critical = 21

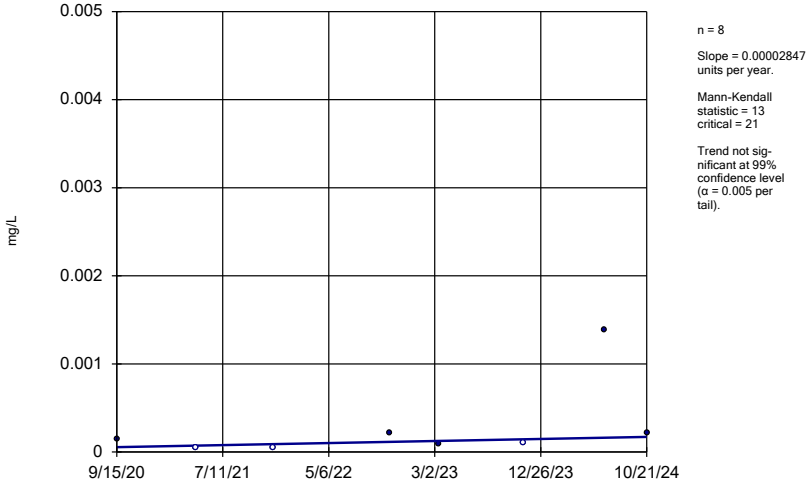
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-22



n = 8

Slope = 0.00002847 units per year.

Mann-Kendall statistic = 13
critical = 21

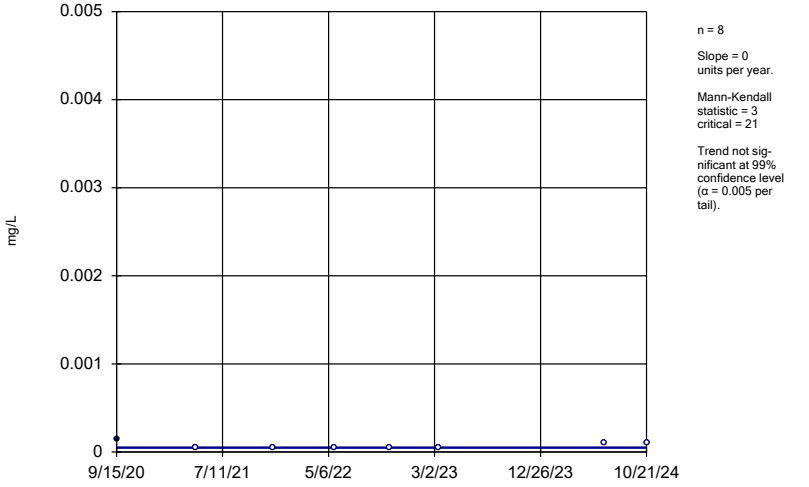
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-23



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 3
critical = 21

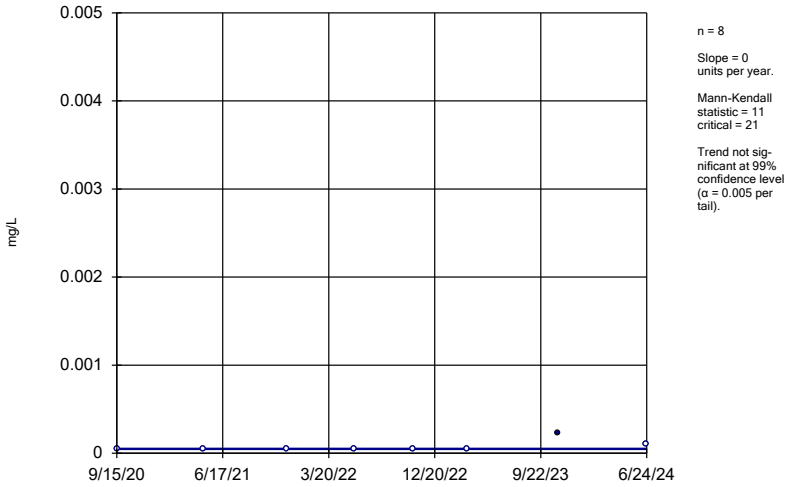
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-24

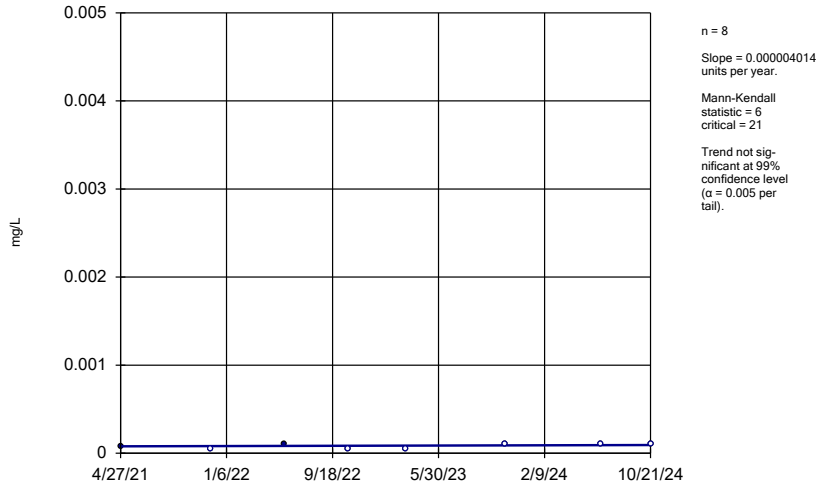


Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26

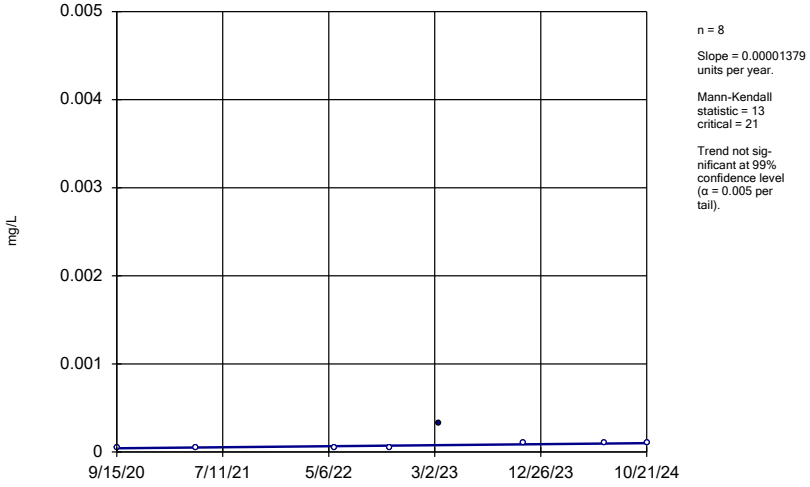


Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-39

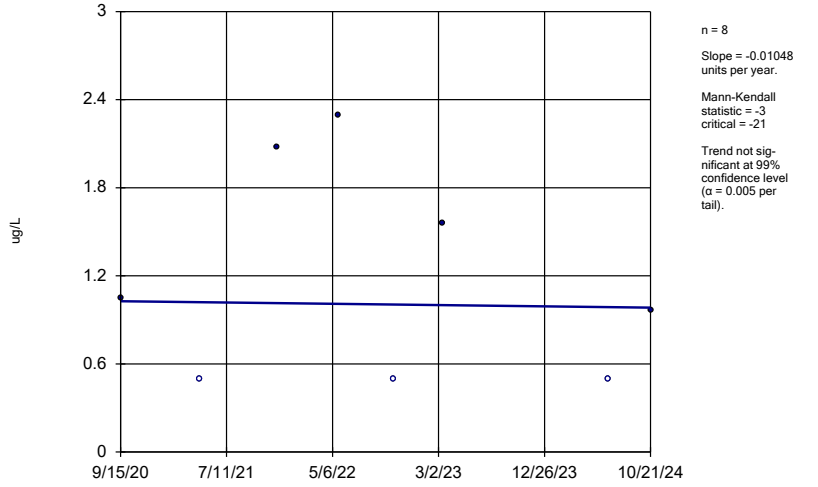


Constituent: Cadmium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-23

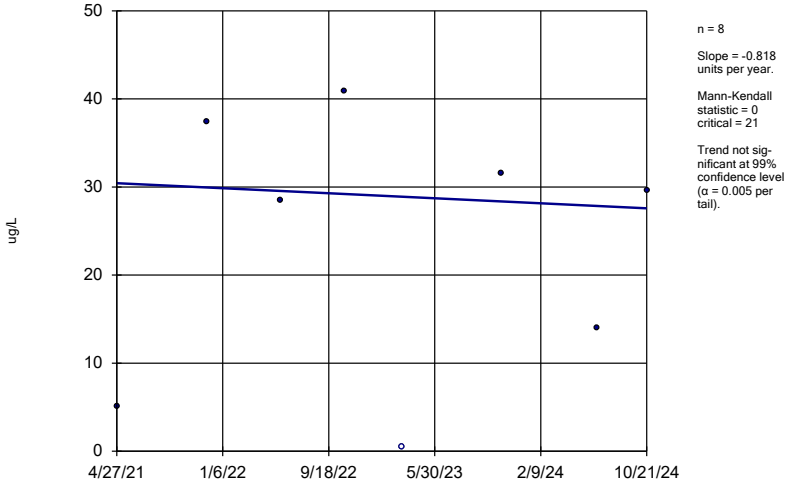


Constituent: Carbon Disulfide Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9

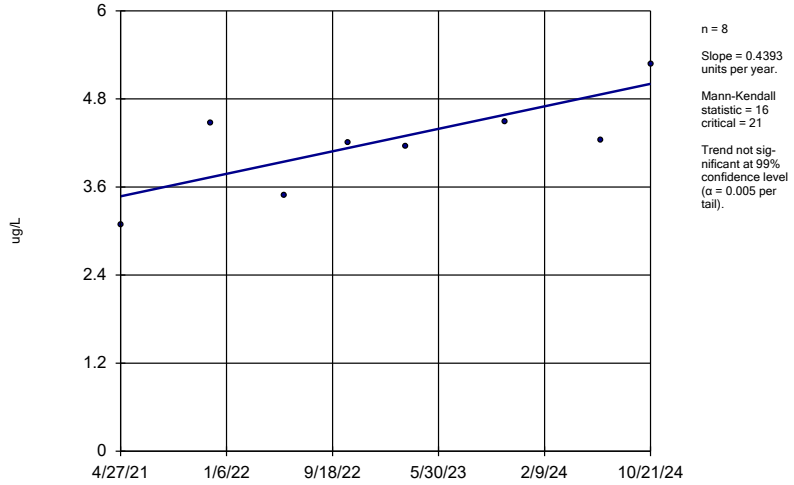


Constituent: Chlorobenzene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-12R

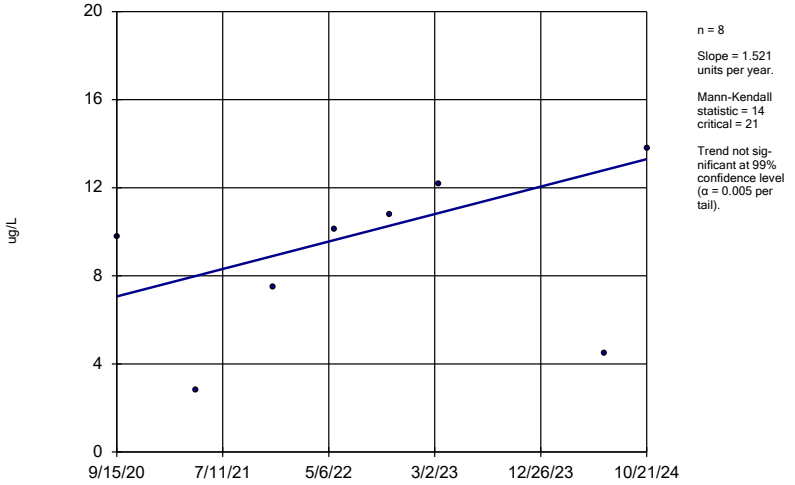


Constituent: Chlorobenzene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-23



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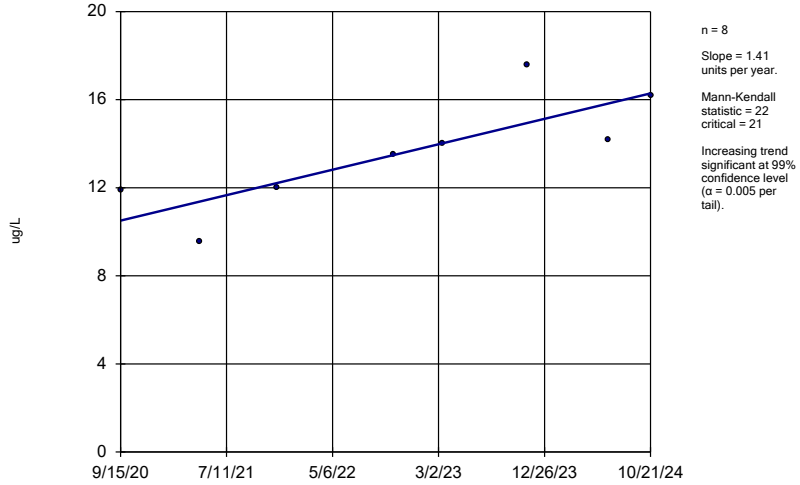
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-38

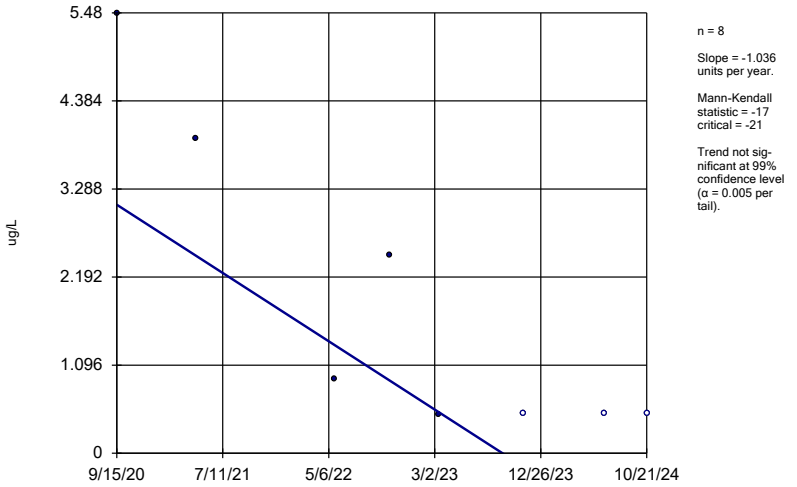


Constituent: Chlorobenzene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-39

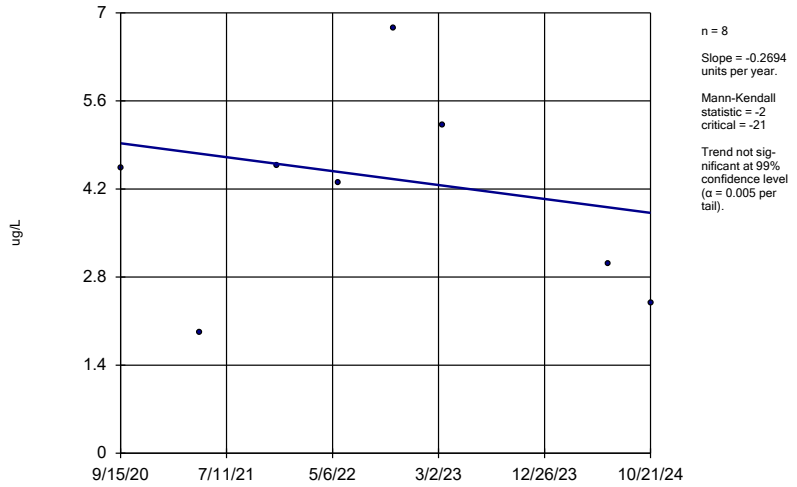


Constituent: Chlorobenzene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-23

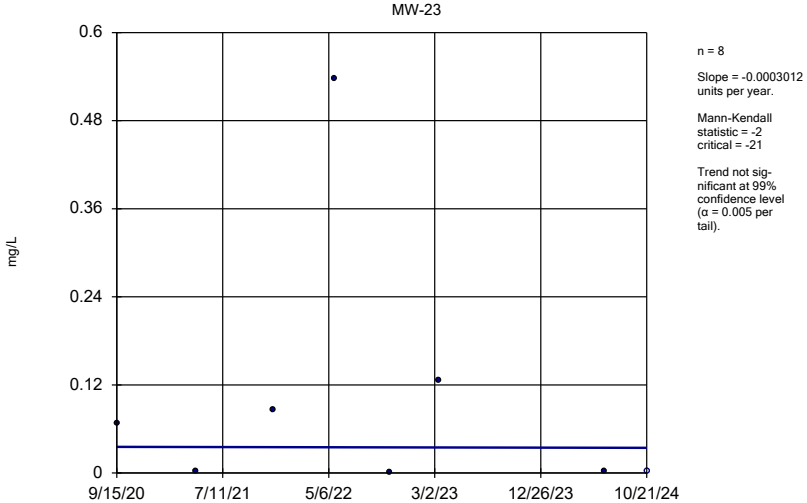


Constituent: Chloroethane Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-23

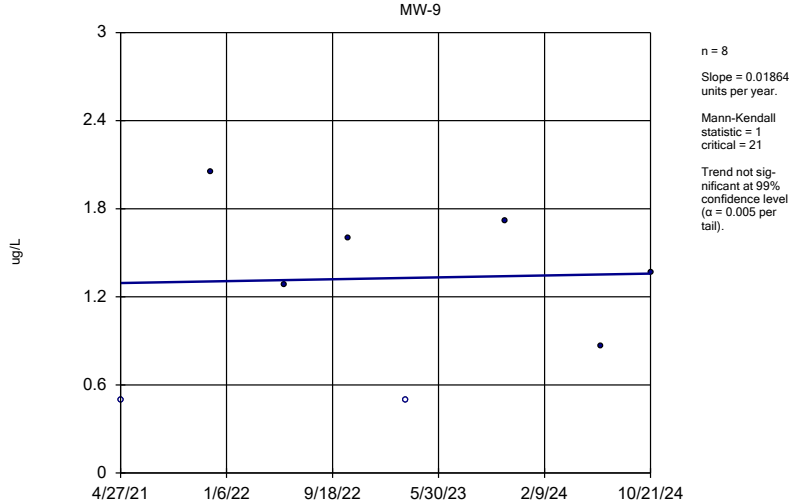


Constituent: Chromium Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9

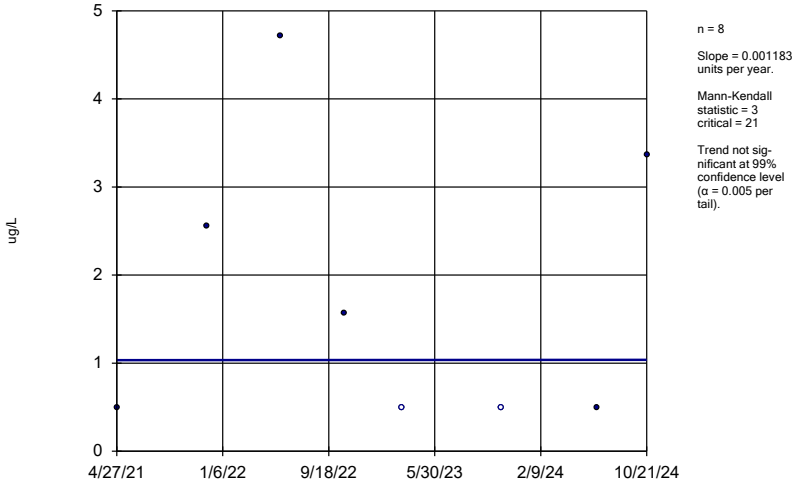


Constituent: cis-1,2-Dichloroethene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11

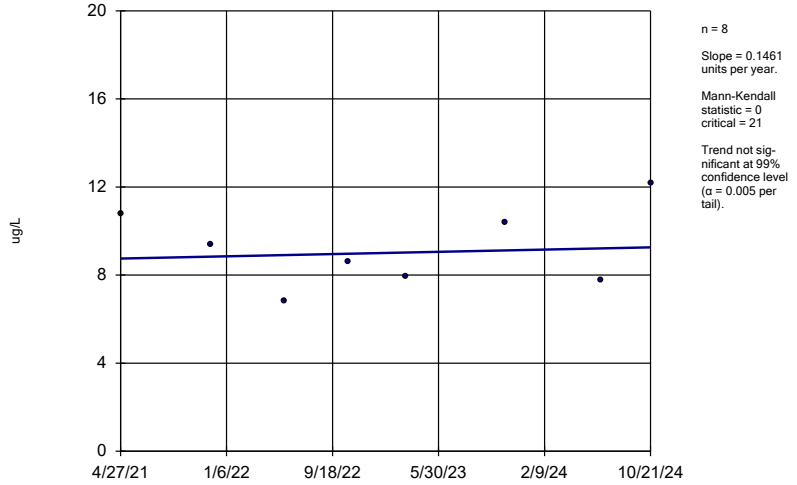


Constituent: cis-1,2-Dichloroethene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-13

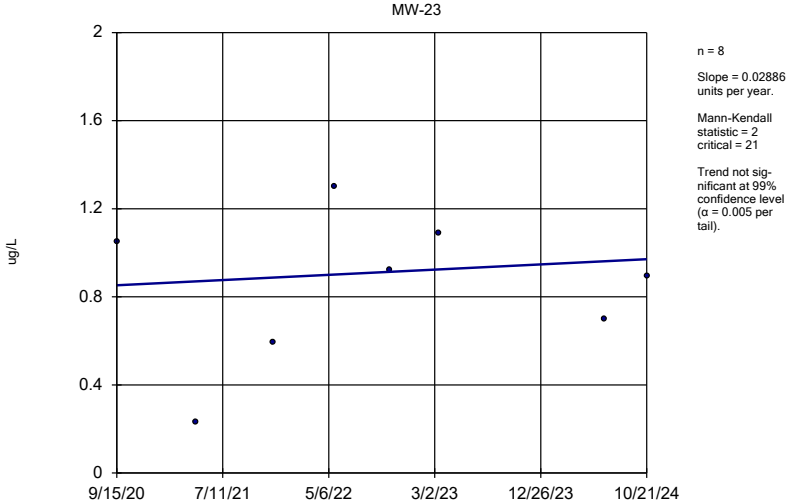


Constituent: cis-1,2-Dichloroethene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-23

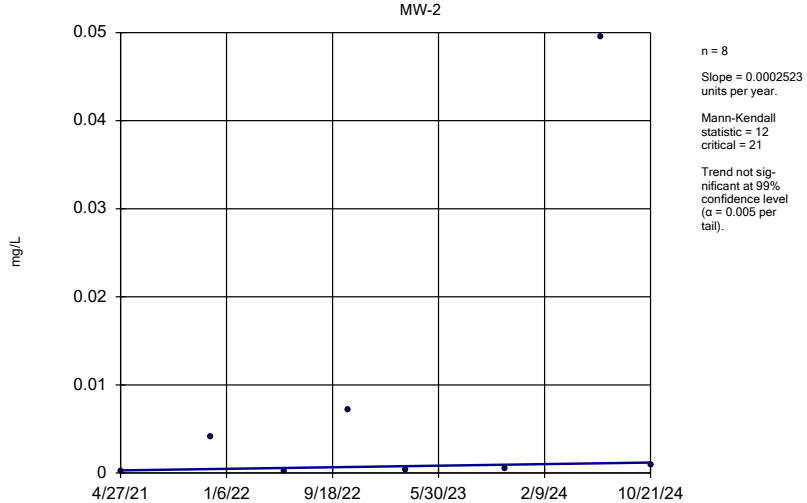


Constituent: cis-1,2-Dichloroethene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-2

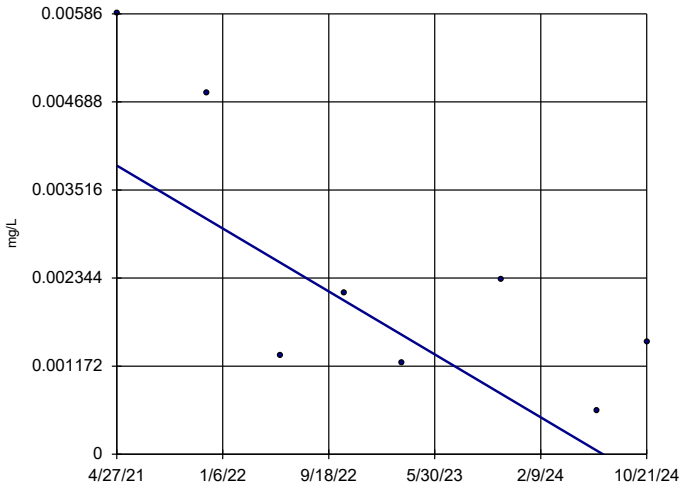


Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-4



n = 8

Slope = -0.0012 units per year.

Mann-Kendall statistic = -14
critical = -21

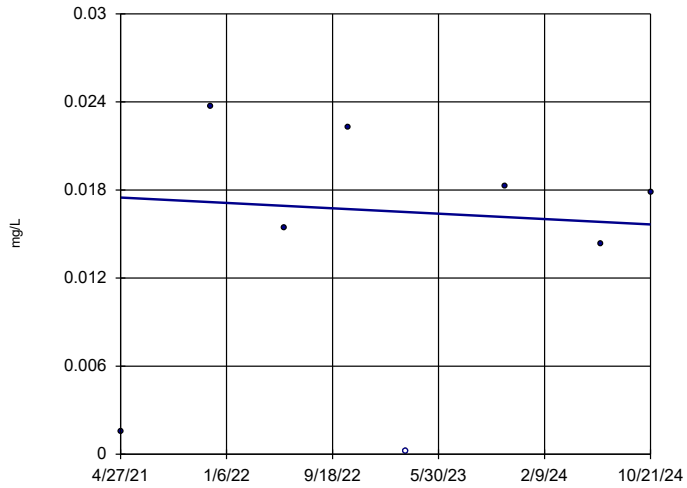
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9



n = 8

Slope = -0.0005249 units per year.

Mann-Kendall statistic = -2
critical = -21

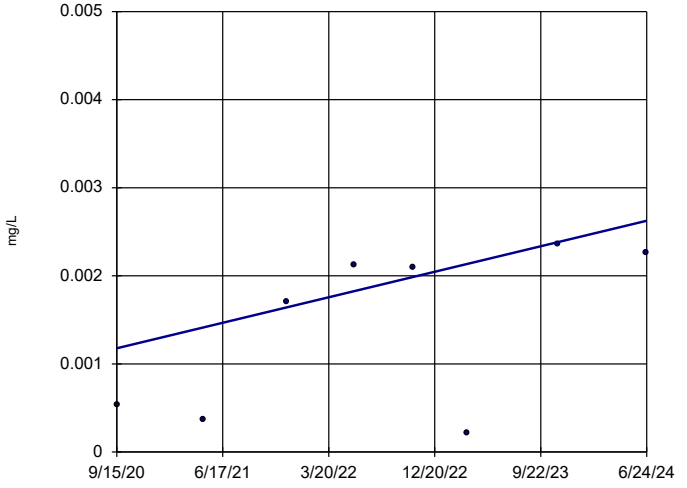
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-10A



n = 8

Slope = 0.0003835 units per year.

Mann-Kendall statistic = 12
critical = 21

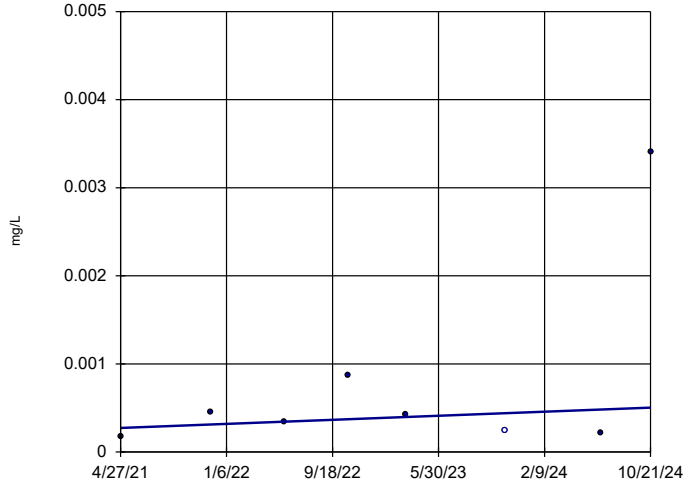
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11



n = 8

Slope = 0.00006634 units per year.

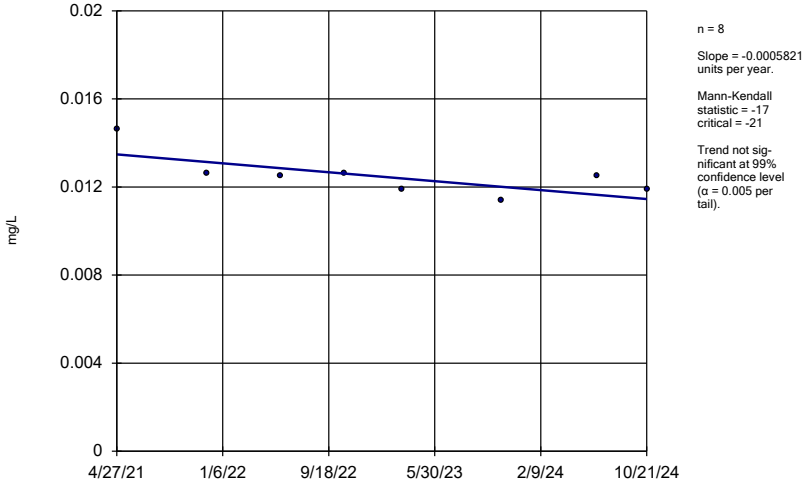
Mann-Kendall statistic = 4
critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sen's Slope Estimator

MW-12R

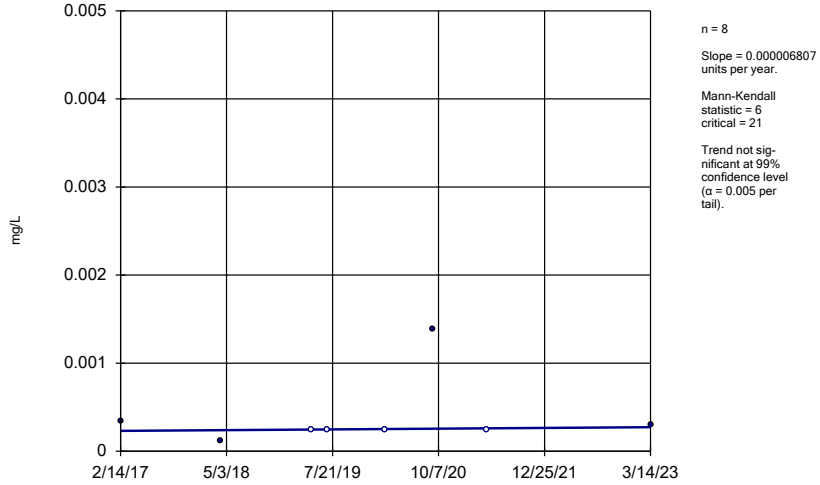


Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Hollow symbols indicate censored values.

Sen's Slope Estimator

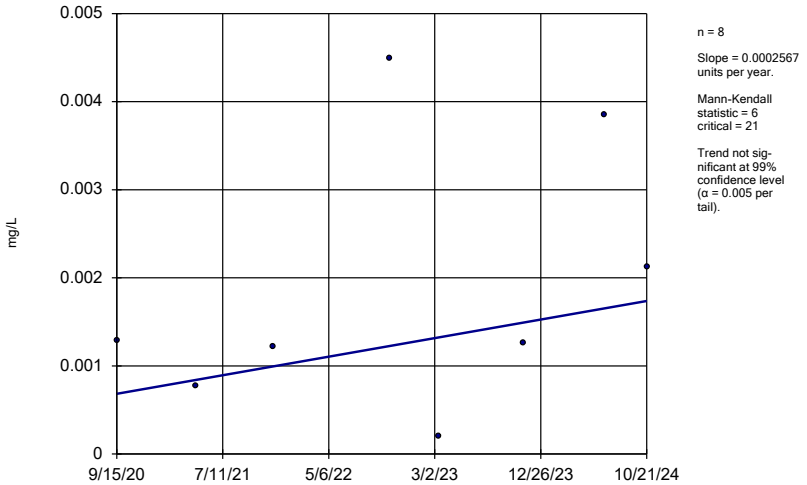
MW-20



Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sen's Slope Estimator

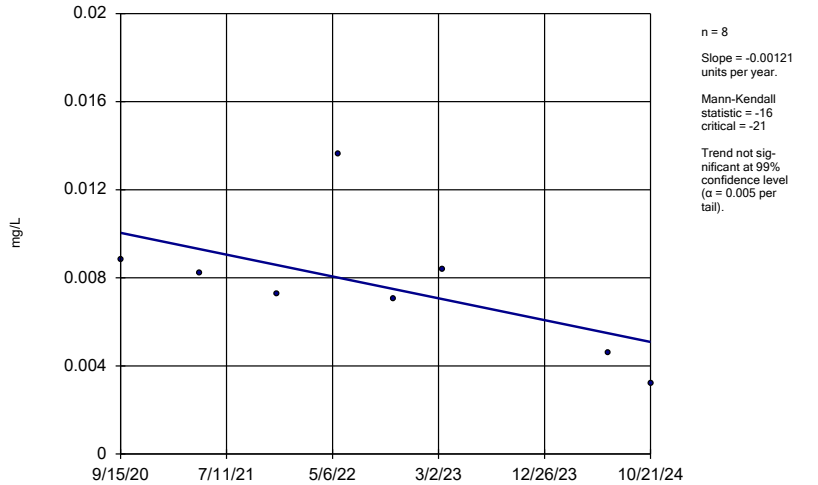
MW-22



Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sen's Slope Estimator

MW-23



Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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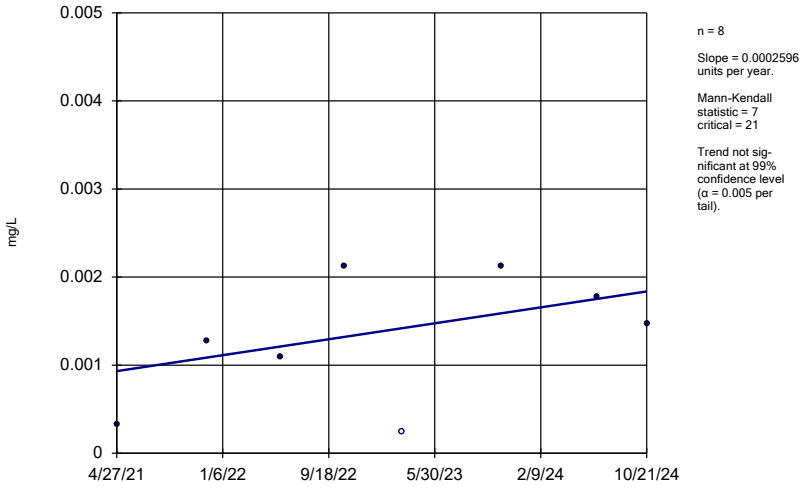
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26



n = 8

Slope = 0.0002596 units per year.

Mann-Kendall statistic = 7
critical = 21

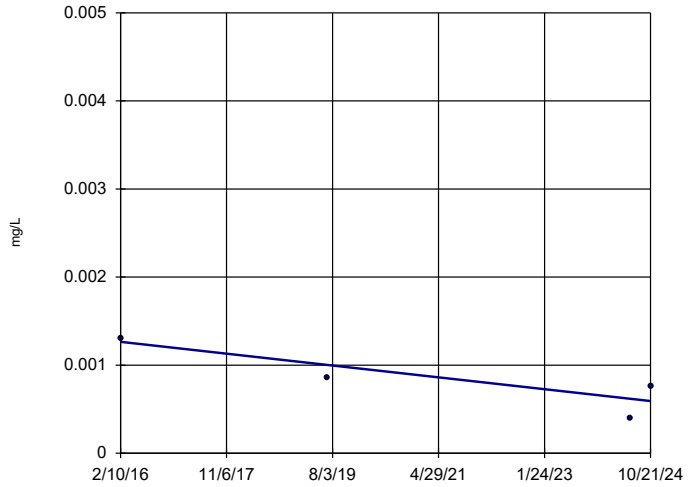
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-37



n = 4

Slope = -0.00007729 units per year.

Mann-Kendall statistic = -4
critical = -8

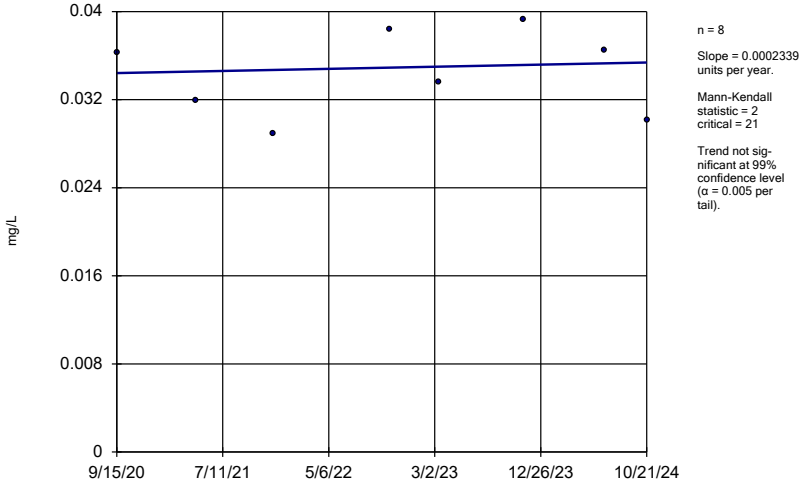
Trend not significant at 99% confidence level (α = 0.005 per tail).
With n = 4, no data set will result in a significant Mann-Kendall statistic.

Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-38



n = 8

Slope = 0.0002339 units per year.

Mann-Kendall statistic = 2
critical = 21

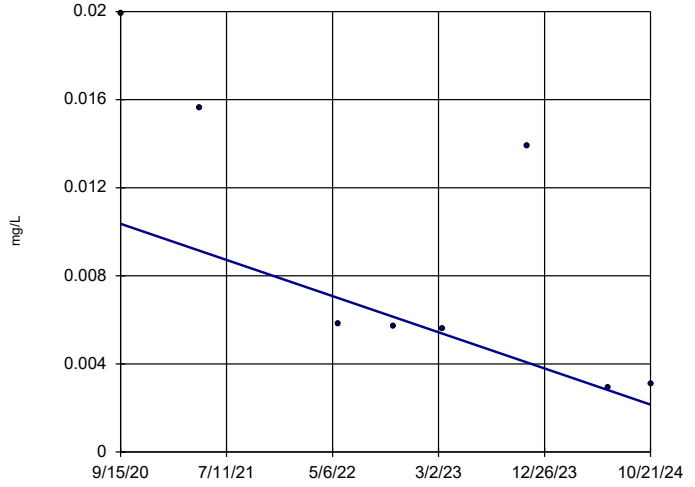
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-39



n = 8

Slope = -0.002003 units per year.

Mann-Kendall statistic = -20
critical = -21

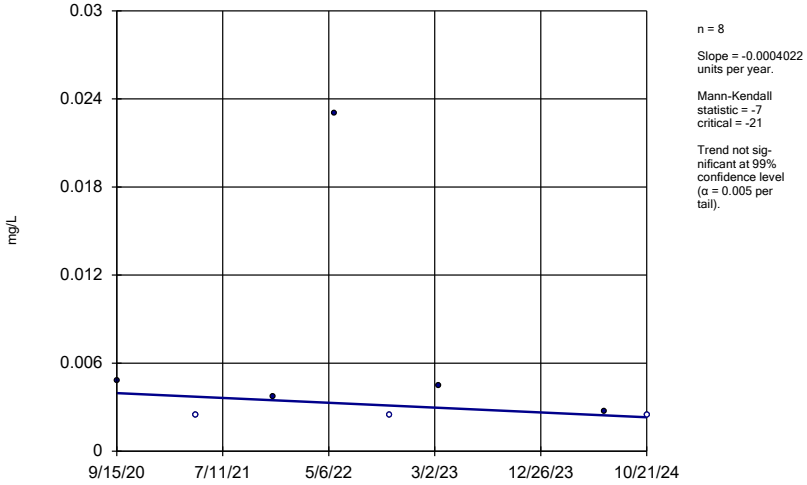
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-23



n = 8

Slope = -0.0004022 units per year.

Mann-Kendall statistic = -7
critical = -21

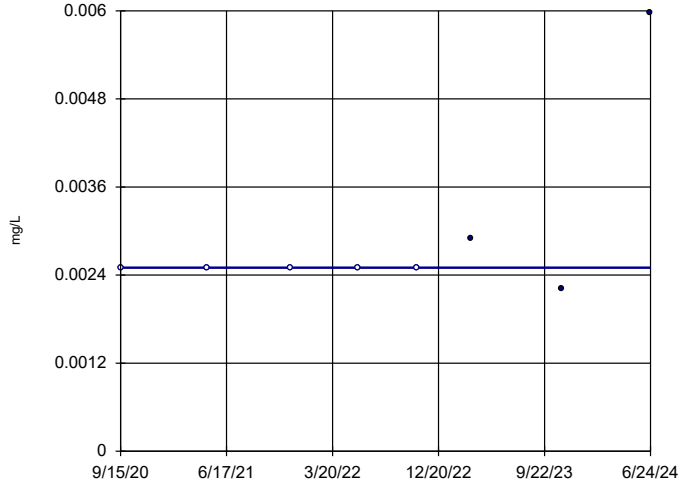
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Copper Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-24



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 6
critical = 21

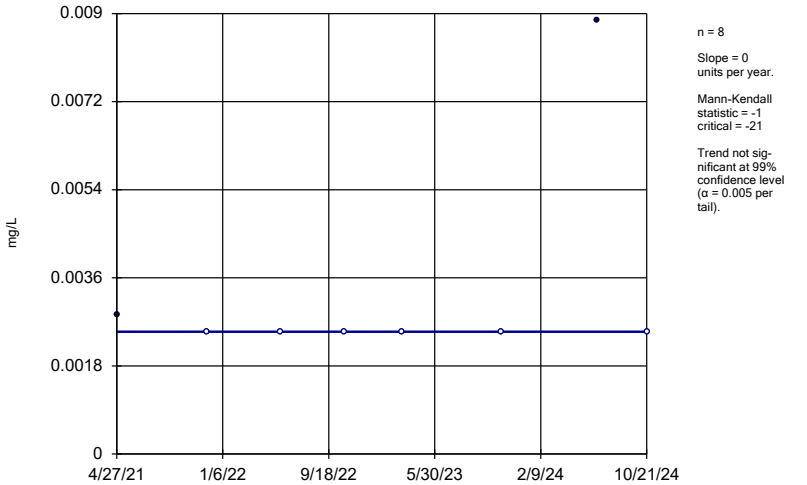
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Copper Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = -1
critical = -21

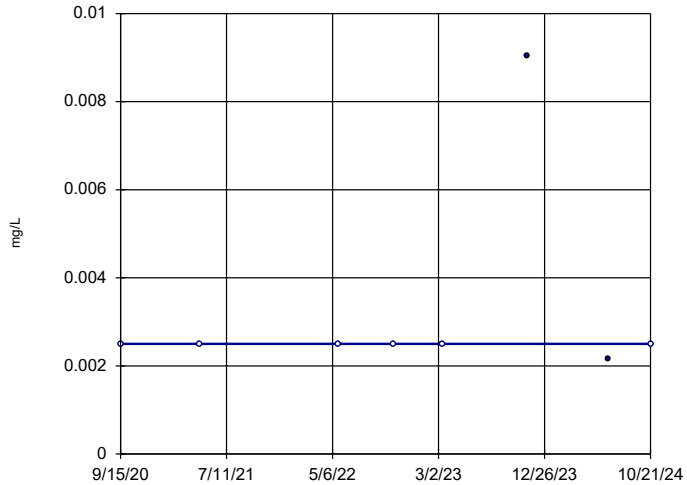
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Copper Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-39



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = -1
critical = -21

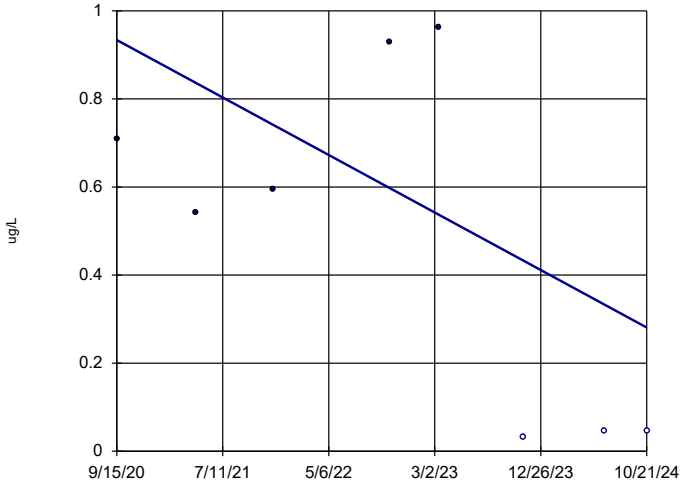
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Copper Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-38



n = 8

Slope = -0.1592 units per year.

Mann-Kendall statistic = -6
critical = -21

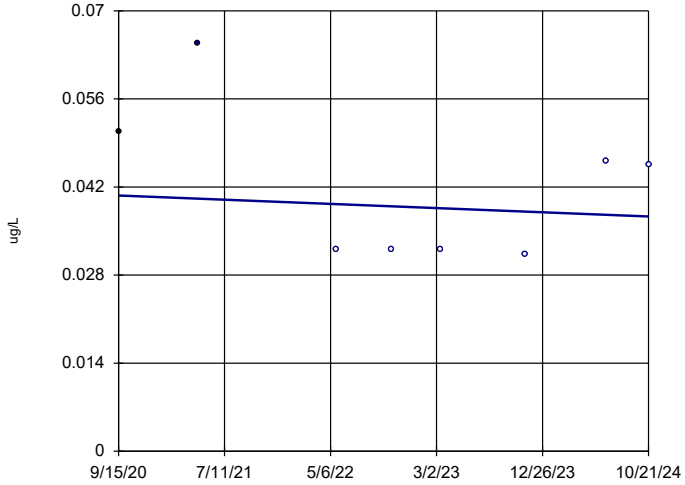
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Endosulfan I Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-39



n = 8

Slope = -0.0008131 units per year.

Mann-Kendall statistic = -7
critical = -21

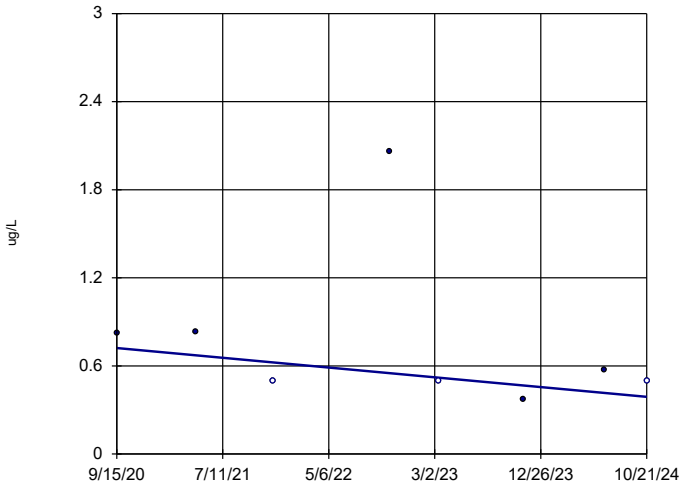
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Endosulfan I Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-38



n = 8

Slope = -0.08085 units per year.

Mann-Kendall statistic = -9
critical = -21

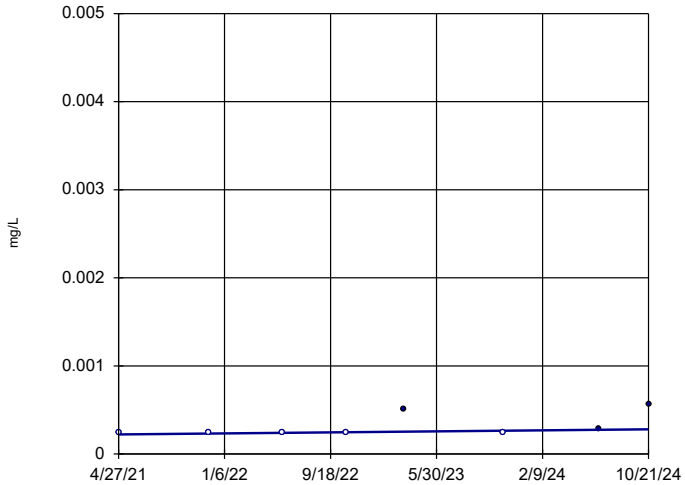
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Ethylbenzene Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-13



n = 8

Slope = 0.0000165 units per year.

Mann-Kendall statistic = 14
critical = 21

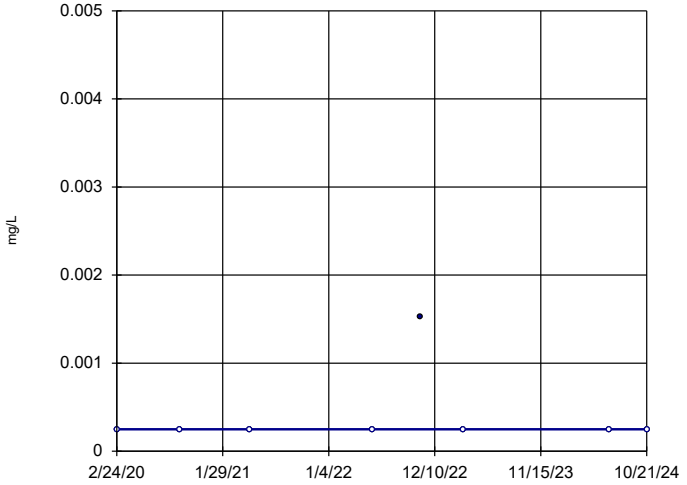
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lead Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-21



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 1
critical = 21

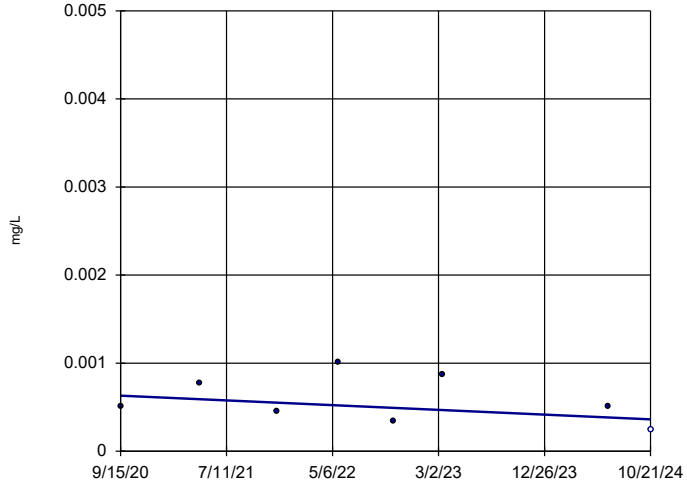
Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Constituent: Lead Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-23



n = 8

Slope = -0.00006545
units per year.

Mann-Kendall
statistic = -8
critical = -21

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Constituent: Lead Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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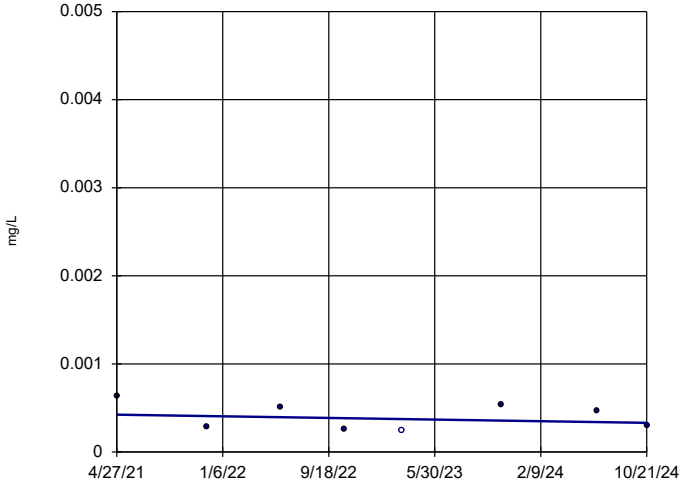
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26



n = 8

Slope = -0.00002628
units per year.

Mann-Kendall
statistic = -6
critical = -21

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Constituent: Lead Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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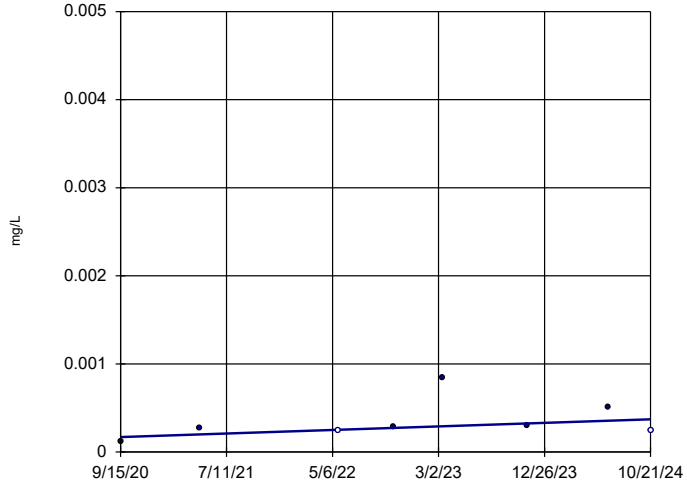
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-39



n = 8

Slope = 0.00004942
units per year.

Mann-Kendall
statistic = 11
critical = 21

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Constituent: Lead Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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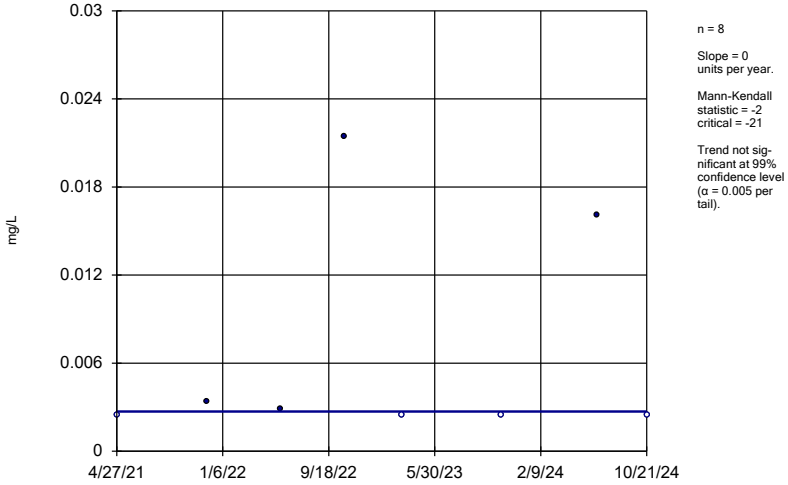
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-2



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = -2
critical = -21

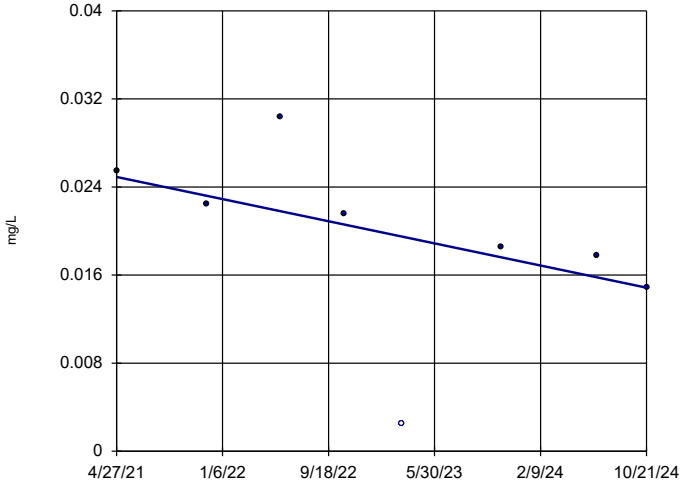
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-9



n = 8

Slope = -0.002883 units per year.

Mann-Kendall statistic = -18
critical = -21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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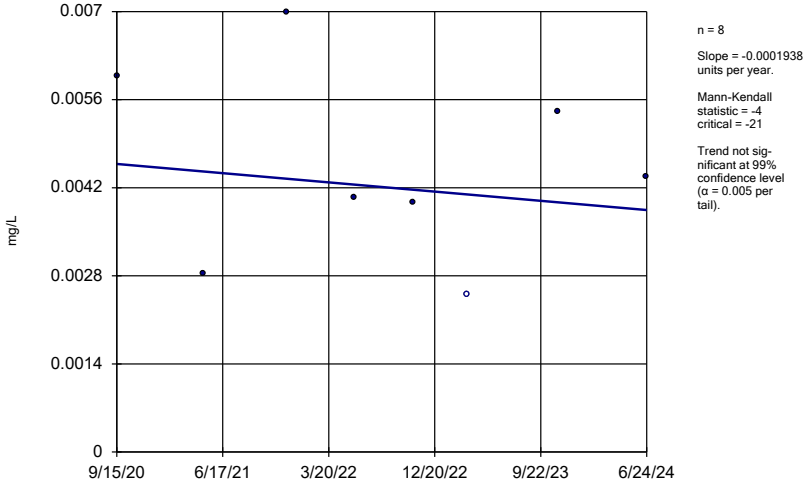
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-10A



n = 8

Slope = -0.0001938 units per year.

Mann-Kendall statistic = -4
critical = -21

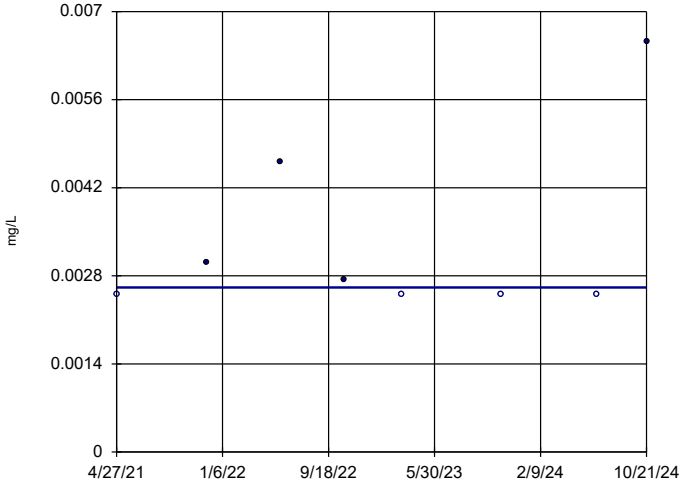
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-11



n = 8

Slope = 0 units per year.

Mann-Kendall statistic = 0
critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 1/22/2025 10:13 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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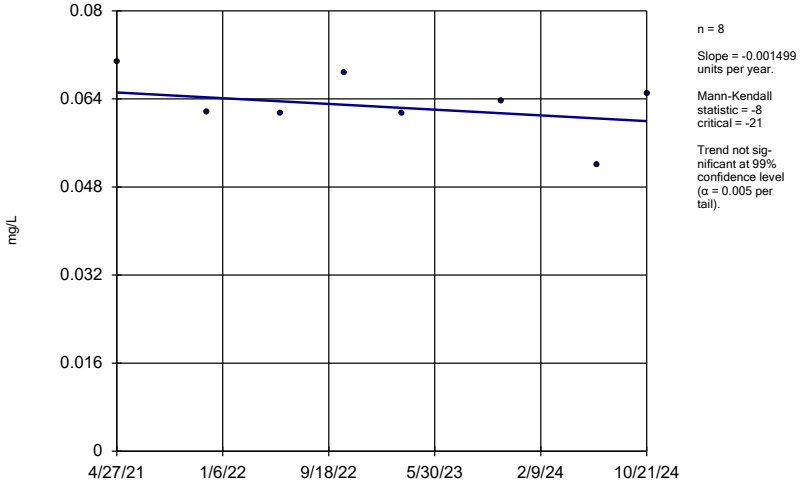
Sen's Slope Estimator

MW-12R

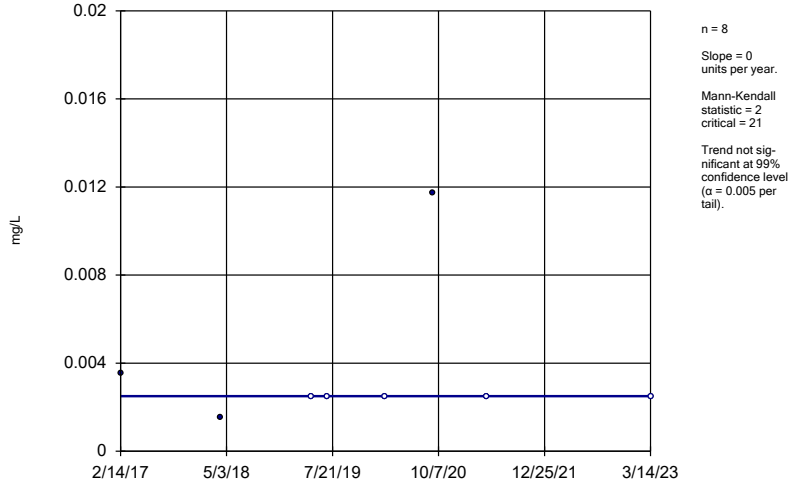


Constituent: Nickel Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-20

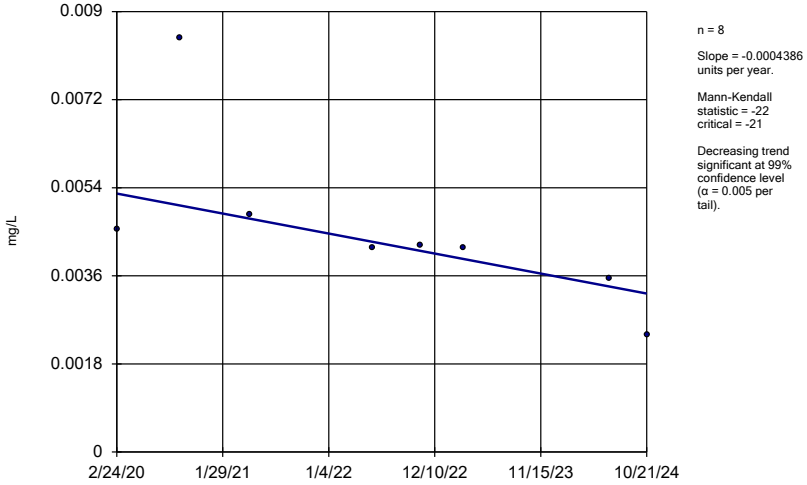


Constituent: Nickel Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-21

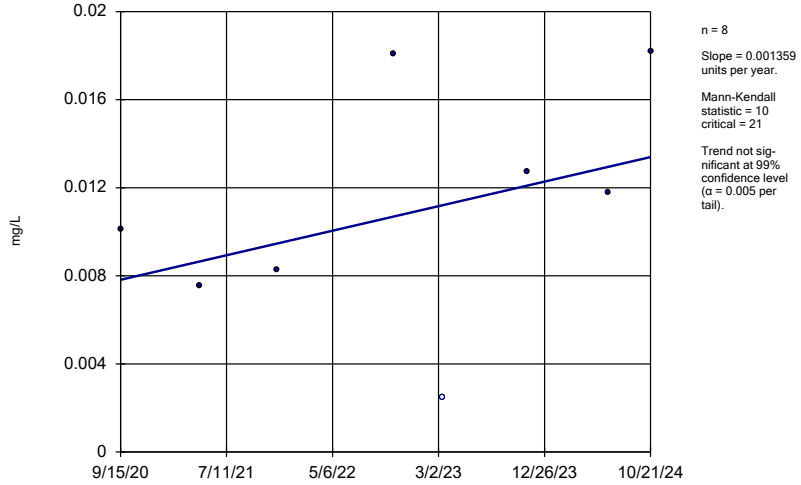


Constituent: Nickel Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-22

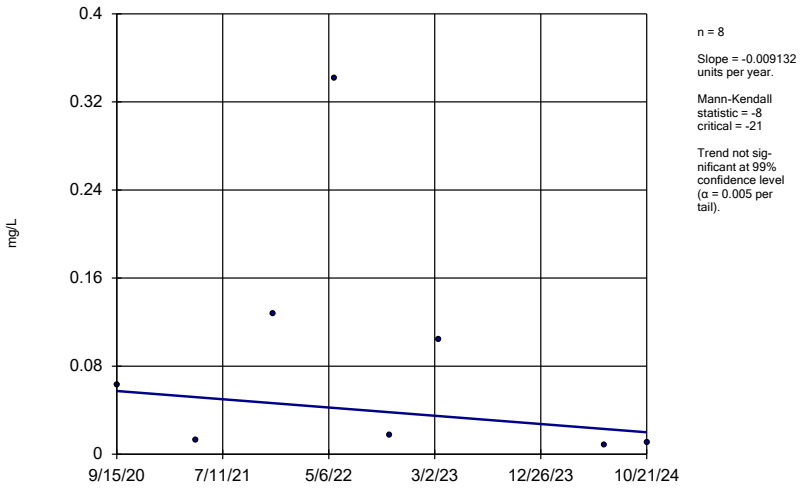


Constituent: Nickel Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-23



n = 8

Slope = -0.009132 units per year.

Mann-Kendall statistic = -8
critical = -21

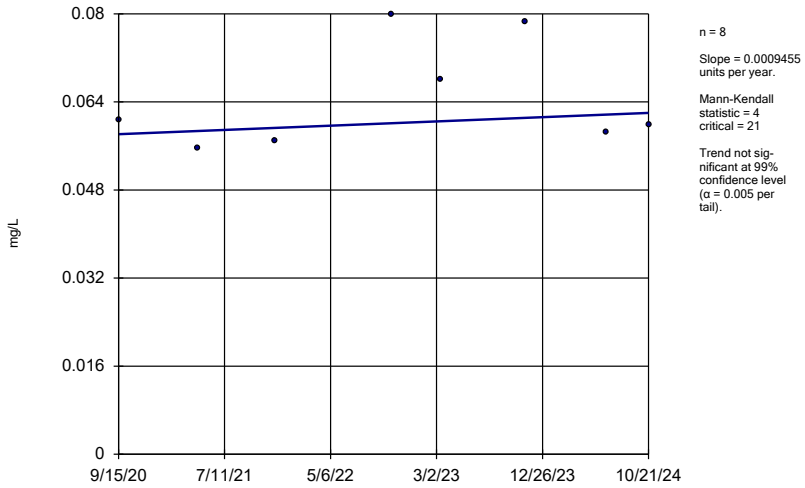
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

MW-38



n = 8

Slope = 0.0009455 units per year.

Mann-Kendall statistic = 4
critical = 21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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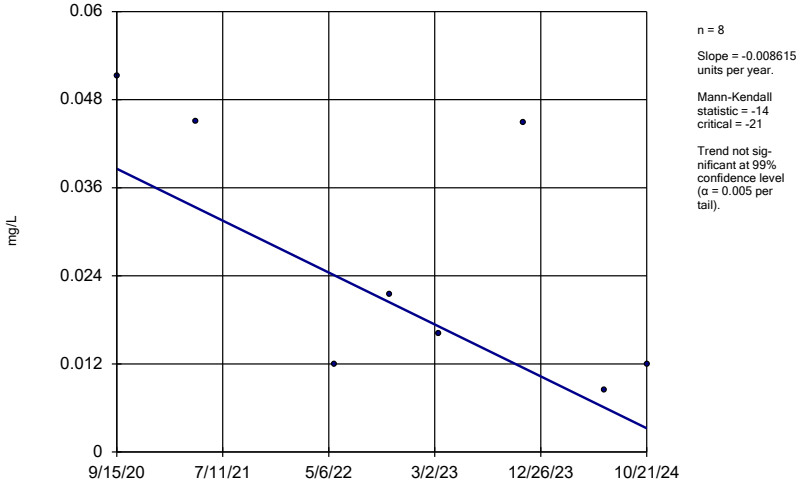
Sen's Slope Estimator

MW-39



n = 8

Slope = -0.008615 units per year.

Mann-Kendall statistic = -14
critical = -21

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Nickel Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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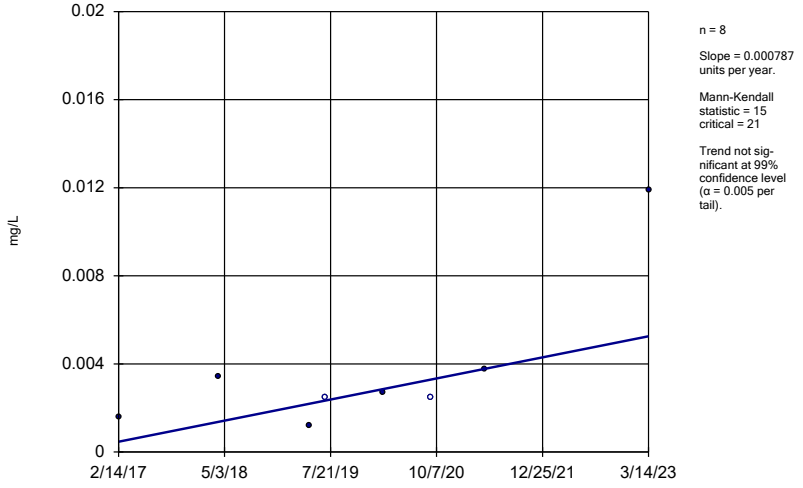
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-20



n = 8

Slope = 0.000787 units per year.

Mann-Kendall statistic = 15
critical = 21

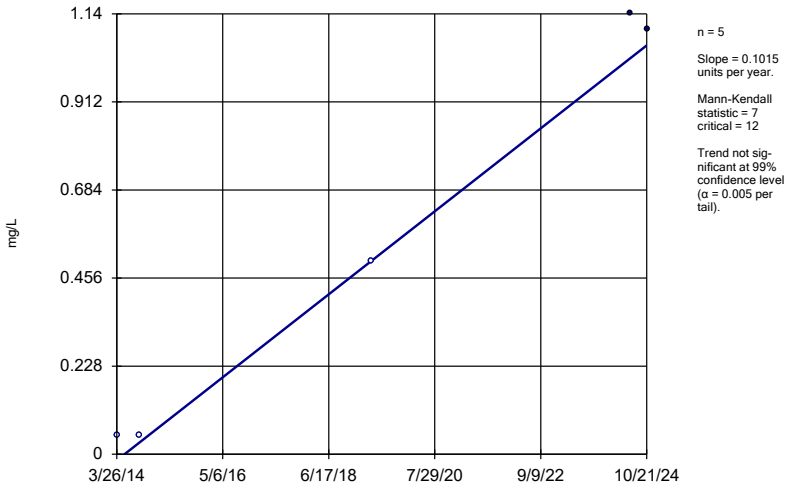
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Selenium Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-26

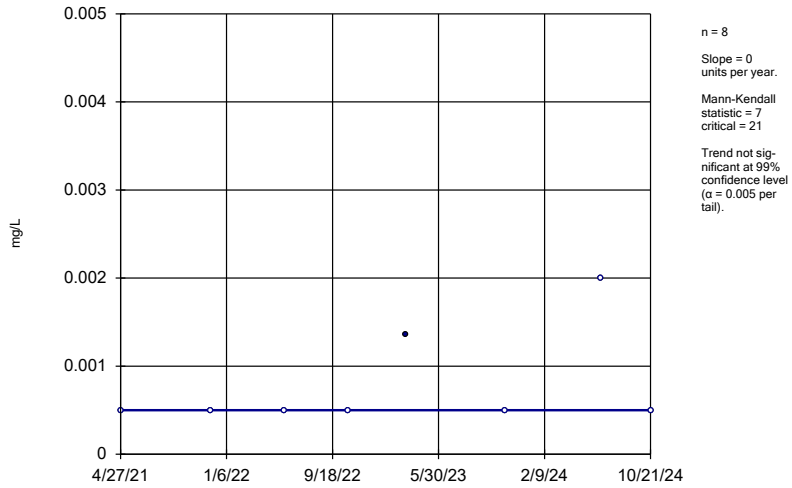


Constituent: Sulfide Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-13

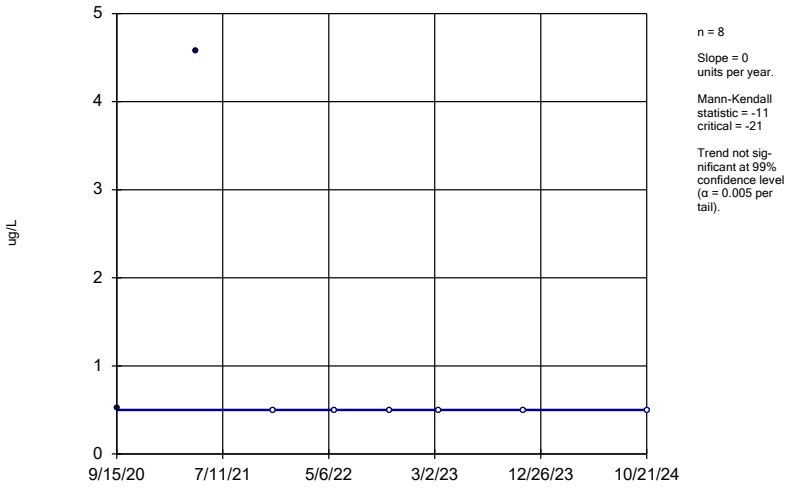


Constituent: Thallium Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-4



Constituent: Toluene Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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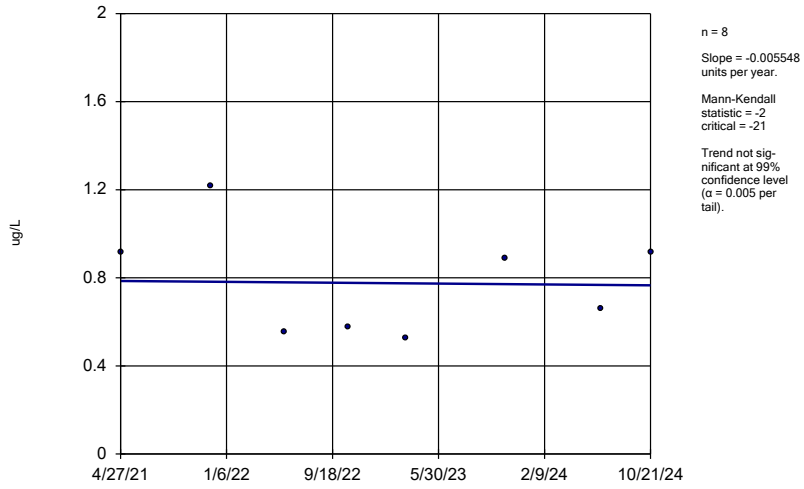
Sen's Slope Estimator

MW-13



Constituent: trans-1,2-Dichloroethene Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendal
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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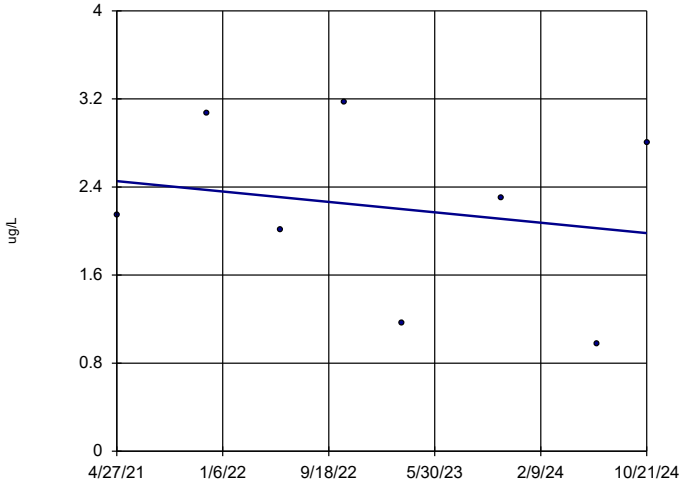
Sen's Slope Estimator

MW-13



Constituent: Vinyl Chloride Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall

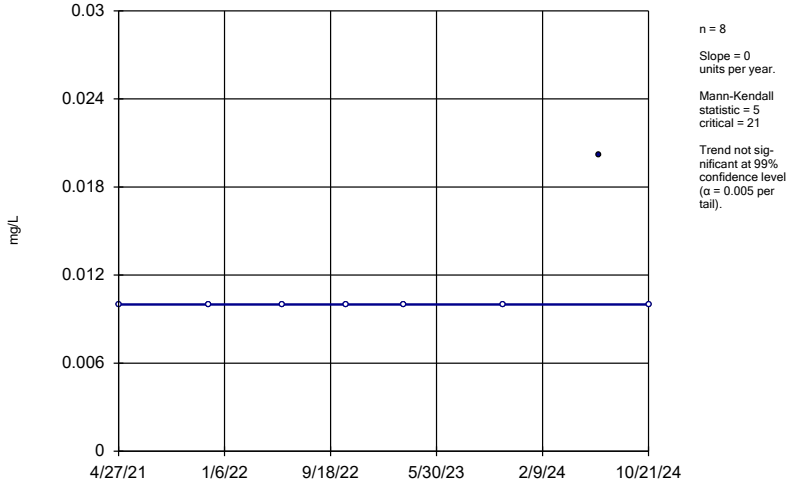
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-2



Constituent: Zinc Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall

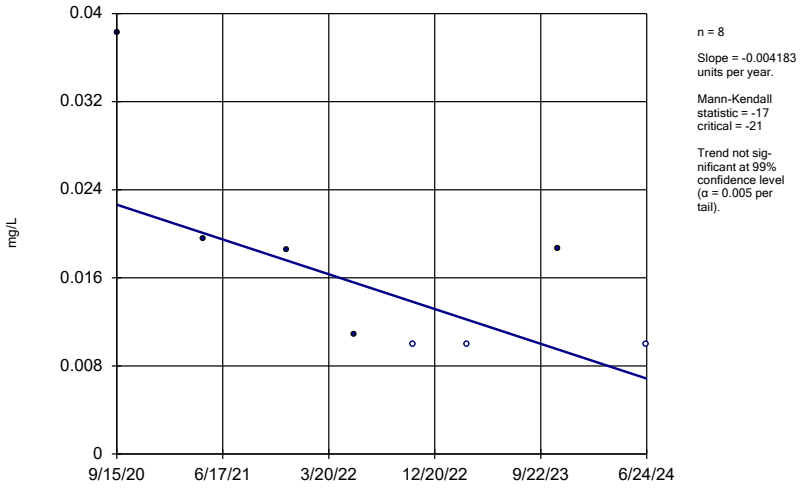
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-10A



Constituent: Zinc Analysis Run 1/22/2025 10:14 PM View: 2024AWQR-Mann_Kendall

Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Confidence Interval Summary Table and Graphs

Water Table Confidence Interval

Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM Printed 1/22/2025, 11:11 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	MW-9	0.01595	0	0.01	No	8	0	No	0.01	Param.
Arsenic (mg/L)	MW-10A	0.005122	0.00005425	0.01	No	8	12.5	No	0.01	Param.
Arsenic (mg/L)	MW-21	0.00596	0.00075	0.01	No	8	75	No	0.004	NP (normality)
Arsenic (mg/L)	MW-22	0.002575	0.0008054	0.01	No	8	25	No	0.01	Param.
Arsenic (mg/L)	MW-26	0.00314	0.001	0.01	No	8	12.5	No	0.004	NP (normality)
Barium (mg/L)	MW-2	0.3979	0.2476	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-9	1.251	0.2785	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-10A	0.4302	0.2185	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-20	0.05772	0.03891	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-21	0.567	0.0713	2	No	8	0	No	0.004	NP (normality)
Barium (mg/L)	MW-22	0.9344	0.3181	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-24	0.2677	0.2243	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-25	0.3264	0.1899	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-26	0.1323	0.08525	2	No	8	0	No	0.01	Param.
Barium (mg/L)	MW-36	0.4741	0.0304	2	No	4	0	No	0.01	Param.
Benzene (ug/L)	MW-9	1.191	0.3834	5	No	8	12.5	No	0.01	Param.
Benzene (ug/L)	MW-22	0.7455	0.3553	5	No	8	12.5	No	0.01	Param.
Cadmium (mg/L)	MW-2	0.00009765	0.00006755	0.005	No	8	75	No	0.01	Param.
Cadmium (mg/L)	MW-9	0.0003936	0.00004788	0.005	No	8	25	No	0.01	Param.
Cadmium (mg/L)	MW-21	0.000373	0.000049	0.005	No	8	37.5	No	0.004	NP (normality)
Cadmium (mg/L)	MW-22	0.00139	0.00005	0.005	No	8	37.5	No	0.004	NP (normality)
Cadmium (mg/L)	MW-24	0.000235	0.00005	0.005	No	8	87.5	No	0.004	NP (NDs)
Cadmium (mg/L)	MW-26	0.00009259	0.00006461	0.005	No	8	75	No	0.01	Param.
Chlorobenzene (ug/L)	MW-9	39.38	7.53	100	No	8	12.5	No	0.01	Param.
cis-1,2-Dichloroethene (ug/L)	MW-9	1.77	0.8841	70	No	8	25	No	0.01	Param.
Cobalt (mg/L)	MW-2	0.0495	0.000163	0.00797	No	8	0	No	0.004	NP (normality)
Cobalt (mg/L)	MW-9	0.02353	0.004865	0.00797	No	8	12.5	No	0.01	Param.
Cobalt (mg/L)	MW-10A	0.002439	0.0004821	0.00797	No	8	0	No	0.01	Param.
Cobalt (mg/L)	MW-20	0.00138	0.000112	0.00797	No	8	50	No	0.004	NP (normality)
Cobalt (mg/L)	MW-22	0.003501	0.0003	0.00797	No	8	0	No	0.01	Param.
Cobalt (mg/L)	MW-26	0.002078	0.000532	0.00797	No	8	12.5	No	0.01	Param.
Cobalt (mg/L)	MW-37	0.001676	0	0.00797	No	4	0	No	0.01	Param.
Copper (mg/L)	MW-24	0.00597	0.00221	1.3	No	8	62.5	No	0.004	NP (normality)
Copper (mg/L)	MW-26	0.00886	0.0025	1.3	No	8	75	No	0.004	NP (normality)
Lead (mg/L)	MW-21	0.00153	0.00025	0.015	No	8	87.5	No	0.004	NP (NDs)
Lead (mg/L)	MW-26	0.0005612	0.0002451	0.015	No	8	12.5	No	0.01	Param.
Nickel (mg/L)	MW-2	0.0214	0.0025	0.1	No	8	50	No	0.004	NP (normality)
Nickel (mg/L)	MW-9	0.02799	0.01041	0.1	No	8	12.5	No	0.01	Param.
Nickel (mg/L)	MW-10A	0.006143	0.002882	0.1	No	8	12.5	No	0.01	Param.
Nickel (mg/L)	MW-20	0.0117	0.00153	0.1	No	8	62.5	No	0.004	NP (normality)
Nickel (mg/L)	MW-22	0.0168	0.005519	0.1	No	8	12.5	No	0.01	Param.
Selenium (mg/L)	MW-20	0.0119	0.0012	0.05	No	8	25	No	0.004	NP (normality)
Sulfide (mg/L)	MW-26	1.346	0	1	No	5	60	No	0.01	Param.
Zinc (mg/L)	MW-2	0.0202	0.01	2	No	8	87.5	No	0.004	NP (NDs)
Zinc (mg/L)	MW-10A	0.02783	0.01132	2	No	8	37.5	No	0.01	Param.

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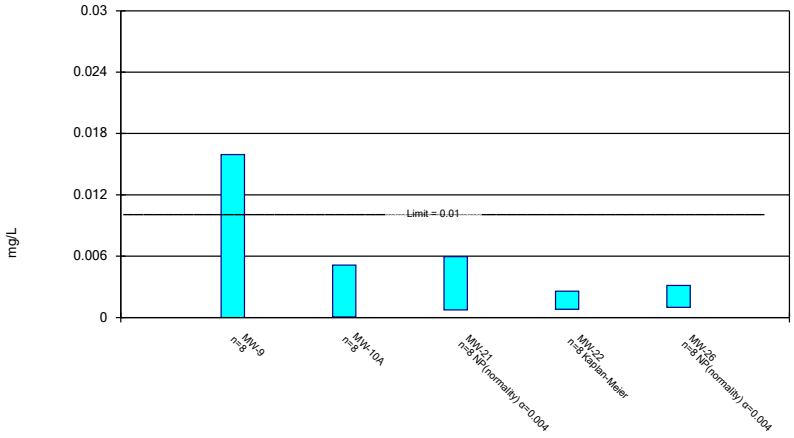
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



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Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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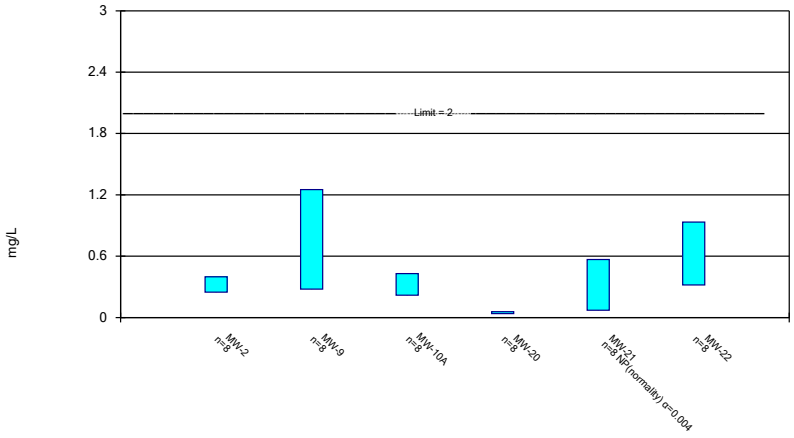
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



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Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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Parametric Confidence Interval

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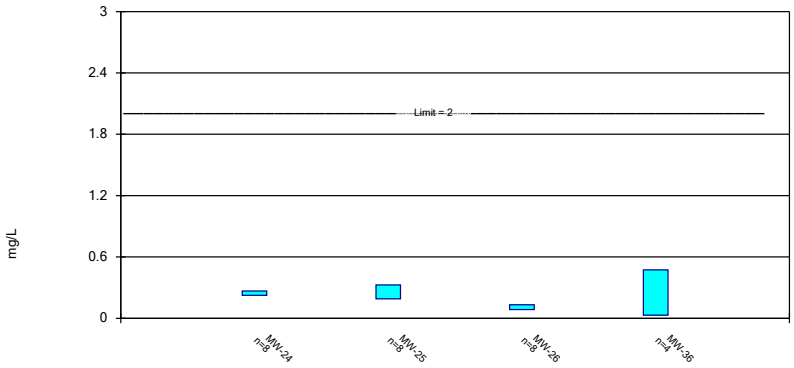

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Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

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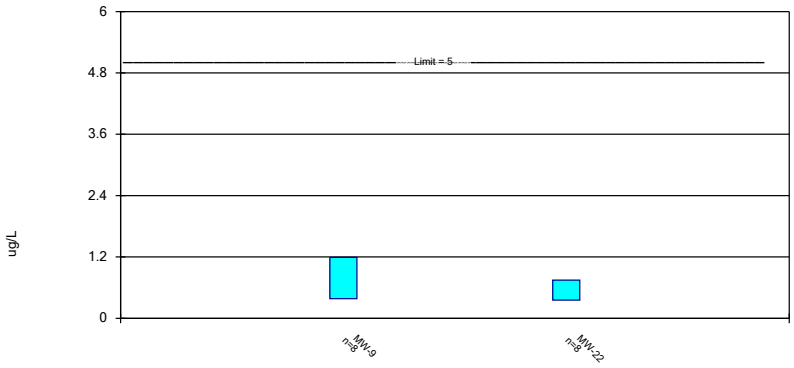

Constituent: Benzene Analysis Run 1/22/2025 11:09 PM View: 2024AWQR-Confidence_Interval-WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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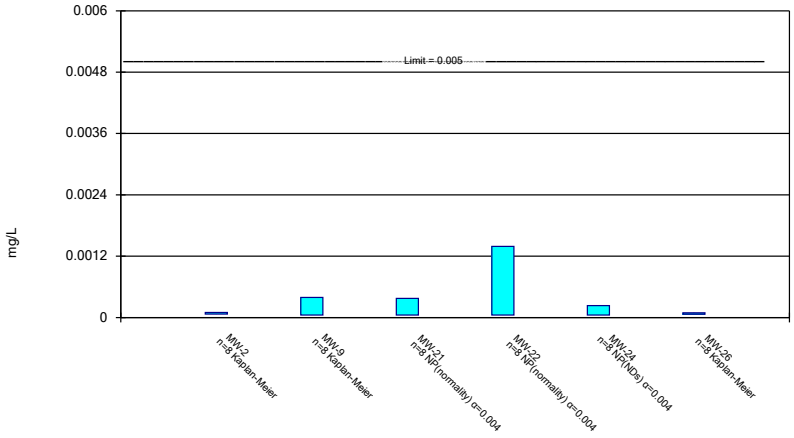
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

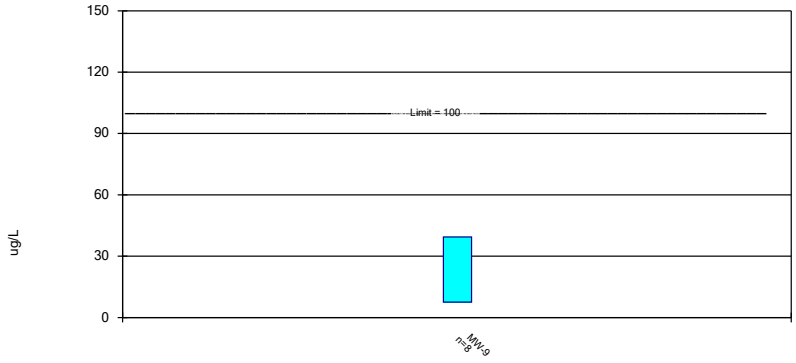


Constituent: Cadmium Analysis Run 1/22/2025 11:09 PM View: 2024AWQR-Confidence_Interval-WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Chlorobenzene Analysis Run 1/22/2025 11:09 PM View: 2024AWQR-Confidence_Interval-W
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

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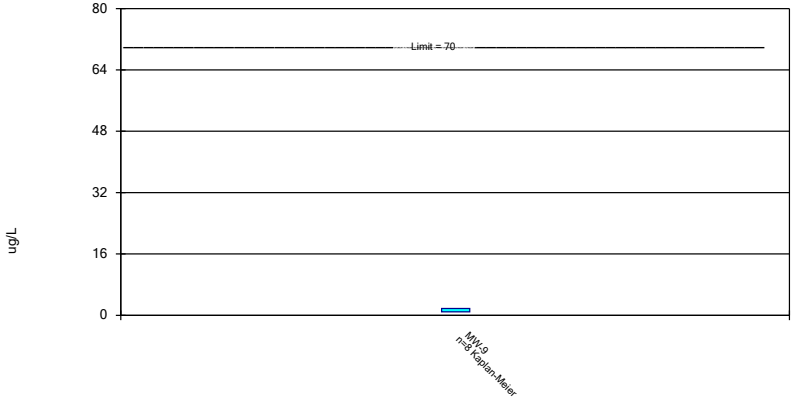
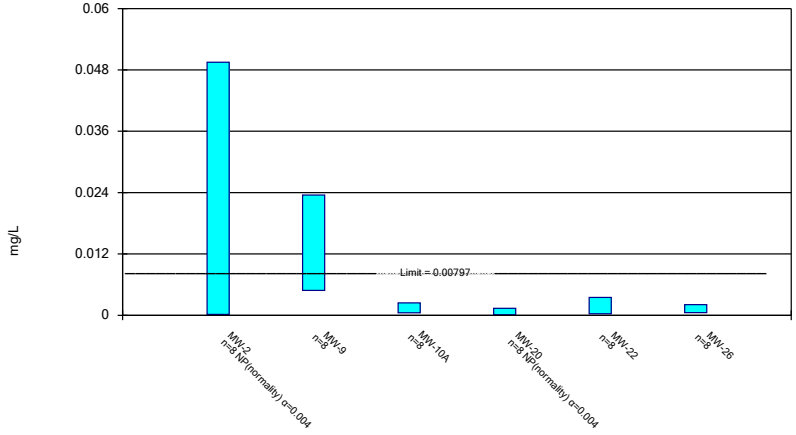


Constituent: cis-1,2-Dichloroethene Analysis Run 1/22/2025 11:09 PM View: 2024AWQR-Confidence_Inte
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



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Parametric Confidence Interval

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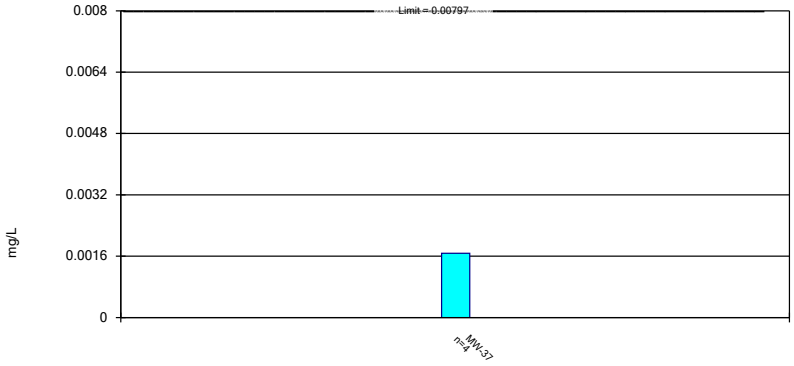

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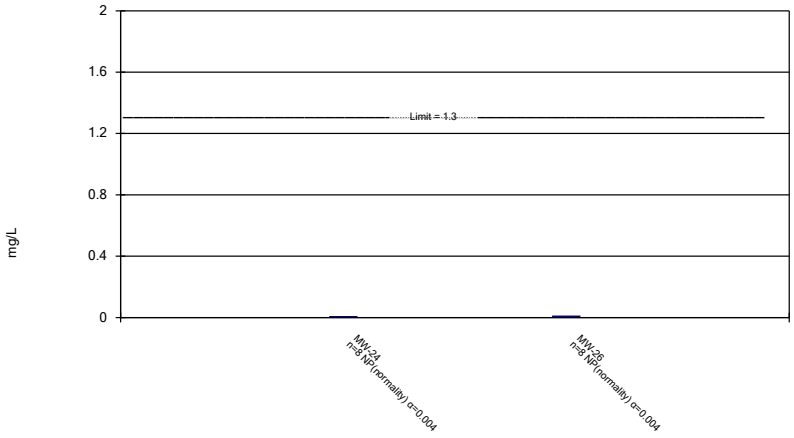
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Copper Analysis Run 1/22/2025 11:09 PM View: 2024AWQR-Confidence_Interval-WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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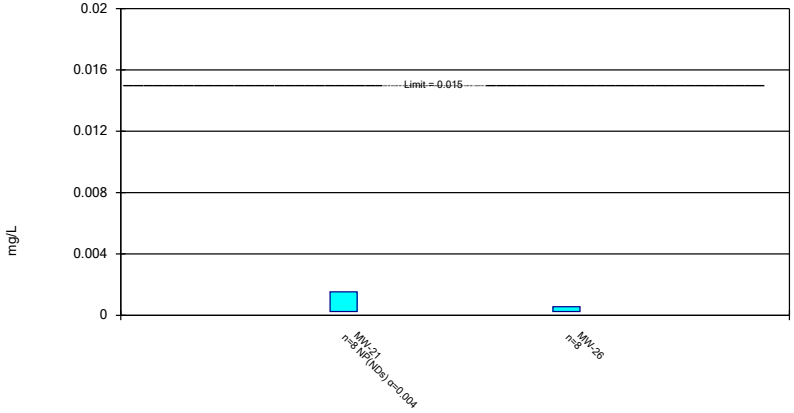
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



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Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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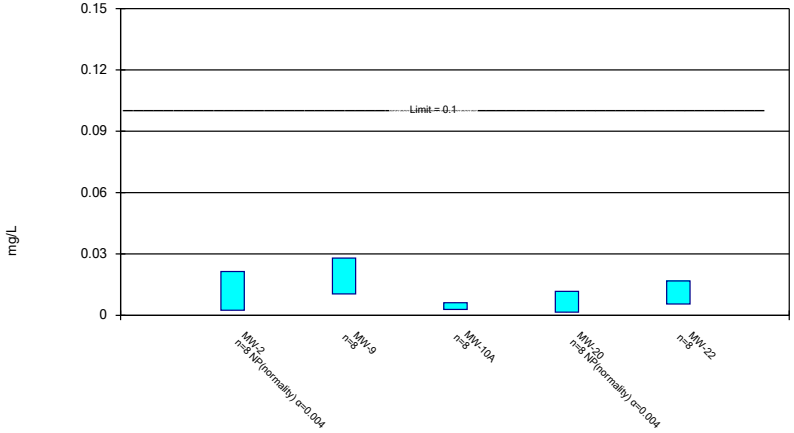
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

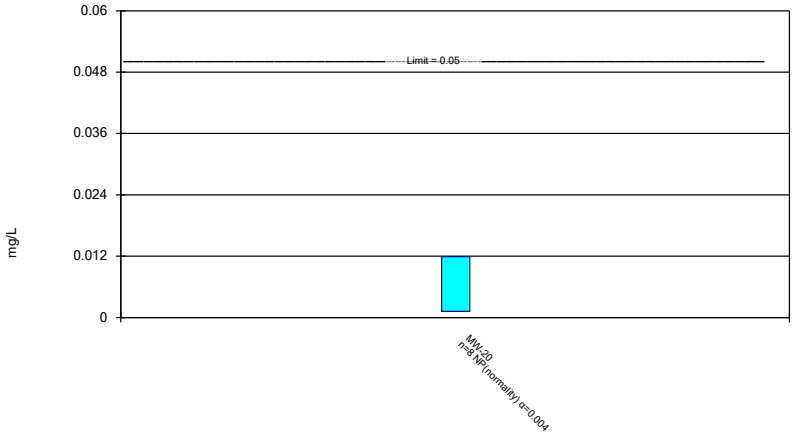


Constituent: Nickel Analysis Run 1/22/2025 11:09 PM View: 2024AWQR-Confidence_Interval-WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 1/22/2025 11:09 PM View: 2024AWQR-Confidence_Interval-WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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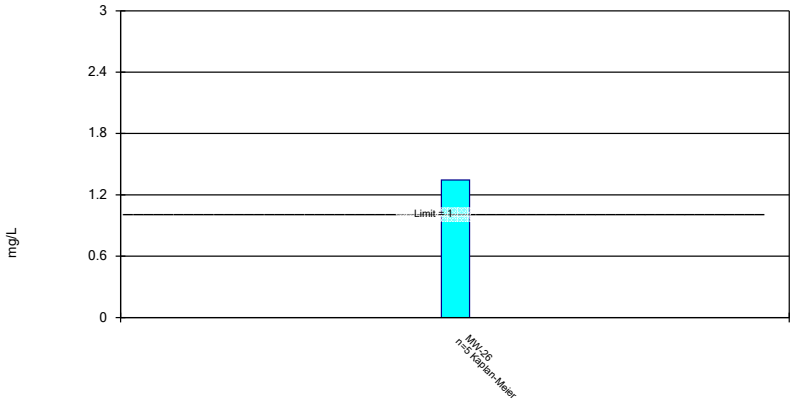
Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Sulfide Analysis Run 1/22/2025 11:09 PM View: 2024AWQR-Confidence_Interval-WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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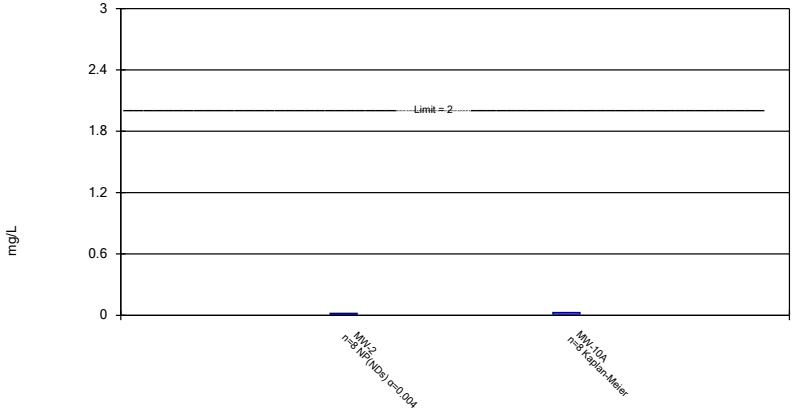
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Zinc Analysis Run 1/22/2025 11:09 PM View: 2024AWQR-Confidence_Interval-WT
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Bedrock Confidence Interval

Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM Printed 2/12/2025, 5:18 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	MW-11	0.001645	0.000814	0.01	No	8	62.5	No	0.004	NP (normality)
Barium (mg/L)	MW-11	0.1654	0.09034	2.716	No	8	0	No	0.01	Param.
Cadmium (mg/L)	MW-11	0.0001692	0.00008022	0.005	No	8	75	No	0.01	Param.
cis-1,2-Dichloroethene (ug/L)	MW-11	3.381	0.1683	70	No	8	25	No	0.01	Param.
Cobalt (mg/L)	MW-11	0.0034	0.000175	0.01036	No	8	12.5	No	0.004	NP (normality)
Nickel (mg/L)	MW-11	0.00653	0.0025	0.1	No	8	50	No	0.004	NP (normality)
Vinyl Chloride (ug/L)	MW-13	3.074	1.338	2	No	8	0	No	0.01	Param.

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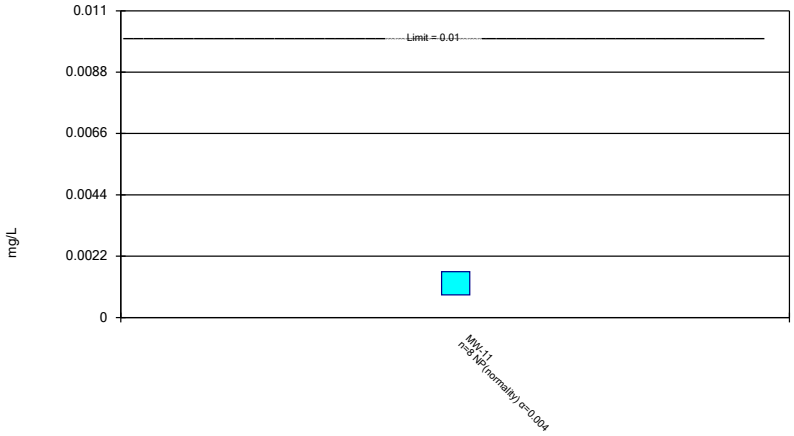
Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

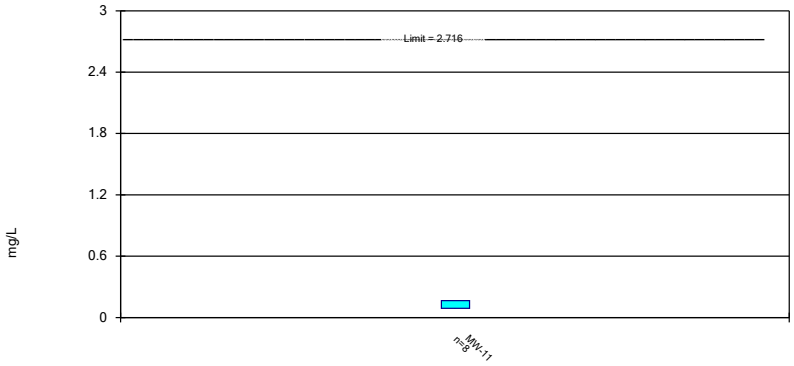


Constituent: Arsenic Analysis Run 2/12/2025 5:14 PM View: 2024AWQR-Confidence_Interval-BR
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

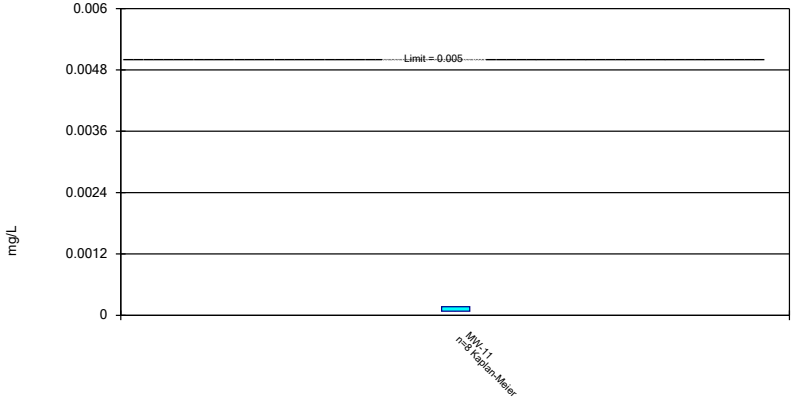


Constituent: Barium Analysis Run 2/12/2025 5:14 PM View: 2024AWQR-Confidence_Interval-BR
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

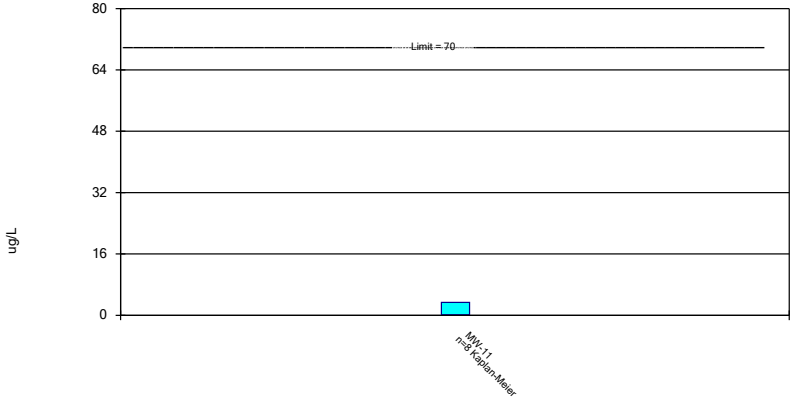


Constituent: Cadmium Analysis Run 2/12/2025 5:14 PM View: 2024AWQR-Confidence_Interval-BR
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: cis-1,2-Dichloroethene Analysis Run 2/12/2025 5:14 PM View: 2024AWQR-Confidence_Inter
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

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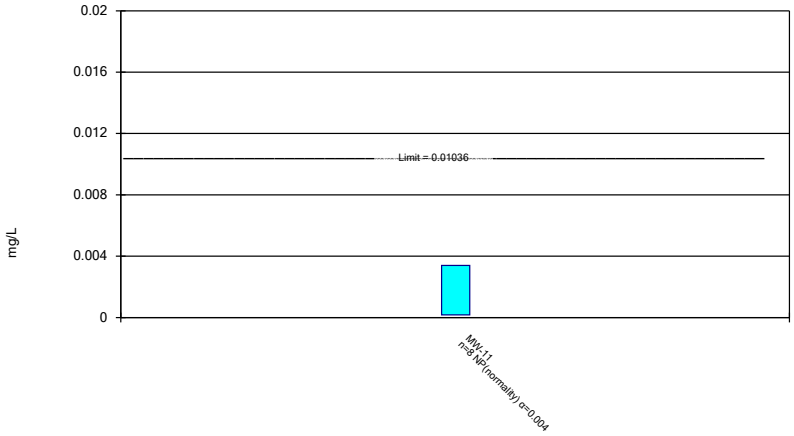
Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

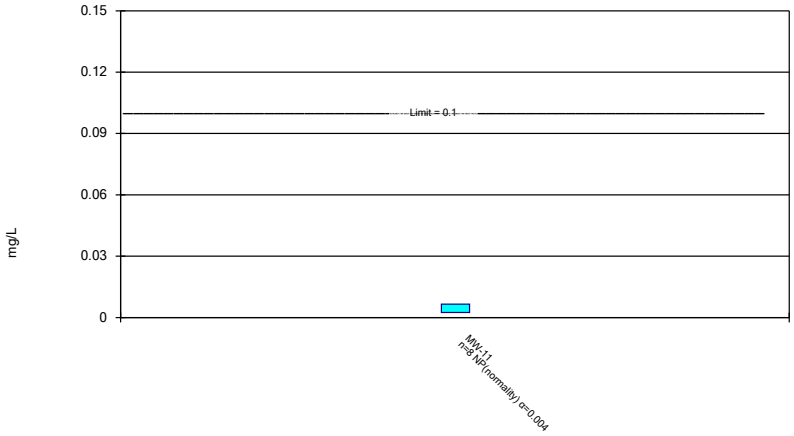


Constituent: Cobalt Analysis Run 2/12/2025 5:14 PM View: 2024AWQR-Confidence_Interval-BR
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

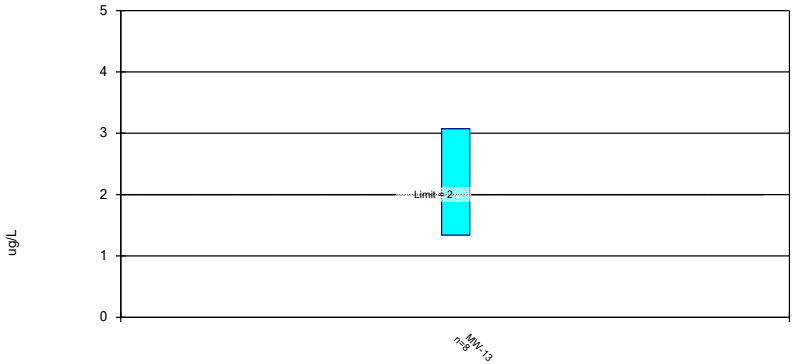


Constituent: Nickel Analysis Run 2/12/2025 5:14 PM View: 2024AWQR-Confidence_Interval-BR
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Vinyl Chloride Analysis Run 2/12/2025 5:14 PM View: 2024AWQR-Confidence_Interval-BR
Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Theil-Sen Confidence Band Summary Table and Graphs

Theil Sen/Trend Test

Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM Printed 1/22/2025, 11:32 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
Nickel (mg/L)	**MW-21**	**-0.0004386**	**-22**	**-21**	**Yes**	**8**	**0**	**0.01**	**NP**

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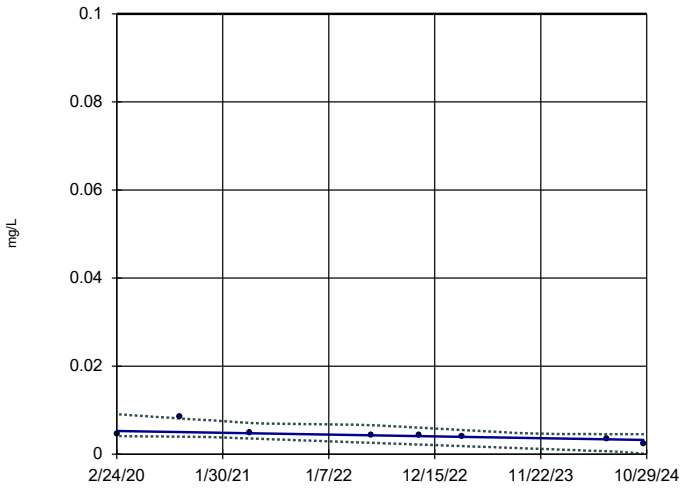
Sen's Slope and 99% Confidence Band

MW-21



n = 8

Slope = -0.0004386 units per year.

Mann-Kendall statistic = -22
critical = -21

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Confidence band is below GWPS mg/L (0.1).

Constituent: Nickel Analysis Run 1/22/2025 11:32 PM View: 2024AWQR-Theil_Sen

Muscatine County SLF Client: SCS Engineers Data: MCSWA-2024AWQR-AM

Appendix E

2024 Leachate Control System Performance Evaluation Report

2024 LEACHATE CONTROL SYSTEM PERFORMANCE EVALUATION REPORT

FOR

MUSCATINE COUNTY SANITARY LANDFILL

MUSCATINE, IOWA

SUBMITTAL DATE: FEBRUARY 2025

PREPARED FOR:
MUSCATINE COUNTY SOLID WASTE MANAGEMENT AGENCY

PREPARED BY:
SCS ENGINEERS

Table of Contents

Section 1.0 Description of Existing Leachate Control System 1-1

1.1 LOCATION OF CONTROL SYSTEM 1-1

1.2 CONTROL SYSTEM COMPLIANCE 1-2

1.2.1 Unlined Area 1-2

1.2.2 Subtitle D Lined Area 1-3

1.3 APPROVED CHANGES TO SYSTEM 1-3

1.4 PROPOSED CHANGES TO SYSTEM 1-3

Figures

FIGURE 1 LEACHATE CONTROL SYSTEM

Attachments

ATTACHMENT A LEACHATE MANAGEMENT SUMMARY

ATTACHMENT B HISTORICAL LEACHATE COLUMN THICKNESS AND GRAPHS

ATTACHMENT C LEACHATE QUALITY TESTING RESULTS

Section 1.0

Description of Existing Leachate Control System

SCS Engineers (SC), on behalf of the Muscatine County Solid Waste Management Agency, has prepared this Leachate Control System Performance Evaluation Report (LCSPER) for the Muscatine County Sanitary Landfill (Landfill) under Permit No. 70-SDP-02-75. This LCSPER was prepared in general accordance with the requirements of Iowa Administrative Code (IAC) 567-113.7(5)"b"(14) and additional Iowa Department of Natural Resources (DNR) requirements specified in the Landfill's operating permit. This LCSPER describes the leachate control system, discusses maintenance activities, provides an evaluation of the effectiveness of the system, and, if necessary, provides recommendations for additional control measures. The reporting period is from January – December 2024.

1.1 Report Priority

Leachate piezometer LPZ-T1, located near the northwest corner of the Phase 5 cell, has had a measured leachate thickness above the compliance level of one foot since January 2022. A conversation with the DNR on October 1, 2024 directed the facility to diagnose and correct the cause of the level exceedance during the construction of the Phase 6 cell, tentatively scheduled for 2026. Monthly measurements of the leachate level at LPZ-T1 will continue.

Leachate piezometer LPZ-301 was abandoned on December 13, 2024.

1.2 Location of Control System

The Landfill property is depicted in Figure 1, Leachate Control System. The Landfill is located in SE ¼, Section 33, and the SW ¼, Section 34, T78N, R1E, and part of Section 3, and the NE 1/4, Section 4, T77N, R1E, in Muscatine County, Iowa. The Landfill property encompasses approximately 188 acres and is situated south of Highway 61 near the intersections of Ward Avenue and County Road Y30. This description includes the newly acquired property on the east side of the Landfill.

The Landfill originally consisted of seven individual ravines radiating outward from a topographic high ridge. Six ravines have been filled and are designated as Ravines 2, 3, and 7 on the west and Ravines 5, 6, and 4 on the east. Initial development of the Landfill occurred in 1974 and 1975 with some waste placement in all six ravines prior to 1982. The lower portions of all six ravines were closed prior to October 1989 with a 2-foot thick soil cap. Various vertical expansions occurred between 1989 and August 2006. Along the topographic high ridge, a six-phase Subtitle D-compliant expansion was designed. Phases 1 through 5 have been constructed. Phases 3 through 5 are actively receiving waste from the City of Muscatine Transfer Station.

The 2014 LCSPER (Doc 82368), prepared by HLW Engineering Group, provided the following description for the leachate control system (LCS) at the Landfill:

> *…in the original ravine fill areas consists of a series of gravity collection pipes that underlie a majority of the wastes placed in the individual ravine fills at the site. Additionally, collection pipes were also extended up the sideslopes of Ravine 5 & 6 (east side) to mitigate formerly persistent leachate seeps in the landfill cap. A leachate collection pipe has also been installed in Ravine 6 in conjunction with the approved Ravine 5 & 6 Closure Plan. The gravity collection lines (perforated) are connected to a conveyance pipeline (solid wall) at the base of the ravine that then transports the leachate to a holding tank. Leachate holding tanks exist on both the east and west sides of the site.*

The leachate control system (LCS) in Phase 1, 2, 3, and 4 of the Expansion Area consists of RCRA Subtitle D-compliant leachate collection and conveyance piping in accordance with IAC 567 Chapter 113.

Ravines 4, 5, and 6 are located in the east portion of the site and drain to the east leachate holding tank. Ravines 2, 3, and 7 are located in the west portion of the site and drain to the west holding tank. The Phase 1 through Phase 4 Horizontal Expansion Area drains to the west leachate holding tank.

The monitoring system for the Landfill consists of fourteen leachate piezometers located within the unlined ravines (LW 2-1, LW 2-2, LW 3-1, LW 3-2, LW 4R-1, LW 4R-2, LW 4R-3, LW 5-1, LW 5-2, LW 5-3, LW 6-1, LW 6-2, LW 7-1, and LW 7-2). In addition, there are three leachate piezometers within the Subtitle D-lined Phase 1 through 5 cells; LPZ-101 in Phase 1, LPZ-301 in Phase 3, and LPZ-T1 in Phase 5. Leachate piezometer LPZ-301 was abandoned on December 13, 2024.

The leachate holding tanks and a leachate lagoon constructed in 2017 (Doc #91210) provide 232,000 gallons of capacity allowing for two feet of freeboard in the lagoon.

1.3 Control System Compliance

1.3.1 Unlined Area

The requirement for leachate head over unlined areas is not specified in the most recent version of 567 IAC 113, however, it is assumed similar to the requirement in the 2002 Chapter 113, which required the lowest practical leachate levels above the liner. Leachate thicknesses measured during this reporting period are included in Attachment A.

- LW 2-1 – The leachate thicknesses generally decreased throughout this reporting period before a slight increase in December 2024.
- LW 2-2 – The leachate thicknesses were stable and within the historical range during this reporting period.
- LW 3-1 – The leachate thicknesses were stable and within the historical range during this reporting period.
- LW 3-2 – The leachate thicknesses remained stable and within the historical range during this reporting period.
- LW 4R-1 and LW 4R-2 – According to Special Provision 2.g. of the revised permit dated October 12, 2018 (Doc #93495), if leachate levels in piezometers LW 4R-1 and LW 4R-2 have not been reduced by approximately 40% from the 2007 levels, additional steps to further reduce leachate head shall be proposed in the annual LCSPER. The initial thicknesses for LW 4R-1 and 4R-2, obtained from the September 26, 2006 measurement event, were 106.23 feet and 73.33 feet, respectively. It was determined during the 2018 reporting period that, as fluid was not encountered at these points during the reporting period, these piezometers may be kinked or damaged at an elevation higher than the leachate elevation and accurate column thicknesses may not be obtained. The approximate level of the damage in each piezometer is noted in the attached graphs. No fluid was encountered in either LW 4R-1 or LW 4R-2 during this reporting period. Due to the damage, it cannot be determined if the leachate head levels are in compliance with Special Provision 2.g. in leachate piezometer LW 4R-1.
- LW 4R-3 – The leachate thicknesses were slightly increasing during this reporting period but levels remained within the historical range with the exception of the January 2024 level, which was a new maximum.
- LW 5-1 – The leachate thicknesses were generally stable to decreasing during this reporting period, with the December 2024 thickness equaling the historical low measurement.

- LW 5-2 – The leachate thicknesses were stable and within the historical range during this reporting period.
- LW 5-3 – The leachate thicknesses were generally stable during this reporting period, though a new historical maximum thickness was measured in September 2024, after which thicknesses began to decrease.
- LW 6-1 – The leachate thicknesses were stable and within the historical range during this reporting period.
- LW 6-2 – The leachate thicknesses remained stable and comparable to the thicknesses measured in 2022 and 2023 during this reporting period.
- LW 7-1 – The leachate thicknesses increased to above the historical range during this reporting period and a historical maximum thickness was measured in September 2024.
- LW 7-2 – The leachate thicknesses were stable and within the historical range during this reporting period.

Leachate levels during this reporting period are included in Attachment A. Historical thicknesses and graphs of leachate levels are included in Attachment B.

1.3.2 Subtitle D Lined Area

The Subtitle D-compliant portion of the Landfill, which includes the Phase 1 through 5 cells, is monitored by leachate piezometers LPZ-101, LPZ-301, and LPZ-T1. Pursuant to IAC 567-113.7(5)"b"(3), the "*MSWLF unit shall have a leachate collection system that maintains less than a 30-centimeter (i.e., 12-inch) depth of leachate over the liner.*"

Leachate levels in leachate piezometers LPZ-101 and LPZ-301 remained below the 12-inch allowable thickness during the reporting period with the exception of a thickness of 1.1 feet measured in LPZ-101 in May 2024. The leachate thickness in leachate piezometer LPZ-T1 was above the compliance level throughout the reporting period with the exception of a "Dry" measurement recorded in July 2024. The schedule to address the exceedance is discussed in the Report Priority of this report. Leachate piezometer LPZ-301 was abandoned on December 13, 2024.

Leachate levels during this reporting period are included in Attachment A. Historical thicknesses and graphs of leachate levels are included in Attachment B.

1.4 Approved Changes to System

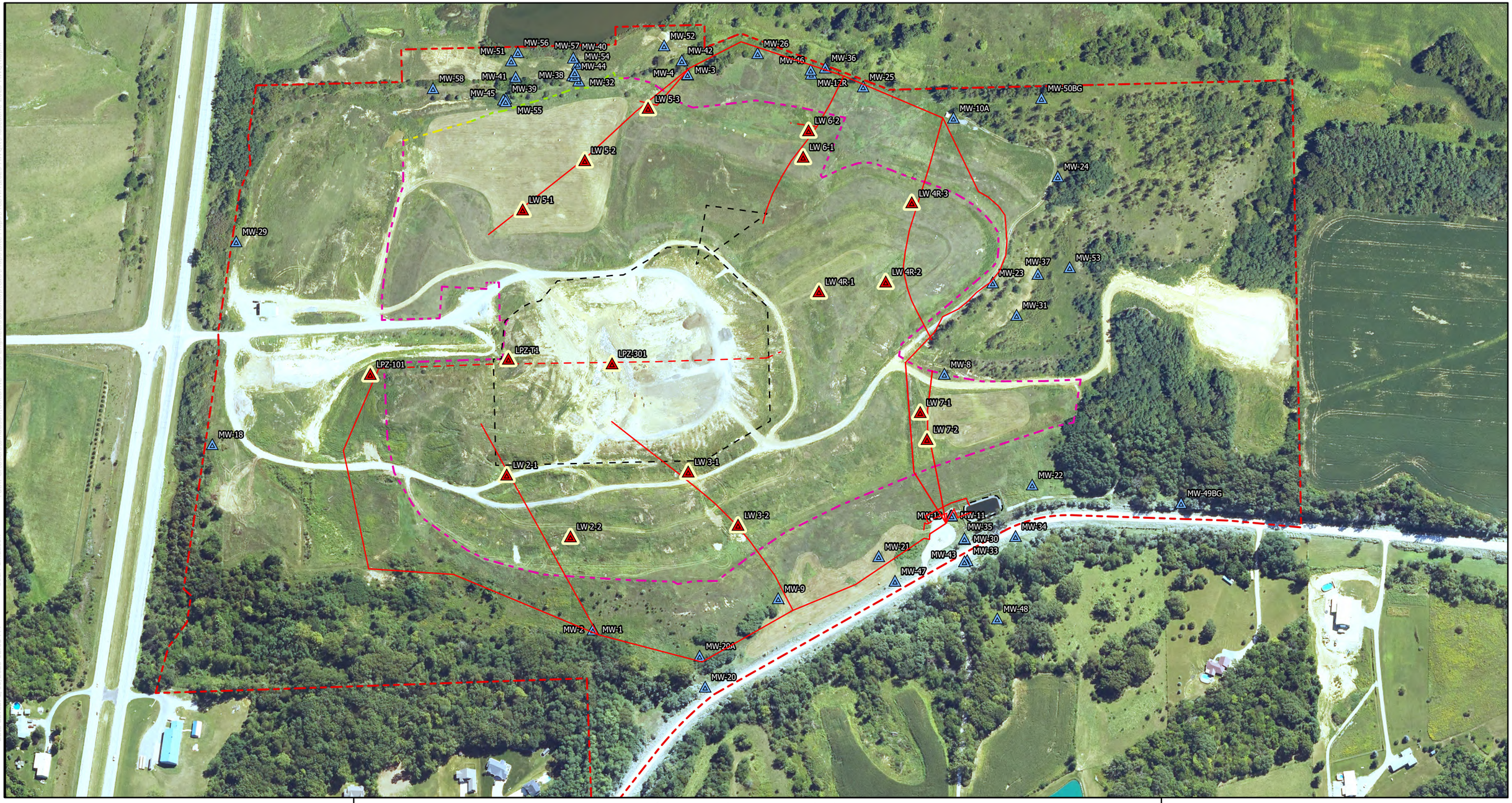
There were no changes to the leachate control system during this reporting period other than the abandonment of leachate piezometer LPZ-301.

1.5 Proposed Changes to System

SCS recommends continuing to perform the following items to maintain the effectiveness of the leachate control system:

- Continue monthly monitoring of the leachate levels as required in the facility permit. Forward the monthly results to SCS for review of compliance.
- Maintain good vegetation over the final cover and intermediate cover over the inactive areas.
- Continue operation and maintenance of the leachate control system in accordance with the approved Leachate Control System Plan.
- Continue recording the volume of leachate conveyed to the City of Muscatine publicly-owned treatment works for treatment. Analytical test results for this reporting period are included in Attachment C.

- Continue cleaning the leachate collection system every three years or more frequently if leachate head or the volume of leachate collected indicates cleaning is necessary. The leachate collection system was last cleaned in June 2023 and will be cleaned next in 2026.



Leachate Control System

Legend

- Leachate Monitoring Point
- Leachate Piping - Solid
- Leachate Piping - Perforated
- Monitoring Well
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

Figure 1

N E S W

0 275 550 1,100 Feet

SCS ENGINEERS
environmental consultants and contractors

Esri, CGIAR, USGS, Esri, TomTom, Garmin, Foursquare, FAO, METI/NASA, USGS, USDA NAIP, Iowa State University GIS Facility

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Attachment A

Leachate Management Summary

Leachate Management Summary
2024 Leachate Control System Performance Evaluation Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Month	Unlined Cells - Column Thickness (ft)														Lined Cells - Maximum Head on Liner (ft)			Hauled to Muscatine Water	Precipitation
	LW 2-1	LW 2-2	LW 3-1	LW 3-2	LW 4R-1	LW 4R-2	LW 4R-3	LW 5-1	LW 5-2	LW 5-3	LW 6-1	LW 6-2	LW 7-1	LW 7-2	LPZ-T1	LPZ 101	LPZ 301	Pollution Control Plant (gal)	(in)
January	41.5	38.8	31.7	26.5	Dry	Dry	53.1	16.8	8.2	27.9	22.1	24.8	24.6	34.5	2.2	Dry	NA	237,702	1.21
February	36.7	41.7	32.0	26.8	Dry	Dry	46.8	15.3	8.0	29.4	23.3	24.7	24.6	35.6	2.5	0.8	NA	307,185	0.07
March	34.0	41.9	32.1	26.8	Dry	Dry	46.9	15.5	8.2	29.5	22.6	24.5	24.8	36.0	2.5	Dry	NA	224,419	2.17
April	34.3	42.2	32.7	26.9	Dry	Dry	46.9	15.5	8.2	29.6	22.7	24.6	24.9	36.1	2.2	Dry	NA	509,464	5.31
May	31.8	42.4	32.3	27.2	Dry	Dry	47.7	15.5	8.9	30.1	23.1	25.5	25.6	35.0	2.5	1.1	NA	203,240	2.21
June	31.5	42.2	32.1	27.1	Dry	Dry	47.5	15.4	9.0	29.9	23.3	25.3	25.4	34.9	2.5	0.9	NA	133,873	5.68
July	31.2	42.0	32.3	27.2	Dry	Dry	48.3	15.6	9.2	30.1	23.5	25.5	25.4	35.0	Dry	Dry	NA	162,984	2.84
August	31.4	42.4	32.0	27.7	Dry	Dry	47.8	14.9	8.8	29.9	23.2	25.2	26.0	35.2	3.5	Dry	NA	166,869	3.71
September	31.7	42.6	31.7	28.0	Dry	Dry	46.9	15.2	8.0	30.5	23.0	25.5	26.2	37.8	3.9	0.5	Dry	112,751	0.37
October	30.2	41.3	32.5	27.0	Dry	Dry	47.4	14.7	8.7	29.3	23.2	24.9	25.7	35.1	3.5	Dry	Dry	95,170	1.84
November	30.4	41.9	33.0	27.4	Dry	Dry	47.8	14.9	9.0	29.5	23.4	25.1	26.0	35.4	3.9	Dry	Dry	101,233	1.93
December	32.8	40.9	31.0	25.5	Dry	Dry	48.6	13.6	8.1	28.9	22.5	25.7	25.7	35.8	3.7	Dry	Abandoned	94,567	1.09
																	Reporting Period Total	2,349,457	28.43

Notes:

1) Leachate level measurement are collected by Landfill staff.
2) The leachate storage capacity, including the two 10,000-gallon underground tanks and a lagoon, is approximately 232,000 gallons allowing for two feet of freeboard in the lagoon.
3) Precipitation data obtained from Iowa State University Iowa Environmental Mesonet (https://mesonet.agron.iastate.edu/ASOS/reports/mon_prec.php?year=2024).
4) According to Special Provision 2.g. of the revised permit dated October 12, 2018 (Doc #93495), if leachate levels in piezometers LW 4R-1 and LW 4R-2 have not been reduced by approximately 40% from the 2007 levels, additional steps to further reduce leachate head shall be proposed in the annual LCSPER. The initial thicknesses for LW 4R-1 and 4R-2, obtained from the September 26, 2006 measurement event, are 106.23 feet and 73.33 feet, respectively. It was determined during the 2018 reporting period that, as fluid was not encountered at these points during the reporting period, these piezometers may be kinked or damaged at an elevation higher than the leachate elevation and accurate column thicknesses may not be obtained. The approximate level of the damage in each piezometer is noted in the attached graphs. No fluid was encountered in either LW 4R-1 or LW 4R-2 during this reporting period.

Comments:

Reporting Period: January - December 2024.

Recommended Changes to Leachate Collection System: None.

Maintenance Performed on Leachate Collection System: The schedule to remedy the compliance exceedance in leachate piezometers LPZ-T1 is discussed in the Report Priory of this report.

Last Date of Cleaning and Inspection: June 28, 2023

Date of Next Cleaning and Inspection: Leachate line cleaning and inspection will be performed next in 2026.

Volume of Leachate Recirculated: Leachate is not recirculated at this facility.

Volume of Leachate Treated On-Site: Leachate is not treated on-site at this facility.

Volume of Leachate Treated Off-Site: Approximately 2,349,457 gallons were hauled to the City of Muscatine Water Pollution Control Plant during the reporting period.

Leachate Quality Testing Results: Leachate quality testing results for the reporting period are provided in Attachment C.

Attachment B

Historical Leachate Column Thickness and Graphs

Historical Leachate Column Thicknesses
2024 Leachate Collection System Performance Evaluation Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

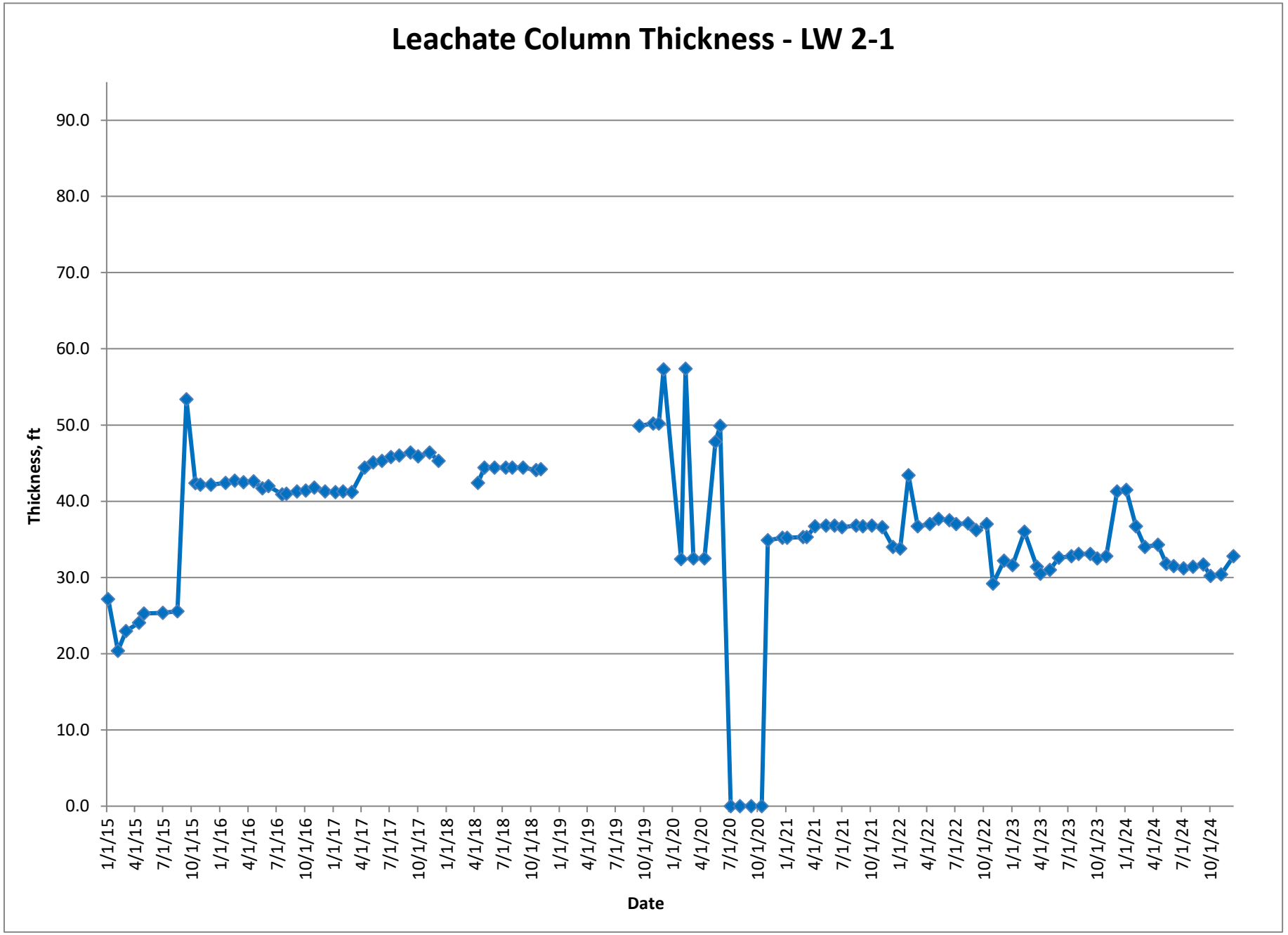
	Unlined Cells														Composite-Lined Cells		
	LW 2-1	**LW 2-2**	**LW 3-1**	**LW 3-2**	**LW 4R-1**	**LW 4R-2**	**LW 4R-3**	**LW 5-1**	**LW 5-2**	**LW 5-3**	**LW 6-1**	**LW 6-2**	**LW 7-1**	**LW 7-2**	**LPZ-T1**	**LPZ 101**	**LPZ 301**
Total Depth	**69.4**	**60.1**	**81.1**	**52.6**	**110.5**	**94.1**	**75.5**	**38.8**	**29.0**	**32.1**	**43.3**	**30.1**	**44.9**	**56.2**	**12.6**	**5.1**	**18.3**
Date																	
1/5/15	27.2	38.0	52.2	31.6	Dry	35.8	45.2	16.0	10.0	13.8	24.1	23.3	19.3	27.4	NI	0.1	0.1
2/6/15	20.4	40.6	52.1	24.7	Dry	35.4	43.7	15.4	4.4	13.6	24.0	23.2	19.5	28.0	NI	0.5	0.2
3/4/15	23.0	40.4	51.1	24.8	Dry	35.0	44.1	15.0	4.1	16.4	23.6	23.2	19.1	27.0	NI	0.6	0.3
4/15/15	24.1	41.2	42.2	23.7	Dry	34.4	43.8	14.8	4.0	16.1	23.2	23.1	18.8	23.9	NI	0.5	0.4
5/1/15	25.3	40.8	38.9	23.9	Dry	33.8	43.4	14.6	3.9	16.3	22.4	23.2	18.9	22.6	NI	0.5	0.4
7/1/15	25.4	41.8	78.2	24.6	Dry	57.8	43.0	14.5	9.0	20.1	23.3	23.4	18.7	22.1	NI	0.2	0.5
8/17/15	25.6	41.0	36.8	24.8	Dry	57.8	43.0	15.4	9.0	20.3	22.9	23.4	18.7	21.3	NI	Dry	0.0
9/15/15	53.4	41.2	36.8	24.8	Dry	33.9	42.9	15.4	9.0	20.5	22.7	23.4	18.7	21.3	NI	Dry	Dry
10/14/15	42.4	41.1	36.7	24.6	Dry	34.1	42.9	14.6	8.3	20.2	23.0	23.4	18.7	21.2	NI	Dry	0.0
10/30/15	42.2	41.0	37.3	24.6	Dry	34.1	42.9	14.6	9.0	20.8	23.1	23.8	18.7	21.1	NI	Dry	0.2
12/3/15	42.2	40.9	37.2	25.3	Dry	94.1	43.2	14.4	9.0	20.7	23.3	23.7	18.7	20.9	NI	0.2	0.3
1/19/16	42.4	41.1	37.1	25.5	Dry	34.5	43.3	14.4	8.5	20.7	22.8	23.6	18.7	21.2	NI	0.1	0.1
2/18/16	42.7	41.3	36.9	25.9	Dry	35.7	43.5	14.3	8.3	20.6	22.8	23.6	18.5	21.8	NI	Dry	Dry
3/17/16	42.5	41.2	36.8	25.7	Dry	35.5	43.4	14.4	8.4	20.3	22.7	23.4	18.6	21.6	NI	Dry	Dry
4/19/16	42.6	41.4	36.7	25.9	Dry	35.1	43.2	14.3	8.2	20.2	22.5	23.3	18.5	21.5	NI	0.1	Dry
5/17/16	41.7	41.5	36.6	25.8	Dry	35.4	43.4	14.2	8.2	20.3	22.6	23.4	18.6	21.6	NI	Dry	Dry
6/6/16	42.0	41.6	36.4	25.7	Dry	35.5	43.5	14.1	8.4	20.5	22.7	23.6	18.9	22.0	NI	Dry	Dry
7/6/16	40.9	41.5	36.8	26.9	Dry	39.1	43.5	14.6	8.8	21.2	23.3	23.5	19.3	23.6	NI	Dry	Dry
8/3/16	41.0	41.6	36.9	27.4	Dry	39.5	43.7	14.8	8.8	21.3	23.3	23.7	19.7	24.0	NI	0.1	0.1
9/6/16	41.3	41.7	36.9	28.8	Dry	40.1	44.0	15.0	9.0	21.5	23.3	23.6	20.1	24.4	NI	0.1	0.1
10/4/16	41.4	42.2	35.9	27.1	Dry	40.0	43.7	14.7	8.8	21.3	23.2	23.3	20.3	24.4	NI	0.1	0.1
11/1/16	41.8	41.5	34.6	26.9	Dry	40.1	44.3	14.6	8.8	21.1	22.9	23.1	20.4	24.2	NI	Dry	Dry
12/6/16	41.3	41.2	34.3	26.5	Dry	40.2	44.2	14.5	8.6	20.6	22.7	23.1	20.4	24.9	NI	Dry	Dry
1/8/17	41.2	41.2	34.3	26.4	Dry	40.3	44.2	14.6	8.7	19.8	22.5	23.1	20.4	24.5	NI	Dry	Dry
2/2/17	41.3	41.3	34.3	26.4	Dry	40.3	42.6	14.5	8.6	20.1	22.2	23.2	20.4	24.8	NI	Dry	Dry
3/2/17	41.2	41.2	34.3	26.5	Dry	60.0	42.6	14.5	8.6	20.1	22.2	23.1	20.4	24.9	NI	Dry	Dry
4/12/17	44.4	40.9	33.6	18.1	Dry	NM	42.8	14.5	8.6	19.7	22.1	23.1	20.4	24.4	NI	Dry	Dry
5/10/17	45.1	41.2	34.4	26.6	Dry	40.9	42.9	14.5	8.6	19.7	22.7	23.1	20.4	26.7	NI	0.5	0.1
6/7/17	45.3	41.3	34.6	26.2	Dry	41.1	43.1	14.5	8.6	19.8	22.7	23.1	20.5	27.2	NI	0.5	0.1
7/6/17	45.8	41.5	34.3	26.6	Dry	41.3	43.7	14.6	8.6	19.7	22.8	23.1	20.4	26.8	NI	0.6	0.1
8/2/17	46.0	41.4	34.4	27.7	Dry	39.3	43.5	14.5	8.7	19.9	22.9	23.1	20.6	28.3	NI	0.5	0.1
9/7/17	46.4	41.1	34.3	27.5	Dry	40.3	43.7	14.5	8.7	20.1	22.9	23.0	20.3	30.2	NI	Dry	Dry
10/2/17	45.9	41.1	34.4	27.0	Dry	41.1	44.1	14.5	8.6	20.0	20.2	22.9	20.6	35.2	NI	Dry	Dry
11/8/17	46.4	40.8	34.3	26.6	Dry	54.8	44.1	14.5	8.7	20.1	14.7	22.9	20.9	35.2	NI	Dry	Dry
12/7/17	45.30	41.1	34.2	22.6	Dry	Dry	37.5	14.4	8.7	20.0	20.7	22.9	21.1	35.8	NI	Dry	Dry
1/18/18	NM	40.5	34.3	22.6	Dry	Dry	37.5	14.5	NA	19.8	21.3	22.8	20.9	35.2	NM	Dry	Dry
2/2/18	NM	40.6	34.3	22.6	Dry	Dry	37.5	14.4	NA	19.8	21.1	22.8	20.9	35.1	NM	Dry	Dry
3/5/18	NM	40.4	34.4	22.6	Dry	Dry	37.6	14.4	NA	19.9	21.1	22.9	20.9	35.2	NM	Dry	Dry
4/13/18	42.40	41.3	29.1	24.9	Dry	Dry	44.5	14.8	8.0	21.1	22.3	23.3	20.6	37.2	NM	Dry	NM
5/4/18	44.40	41.3	35.1	26.4	Dry	Dry	44.5	14.5	8.3	22.1	23.1	23.1	20.9	38.2	NM	Dry	Dry
6/6/18	44.40	41.4	35.1	26.4	Dry	Dry	NM	14.5	8.1	22.1	23.0	23.0	20.9	38.2	NM	Dry	Dry
7/12/18	44.40	41.5	35.2	26.3	Dry	Dry	42.7	14.7	8.6	22.7	23.1	23.1	20.9	38.1	NM	Dry	Dry
8/2/18	44.40	42.0	34.1	25.9	Dry	Dry	44.1	14.8	8.5	22.3	22.9	23.1	20.6	38.1	NM	Dry	Dry
9/6/18	44.40	41.6	34.1	25.8	Dry	Dry	43.9	14.6	8.3	22.3	22.9	23.1	20.8	38.2	NM	Dry	Dry
10/18/18	44.10	41.7	34.1	26.2	Dry	Dry	43.6	14.8	8.6	23.0	23.2	23.1	20.8	38.2	NM	Dry	Dry
11/2/18	44.20	41.7	34.0	26.2	Dry	Dry	43.6	14.8	8.7	23.1	23.2	23.1	20.8	38.2	NM	Dry	Dry
12/14/18	NM	41.7	34.1	25.9	Dry	Dry	43.7	14.6	8.7	23.0	22.5	23.1	20.6	38.1	NM	Dry	Dry
1/18/19	NM	41.8	34.1	26.0	Dry	Dry	43.9	14.7	8.7	26.9	22.6	22.9	20.9	38.2	NM	0.3	Dry
2/10/19	NM	41.8	34.0	26.0	Dry	Dry	44.4	14.7	8.7	26.6	22.9	23.0	20.9	38.2	NM	0.3	Dry
3/7/19	NM	41.5	32.1	25.7	Dry	Dry	40.5	14.8	8.1	24.1	22.8	22.9	21.1	38.6	NM	0.6	Dry
4/16/19	NM	41.5	32.2	25.8	Dry	Dry	43.5	14.8	8.2	23.2	23.2	22.8	21.2	38.6	NM	0.5	Dry
5/10/19	NM	41.9	33.7	26.7	Dry	Dry	44.1	14.8	8.2	23.2	23.3	22.8	21.1	38.4	NM	0.5	Dry
6/6/19	NM	42.3	33.7	27.8	Dry	Dry	44.6	14.5	8.5	23.7	23.5	22.9	21.0	38.6	NM	0.5	Dry
7/3/19	NM	42.4	33.4	23.2	Dry	Dry	45.3	14.6	8.5	23.8	23.3	22.9	21.0	38.6	NM	Dry	Dry
8/9/19	NM	42.3	33.3	28.6	Dry	Dry	44.8	14.6	9.0	23.7	23.3	22.7	20.9	38.7	NM	Dry	Dry
9/16/19	49.90	42.1	33.1	27.7	Dry	Dry	45.3	14.6	9.0	25.0	23.4	22.8	21.0	39.4	NM	Dry	Dry
10/31/19	50.20	42.3	33.3	28.0	Dry	Dry	45.5	19.4	22.0	24.7	23.5	23.0	20.9	39.5	NM	Dry	Dry
11/18/19	50.20	42.4	33.3	28.0	Dry	Dry	45.5	19.4	21.9	24.9	23.7	22.9	20.7	39.7	NM	Dry	Dry
12/3/19	57.30	42.7	40.9	27.7	Dry	Dry	45.4	14.6	8.7	25.1	23.0	22.9	21.0	39.3	NM	Dry	Dry

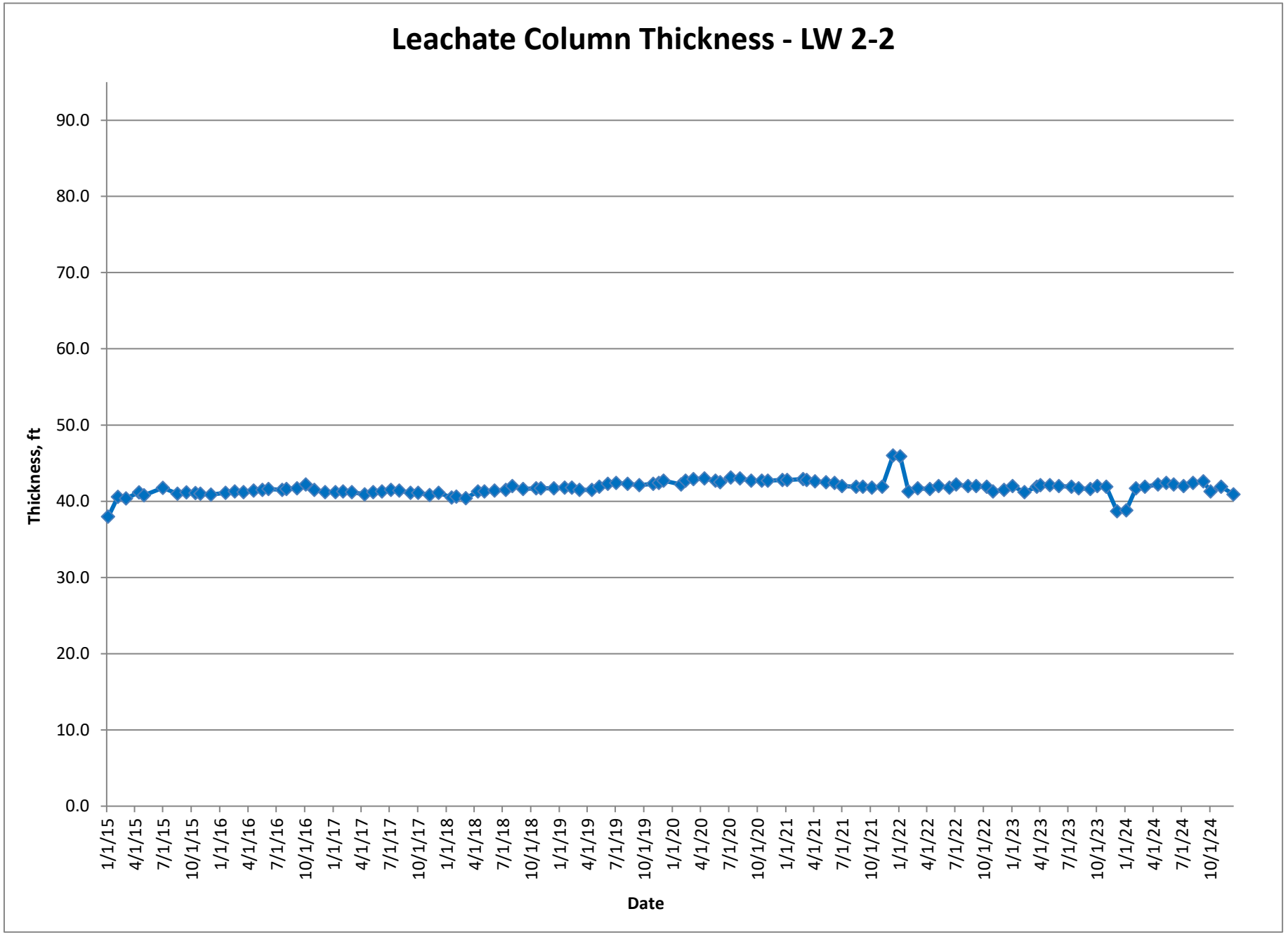
Historical Leachate Column Thicknesses
2024 Leachate Collection System Performance Evaluation Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

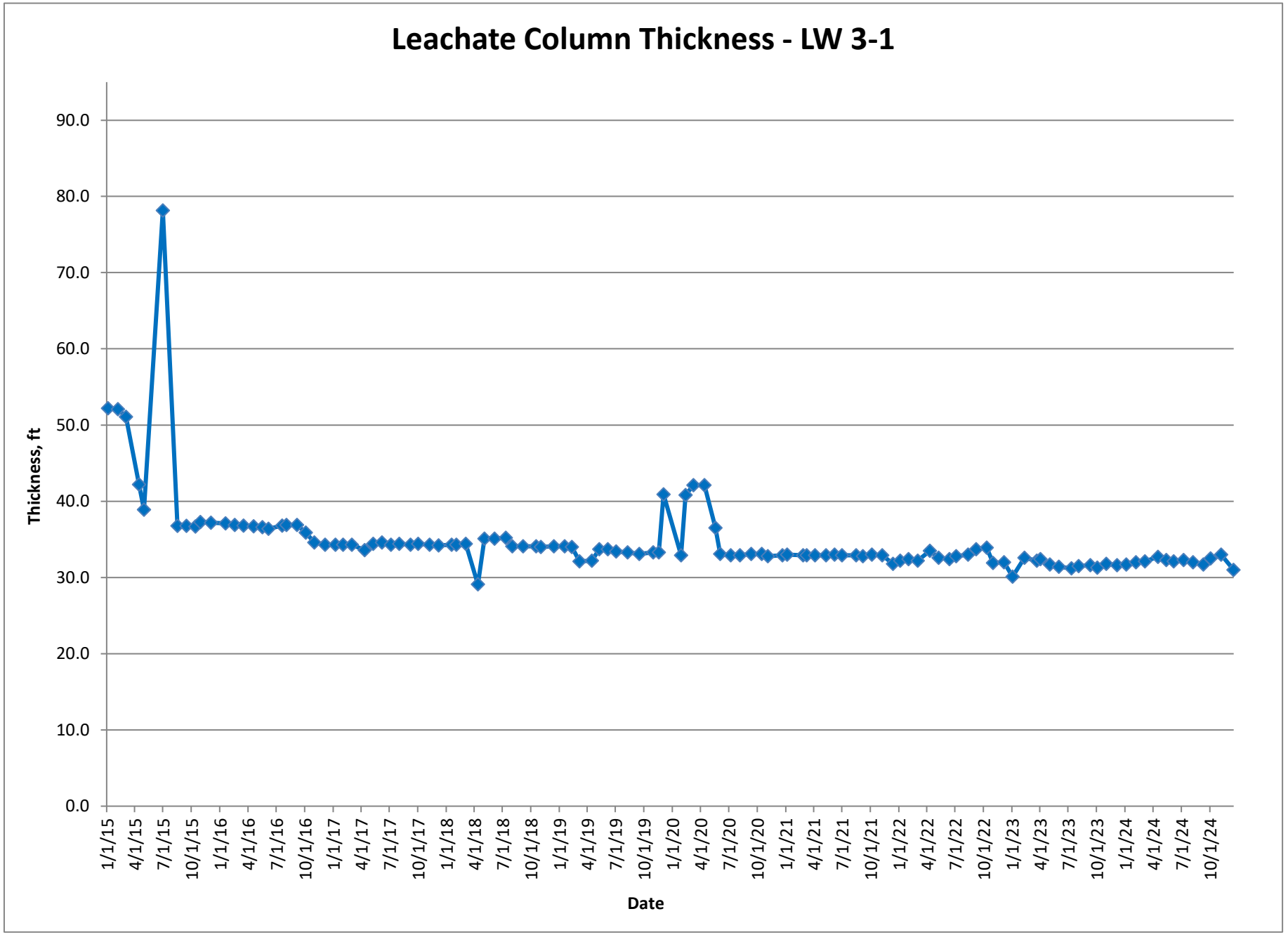
	Unlined Cells														Composite-Lined Cells		
	LW 2-1	**LW 2-2**	**LW 3-1**	**LW 3-2**	**LW 4R-1**	**LW 4R-2**	**LW 4R-3**	**LW 5-1**	**LW 5-2**	**LW 5-3**	**LW 6-1**	**LW 6-2**	**LW 7-1**	**LW 7-2**	**LPZ-T1**	**LPZ 101**	**LPZ 301**
Total Depth	**69.4**	**60.1**	**81.1**	**52.6**	**110.5**	**94.1**	**75.5**	**38.8**	**29.0**	**32.1**	**43.3**	**30.1**	**44.9**	**56.2**	**12.6**	**5.1**	**18.3**
Date																	
1/29/20	32.40	42.2	32.9	27.6	Dry	Dry	45.4	14.5	8.5	25.1	23.0	23.0	21.1	39.1	NM	Dry	Dry
2/12/20	57.40	42.7	40.8	27.7	Dry	Dry	45.3	14.6	8.8	24.3	23.0	23.0	21.0	39.3	NM	Dry	Dry
3/9/20	32.50	42.9	42.1	33.8	Dry	Dry	45.5	14.5	8.6	24.8	23.0	23.0	21.1	39.0	NM	Dry	Dry
4/13/20	32.50	43.0	42.1	33.8	Dry	Dry	45.5	14.5	8.6	24.9	23.0	23.1	21.0	39.1	NM	Dry	Dry
5/19/20	47.80	42.7	36.5	31.2	Dry	Dry	45.4	14.7	8.8	25.3	22.3	23.0	21.1	39.4	NM	Dry	Dry
6/3/20	49.90	42.5	33.1	28.3	Dry	Dry	45.1	15.0	9.3	25.6	24.0	22.9	21.0	40.1	NM	Dry	Dry
7/7/20	Dry	43.1	32.9	28.0	Dry	Dry	45.3	14.6	9.1	22.9	23.7	NA	21.0	39.4	NM	Dry	Dry
8/6/20	Dry	43.0	32.9	28.0	Dry	Dry	45.2	14.7	9.0	22.9	23.6	NA	21.0	39.3	NM	Dry	Dry
9/11/20	Dry	42.7	33.1	27.7	Dry	Dry	45.1	14.5	9.0	23.2	23.3	NA	21.9	39.0	NM	Dry	Dry
10/15/20	Dry	42.7	33.1	27.8	Dry	Dry	45.2	14.6	9.0	23.4	23.3	23.1	21.9	38.8	NM	Dry	Dry
11/4/20	34.90	42.7	32.8	28.0	Dry	Dry	45.1	14.6	9.0	26.3	23.1	23.0	22.6	38.1	NM	Dry	Dry
12/21/20	35.20	42.8	32.9	28.1	Dry	Dry	45.3	14.4	8.5	26.3	23.3	22.9	22.0	37.6	NM	Dry	Dry
1/5/21	35.20	42.8	33.0	27.8	Dry	Dry	45.0	15.5	8.4	26.3	23.0	23.0	22.4	38.0	NM	Dry	Dry
2/26/21	35.30	42.9	32.9	27.8	Dry	Dry	45.1	13.6	8.3	26.3	23.2	22.9	22.5	38.0	NM	Dry	Dry
3/9/21	35.30	42.8	32.9	28.0	Dry	Dry	45.1	13.7	8.2	26.4	22.9	22.7	22.6	38.1	NM	Dry	Dry
4/5/21	36.70	42.6	32.9	27.6	Dry	Dry	45.3	14.5	8.6	26.5	23.0	22.9	21.9	35.7	1.6	Dry	Dry
5/11/21	36.80	42.5	32.9	27.5	Dry	Dry	45.3	14.6	8.6	26.5	23.1	23.1	21.7	35.5	1.5	Dry	Dry
6/7/21	36.80	42.4	33.0	27.5	Dry	Dry	45.4	14.9	8.8	26.8	23.1	23.1	21.7	35.5	0.8	Dry	Dry
7/1/21	36.60	42.0	32.9	27.7	Dry	Dry	45.4	14.3	8.0	27.2	23.4	23.0	21.8	37.9	0.7	Dry	Dry
8/16/21	36.80	41.9	32.9	27.8	Dry	Dry	45.1	14.4	7.9	27.3	22.9	22.9	21.7	38.2	0.7	Dry	Dry
9/7/21	36.70	41.9	32.8	27.7	Dry	Dry	45.3	14.3	7.9	27.3	22.9	22.9	21.7	38.0	0.7	Dry	Dry
10/6/21	36.80	41.8	33.0	27.8	Dry	Dry	45.2	14.3	7.8	27.3	22.9	23.0	21.8	38.1	0.8	Dry	Dry
11/8/21	36.60	41.9	32.9	27.7	Dry	Dry	45.3	14.2	7.7	27.2	22.7	22.3	21.6	37.9	0.7	Dry	Dry
12/13/21	34.00	46.0	31.8	28.3	Dry	Dry	45.1	14.6	7.8	27.9	22.1	22.3	21.5	36.7	0.6	Dry	Dry
Total Depth	**69.4**	**60.1**	**81.1**	**52.6**	**110.5**	**94.1**	**75.5**	**38.8**	**29.0**	**32.1**	**43.3**	**30.1**	**44.9**	**56.2**	**14.1**	**5.1**	**60**
1/5/22	33.8	45.9	32.2	28.0	Dry	Dry	44.9	14.2	7.5	27.8	21.9	23.1	21.5	36.7	5.9	Dry	Dry
2/1/22	43.4	41.3	32.4	25.6	Dry	Dry	45.2	14.3	7.4	27.7	22.4	23.2	21.8	36.6	7.4	Dry	Dry
3/3/22	36.7	41.7	32.2	25.3	Dry	Dry	46.2	14.9	9.0	27.8	22.4	23.3	21.8	36.4	2.8	0.6	Dry
4/11/22	37.0	41.6	33.5	25.2	Dry	Dry	45.5	15.7	8.4	27.8	22.7	23.7	21.9	37.1	2.7	0.8	Dry
5/9/22	37.7	42.0	32.6	25.7	Dry	Dry	46.8	15.2	8.1	28.2	23.2	24.4	21.7	37.1	9.8	Dry	Dry
6/13/22	37.5	41.8	32.4	25.7	Dry	Dry	46.6	14.4	7.8	28.2	23.0	24.2	21.6	37.0	9.8	Dry	Dry
7/5/22	37.0	42.2	32.8	26.9	Dry	Dry	46.8	14.5	7.9	28.7	23.3	24.2	22.1	37.4	10.0	Dry	Dry
8/12/22	37.1	42.0	33.0	26.8	Dry	Dry	45.3	14.2	8.0	28.9	23.1	24.4	22.5	37.0	9.9	Dry	Dry
9/7/22	36.2	42.0	33.7	27.0	Dry	Dry	44.0	14.4	7.8	29.5	23.0	24.9	23.1	37.6	5.2	Dry	Dry
10/11/22	37.0	41.9	33.9	27.1	Dry	Dry	46.0	14.8	8.3	28.7	22.6	24.7	23.0	36.6	4.9	Dry	Dry
11/1/22	29.2	41.3	31.9	26.4	Dry	Dry	46.1	14.1	8.1	27.8	22.7	24.6	23.1	37.1	3.4	Dry	Dry
12/6/22	32.2	41.5	32.0	26.3	Dry	Dry	46.3	14.5	8.3	29.1	22.6	24.7	23.1	37.2	3.1	Dry	Dry
1/3/23	31.6	42.0	30.1	26.4	Dry	Dry	50.4	14.3	8.4	29.4	22.7	24.5	23.4	37.3	2.9	Dry	Dry
2/10/23	36.0	41.2	32.6	24.8	Dry	Dry	45.6	14.7	8.0	29.3	21.9	24.5	23.5	36.3	3.4	Dry	Dry
3/22/23	31.4	41.9	32.2	24.8	Dry	Dry	45.8	14.3	7.7	29.5	22.4	24.5	23.5	36.5	3.6	Dry	Dry
4/3/23	30.5	42.1	32.4	25.5	Dry	Dry	46.2	14.7	7.7	29.5	22.7	24.3	23.6	36.1	3.4	Dry	Dry
5/3/23	31.0	42.1	31.7	26.1	Dry	38.6	46.2	14.3	7.7	29.5	22.5	24.5	23.6	35.5	3.1	Dry	Dry
6/1/23	32.6	42.0	31.4	26.5	Dry	42.3	46.1	14.5	8.2	28.5	23.0	24.2	23.8	35.2	3.1	Dry	Dry
7/12/23	32.8	41.9	31.2	32.5	Dry	42.6	45.9	14.6	7.9	28.3	23.3	24.3	24.0	35.0	2.5	Dry	Dry
8/4/23	33.1	41.7	31.5	27.0	Dry	42.9	46.3	14.8	8.1	29.3	23.1	24.5	23.9	35.1	2.5	Dry	Dry
9/11/23	33.1	41.6	31.6	27.2	Dry	Dry	46.2	15.0	7.9	29.7	22.5	24.7	24.1	36.4	2.2	Dry	Dry
10/3/23	32.5	42.0	31.3	27.4	Dry	Dry	45.4	15.5	7.8	29.3	22.5	24.3	23.9	36.3	2.2	Dry	Dry
11/1/23	32.8	41.9	31.8	27.4	Dry	Dry	46.2	15.6	7.6	28.9	22.6	24.0	24.0	36.1	1.9	Dry	Dry
12/6/23	41.3	38.7	31.6	26.3	Dry	Dry	47.9	16.7	8.2	28.0	22.1	24.7	24.5	34.4	2.5	Dry	Dry
1/5/24	41.5	38.8	31.7	26.5	Dry	Dry	53.1	16.8	8.2	27.9	22.1	24.8	24.6	34.5	2.2	Dry	NA
2/5/24	36.7	41.7	32.0	26.8	Dry	Dry	46.8	15.3	8.0	29.4	23.3	24.7	24.6	35.6	2.5	0.8	NA
3/5/24	34.0	41.9	32.1	26.8	Dry	Dry	46.9	15.5	8.2	29.5	22.6	24.5	24.8	36.0	2.5	Dry	NA
4/16/24	34.3	42.2	32.7	26.9	Dry	Dry	46.9	15.5	8.2	29.6	22.7	24.6	24.9	36.1	2.2	Dry	NA
5/13/24	31.8	42.4	32.3	27.2	Dry	Dry	47.7	15.5	8.9	30.1	23.1	25.5	25.6	35.0	2.5	1.1	NA
6/6/24	31.5	42.2	32.1	27.1	Dry	Dry	47.5	15.4	9.0	29.9	23.3	25.3	25.4	34.9	2.5	0.9	NA
7/8/24	31.2	42.0	32.3	27.2	Dry	Dry	48.3	15.6	9.2	30.1	23.5	25.5	25.4	35.0	Dry	Dry	NA
8/7/24	31.4	42.4	32.0	27.7	Dry	Dry	47.8	14.9	8.8	29.9	23.2	25.2	26.0	35.2	3.5	Dry	NA
9/10/24	31.7	42.6	31.7	28.0	Dry	Dry	46.9	15.2	8.0	30.5	23.0	25.5	26.2	37.8	3.9	0.5	Dry
10/3/24	30.2	41.3	32.5	27.0	Dry	Dry	47.4	14.7	8.7	29.3	23.2	24.9	25.7	35.1	3.5	Dry	Dry
11/6/24	30.4	41.9	33.0	27.4	Dry	Dry	47.8	14.9	9.0	29.5	23.4	25.1	26.0	35.4	3.9	Dry	Dry
12/16/24	32.8	40.9	31.0	25.5	Dry	Dry	48.6	13.6	8.1	28.9	22.5	25.7	25.7	35.8	3.7	Dry	Abandoned

Notes:

1. Leachate column thicknesses provided by Landfill personnel.
2. Leachate column thicknesses prior to 2015 are available in the 2014 LCSPER.
3. Damage noted during January 2018 measurement in piezometers LW 4R-1 and LW 4R-2 at approximately 61.7 and 54.9 feet, respectively.
4. Piezometer LPZ-T1 was reported as extended beginning during the 2022 reporting period.
5. Piezometer LPZ-301 was abandoned on December 13, 2024.
6. NI = Not Installed; NM = Not Measured


Leachate Column Thickness - LW 2-1
Thickness, ft
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/1/15
4/1/15
7/1/15
10/1/15
1/1/16
4/1/16
7/1/16
10/1/16
1/1/17
4/1/17
7/1/17
10/1/17
1/1/18
4/1/18
7/1/18
10/1/18
1/1/19
4/1/19
7/1/19
10/1/19
1/1/20
4/1/20
7/1/20
10/1/20
1/1/21
4/1/21
7/1/21
10/1/21
1/1/22
4/1/22
7/1/22
10/1/22
1/1/23
4/1/23
7/1/23
10/1/23
1/1/24
4/1/24
7/1/24
10/1/24
Date


Leachate Column Thickness - LW 2-2
Thickness, ft
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/1/15
4/1/15
7/1/15
10/1/15
1/1/16
4/1/16
7/1/16
10/1/16
1/1/17
4/1/17
7/1/17
10/1/17
1/1/18
4/1/18
7/1/18
10/1/18
1/1/19
4/1/19
7/1/19
10/1/19
1/1/20
4/1/20
7/1/20
10/1/20
1/1/21
4/1/21
7/1/21
10/1/21
1/1/22
4/1/22
7/1/22
10/1/22
1/1/23
4/1/23
7/1/23
10/1/23
1/1/24
4/1/24
7/1/24
10/1/24
Date


Leachate Column Thickness - LW 3-1
Thickness, ft
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/1/15
4/1/15
7/1/15
10/1/15
1/1/16
4/1/16
7/1/16
10/1/16
1/1/17
4/1/17
7/1/17
10/1/17
1/1/18
4/1/18
7/1/18
10/1/18
1/1/19
4/1/19
7/1/19
10/1/19
1/1/20
4/1/20
7/1/20
10/1/20
1/1/21
4/1/21
7/1/21
10/1/21
1/1/22
4/1/22
7/1/22
10/1/22
1/1/23
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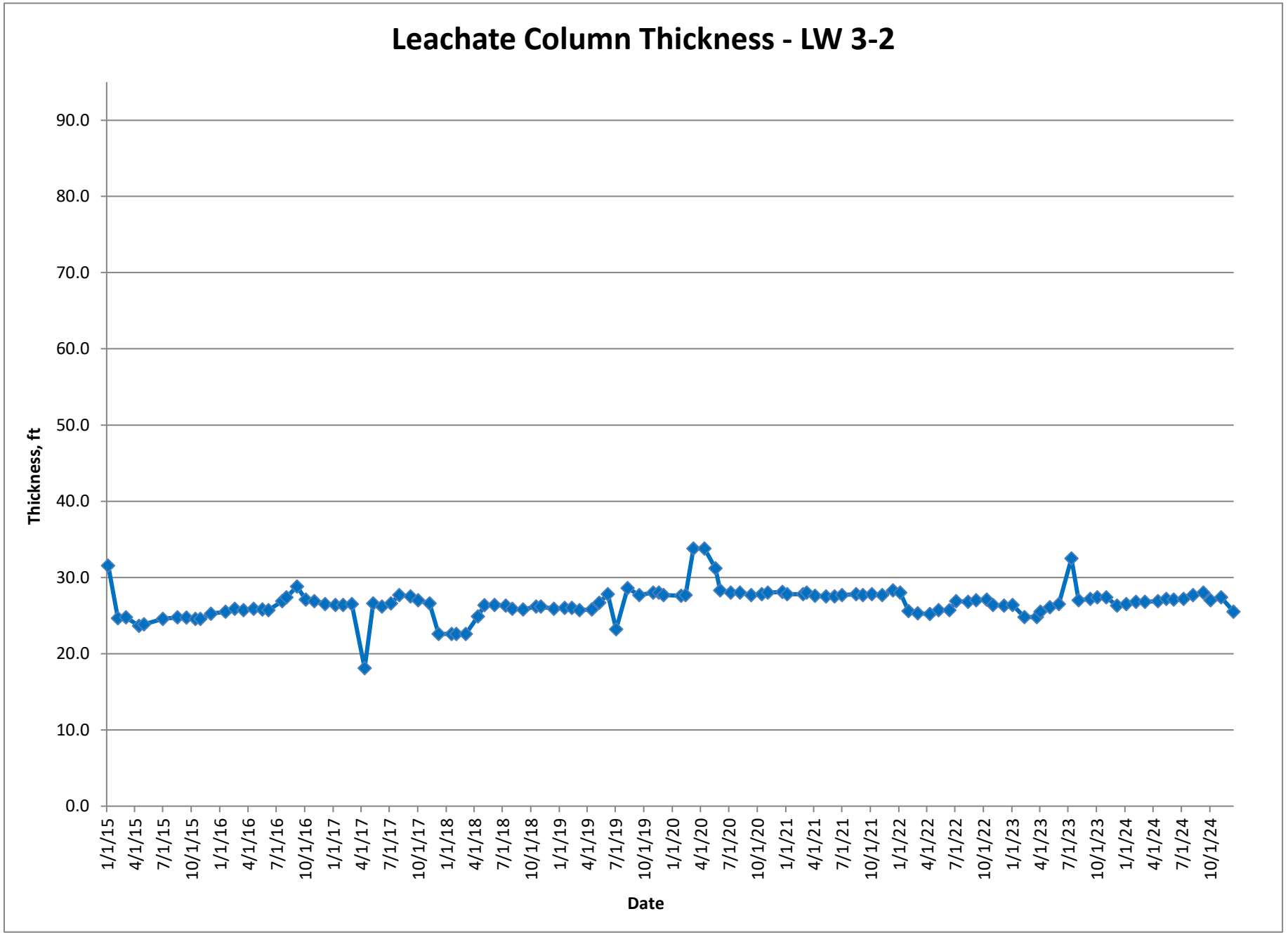
7/1/23
10/1/23
1/1/24
4/1/24
7/1/24
10/1/24
Date


Leachate Column Thickness - LW 3-2
Thickness, ft
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/1/15
4/1/15
7/1/15
10/1/15
1/1/16
4/1/16
7/1/16
10/1/16
1/1/17
4/1/17
7/1/17
10/1/17
1/1/18
4/1/18
7/1/18
10/1/18
1/1/19
4/1/19
7/1/19
10/1/19
1/1/20
4/1/20
7/1/20
10/1/20
1/1/21
4/1/21
7/1/21
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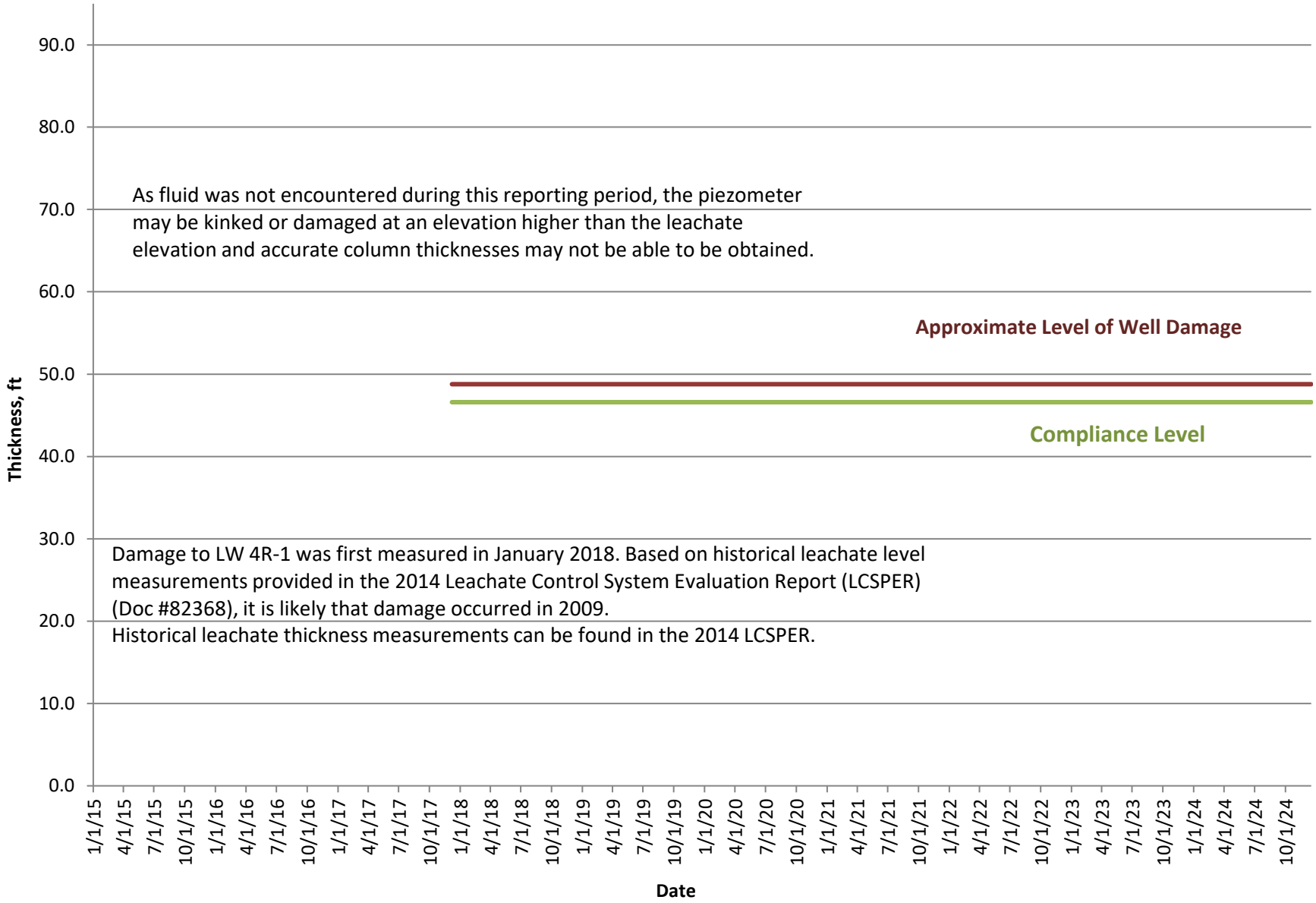
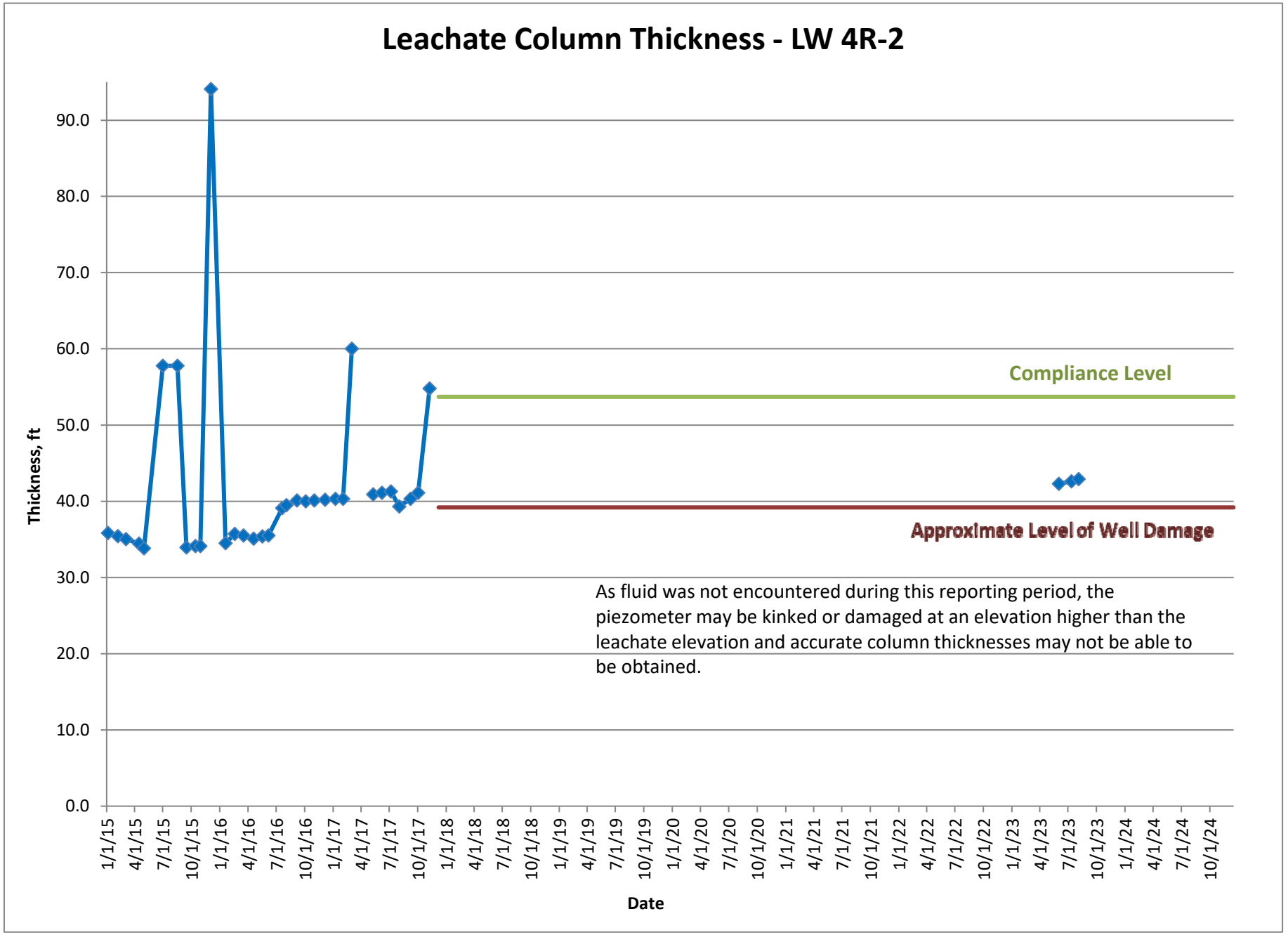
1/1/22
4/1/22
7/1/22
10/1/22
1/1/23
4/1/23
7/1/23
10/1/23
1/1/24
4/1/24
7/1/24
10/1/24
Date

Leachate Column Thickness - LW 4R-1




Leachate Column Thickness - LW 4R-2
Thickness, ft
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Compliance Level
Approximate Level of Well Damage
As fluid was not encountered during this reporting period, the piezometer may be kinked or damaged at an elevation higher than the leachate elevation and accurate column thicknesses may not be able to be obtained.
1/1/15
4/1/15
7/1/15
10/1/15
1/1/16
4/1/16
7/1/16
10/1/16
1/1/17
4/1/17
7/1/17
10/1/17
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1/1/20
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7/1/22
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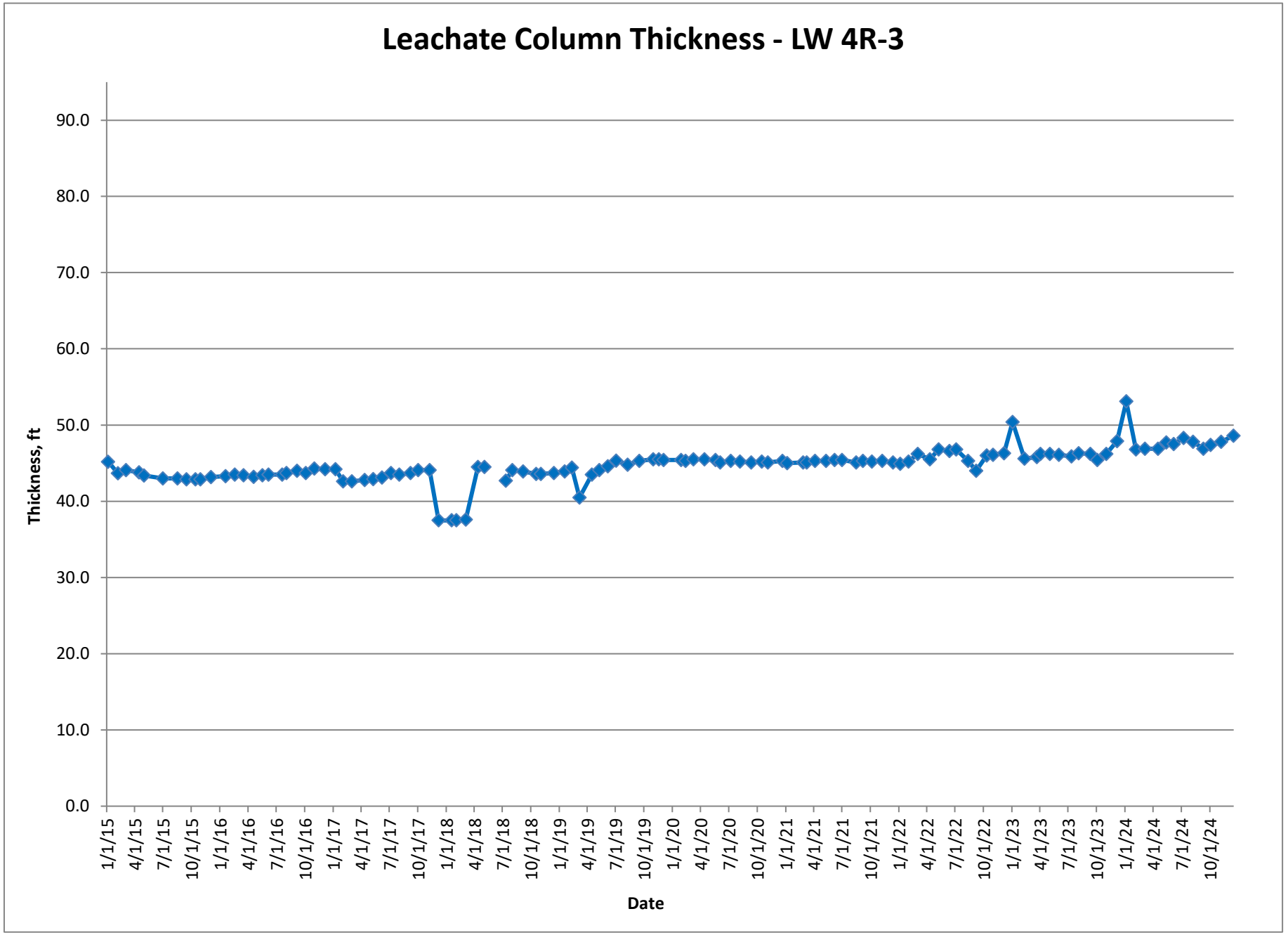
1/1/24
4/1/24
7/1/24
10/1/24
Date


Leachate Column Thickness - LW 4R-3
Thickness, ft
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80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/1/15
4/1/15
7/1/15
10/1/15
1/1/16
4/1/16
7/1/16
10/1/16
1/1/17
4/1/17
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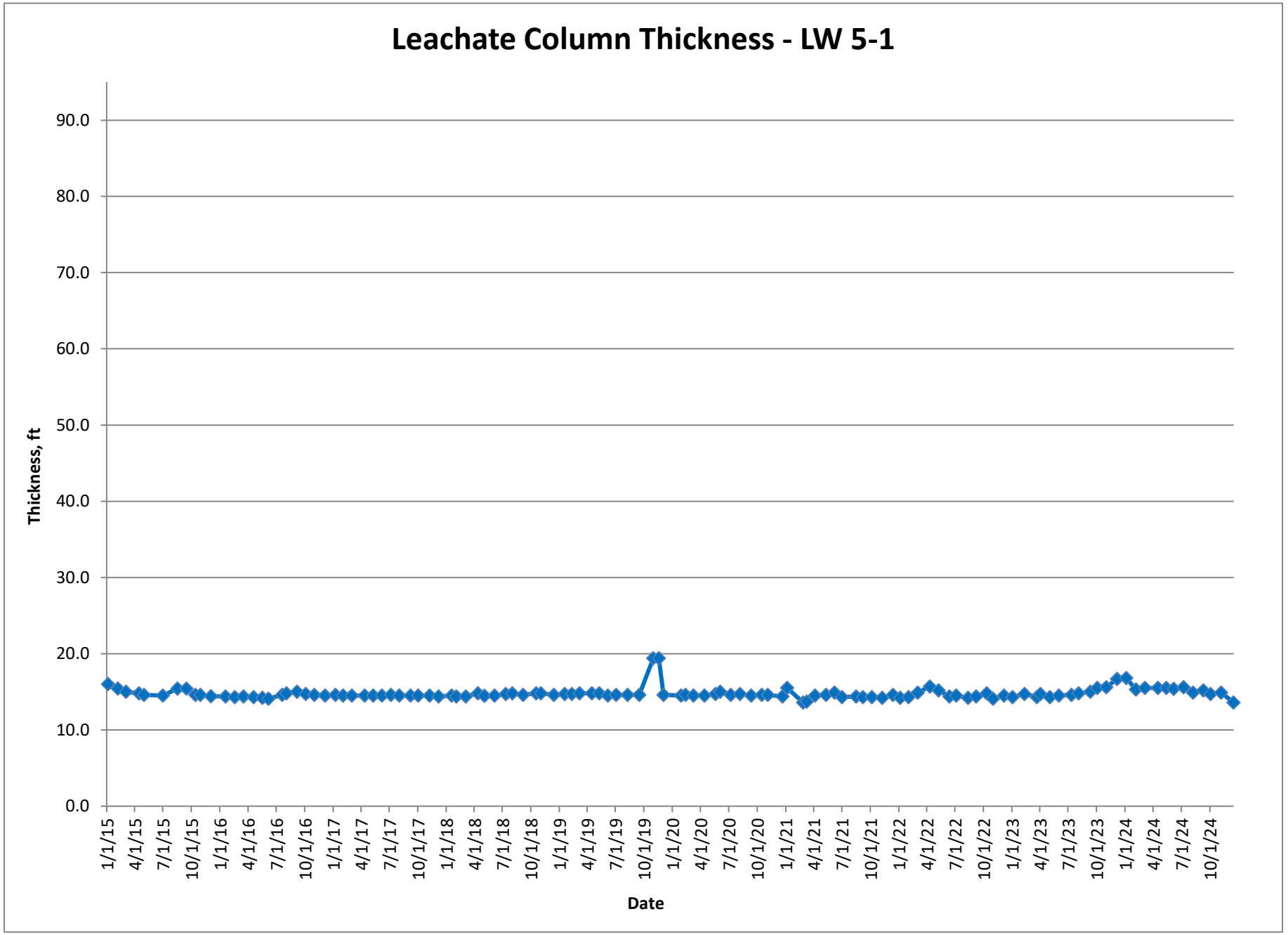
10/1/24
Date


Leachate Column Thickness - LW 5-1
Thickness, ft
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/1/15
4/1/15
7/1/15
10/1/15
1/1/16
4/1/16
7/1/16
10/1/16
1/1/17
4/1/17
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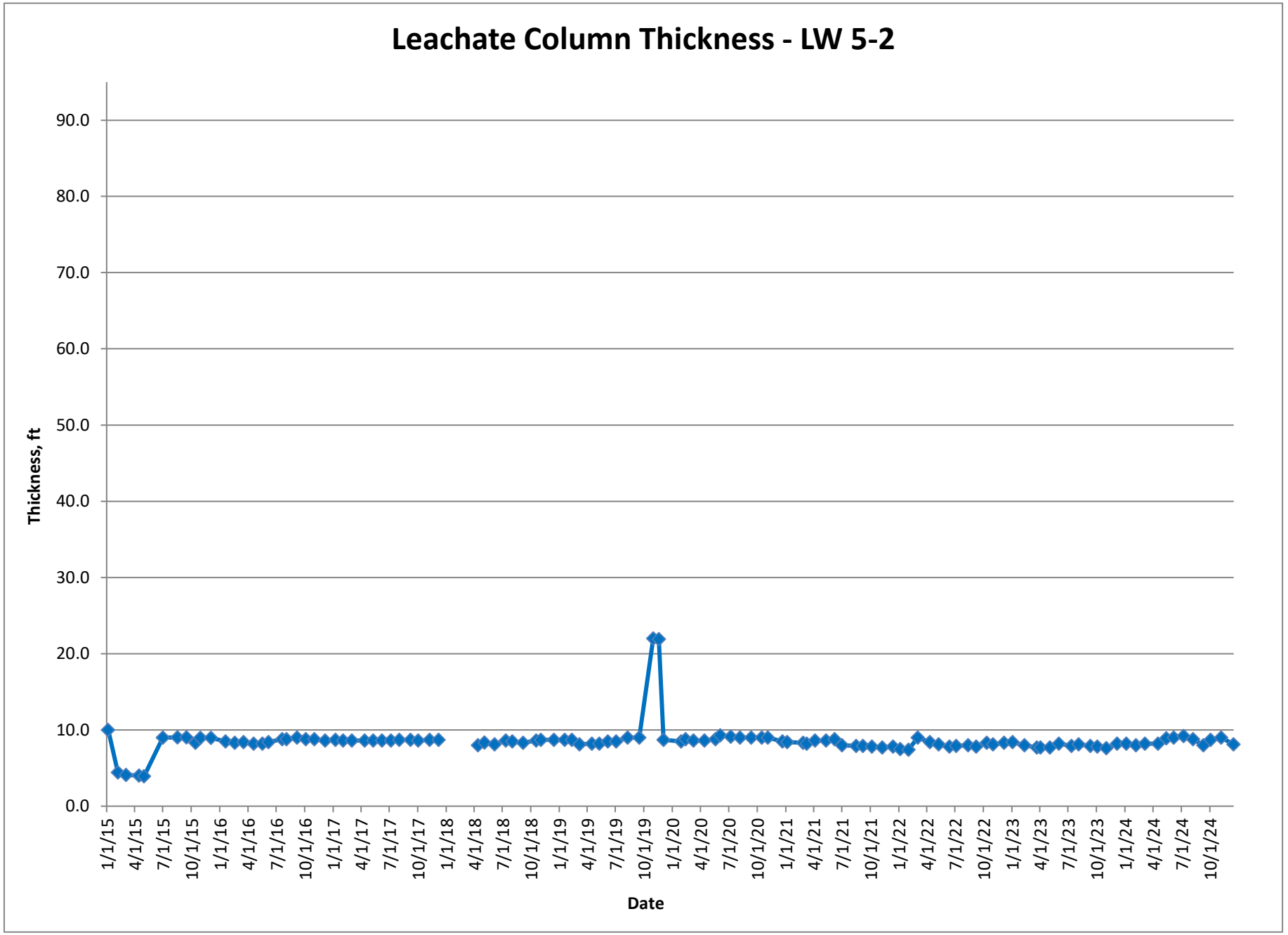
7/1/24
10/1/24
Date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4/1/15
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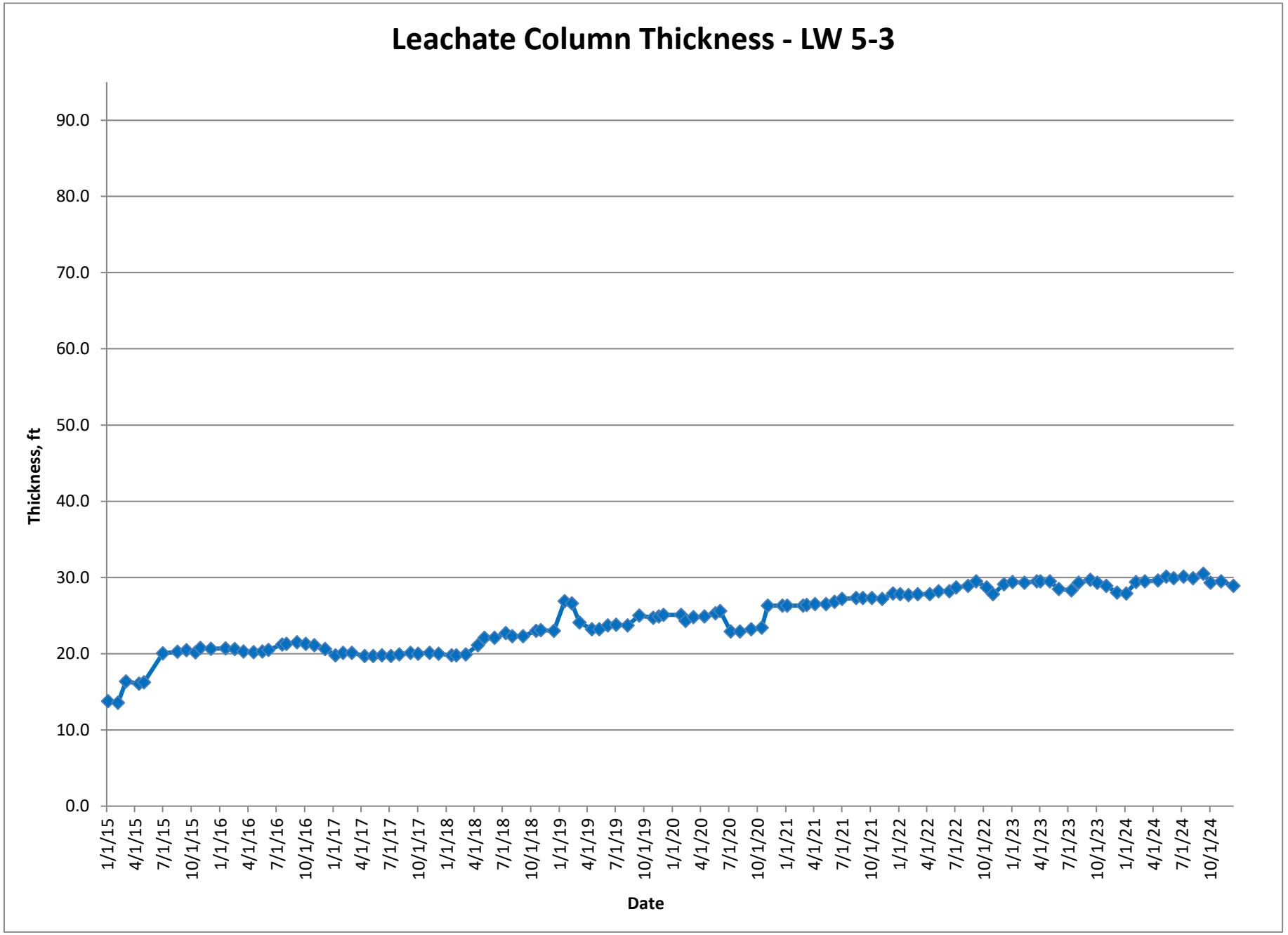
10/1/24
Date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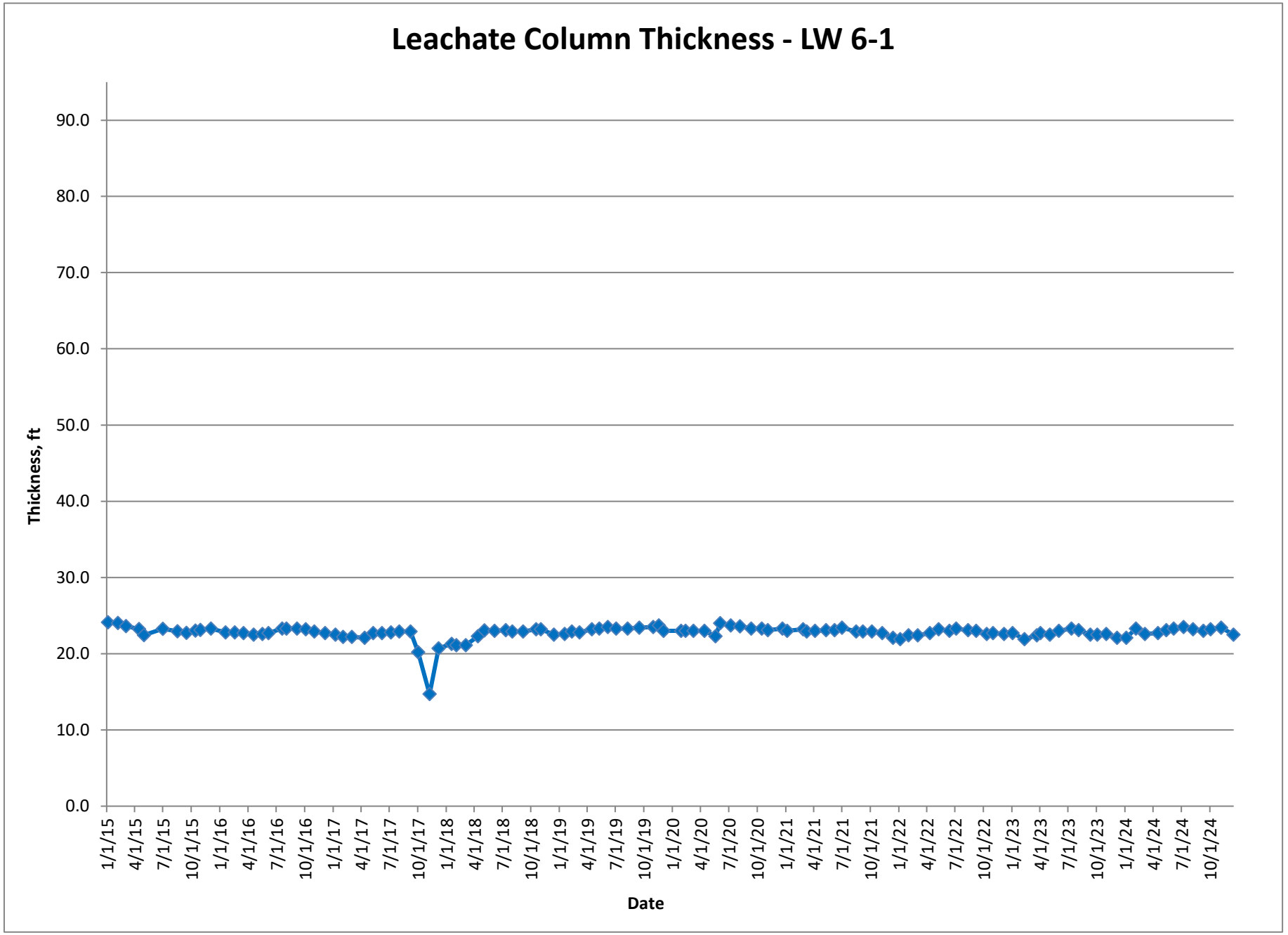
Date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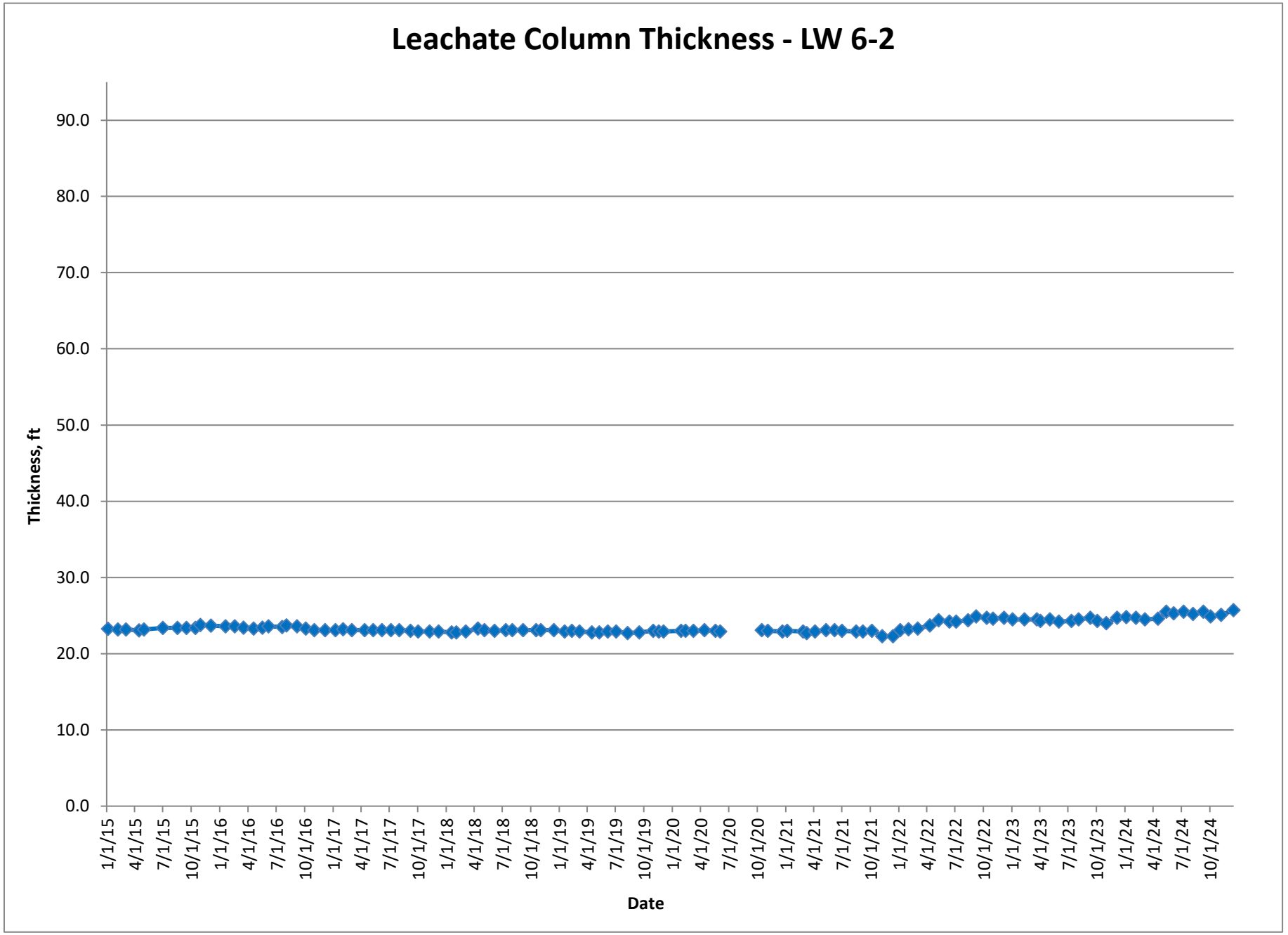
Date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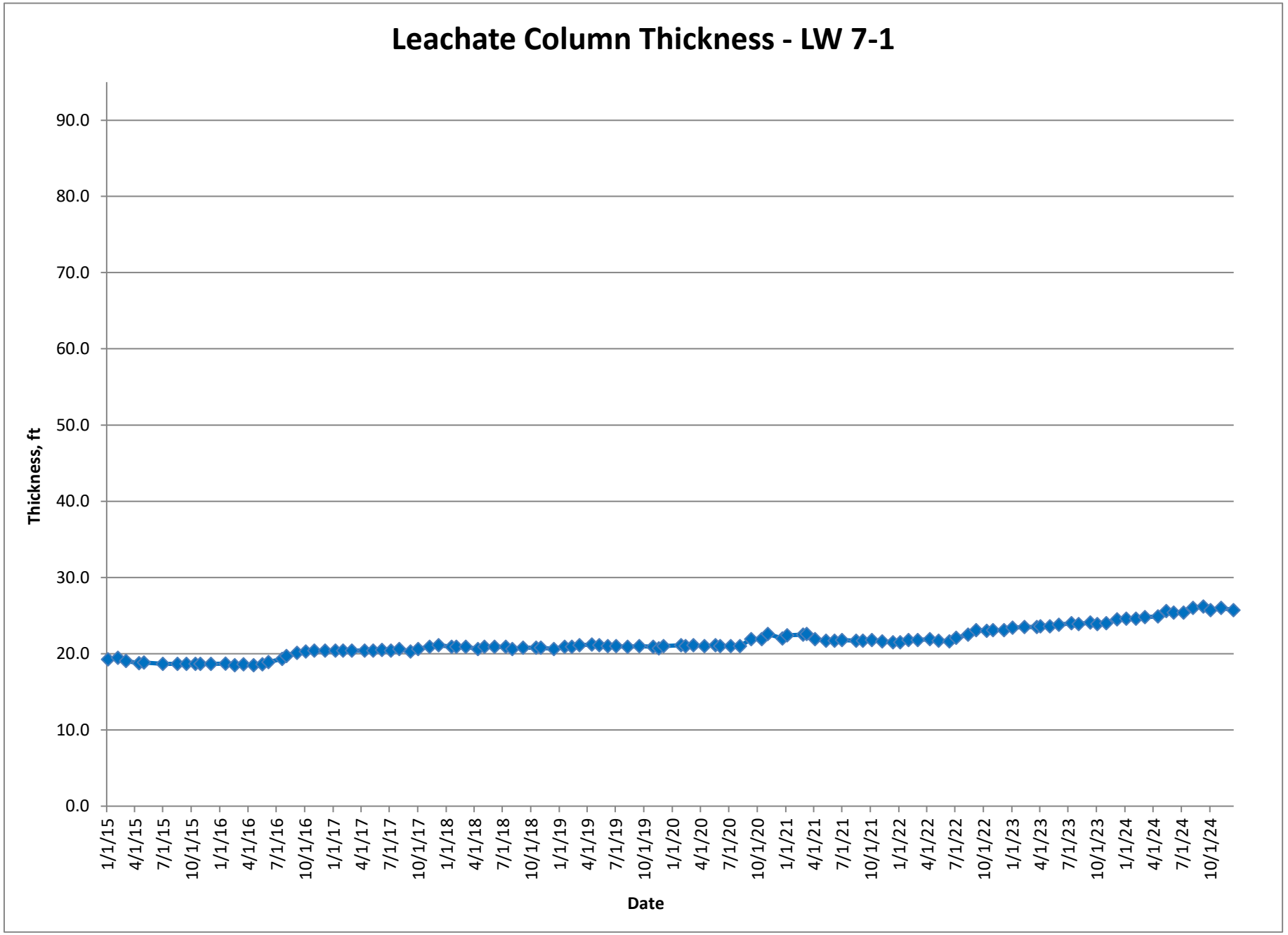
Date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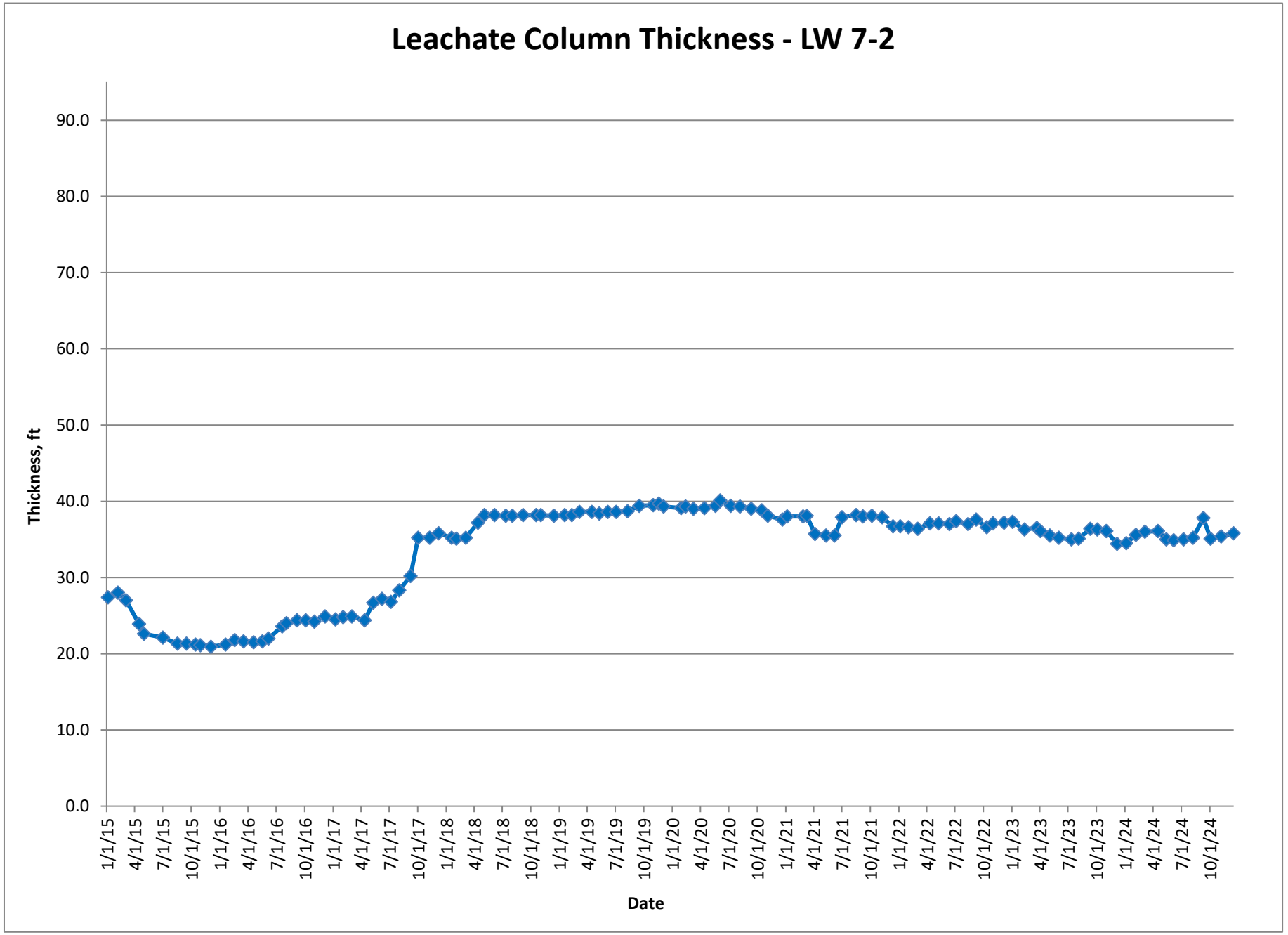
Date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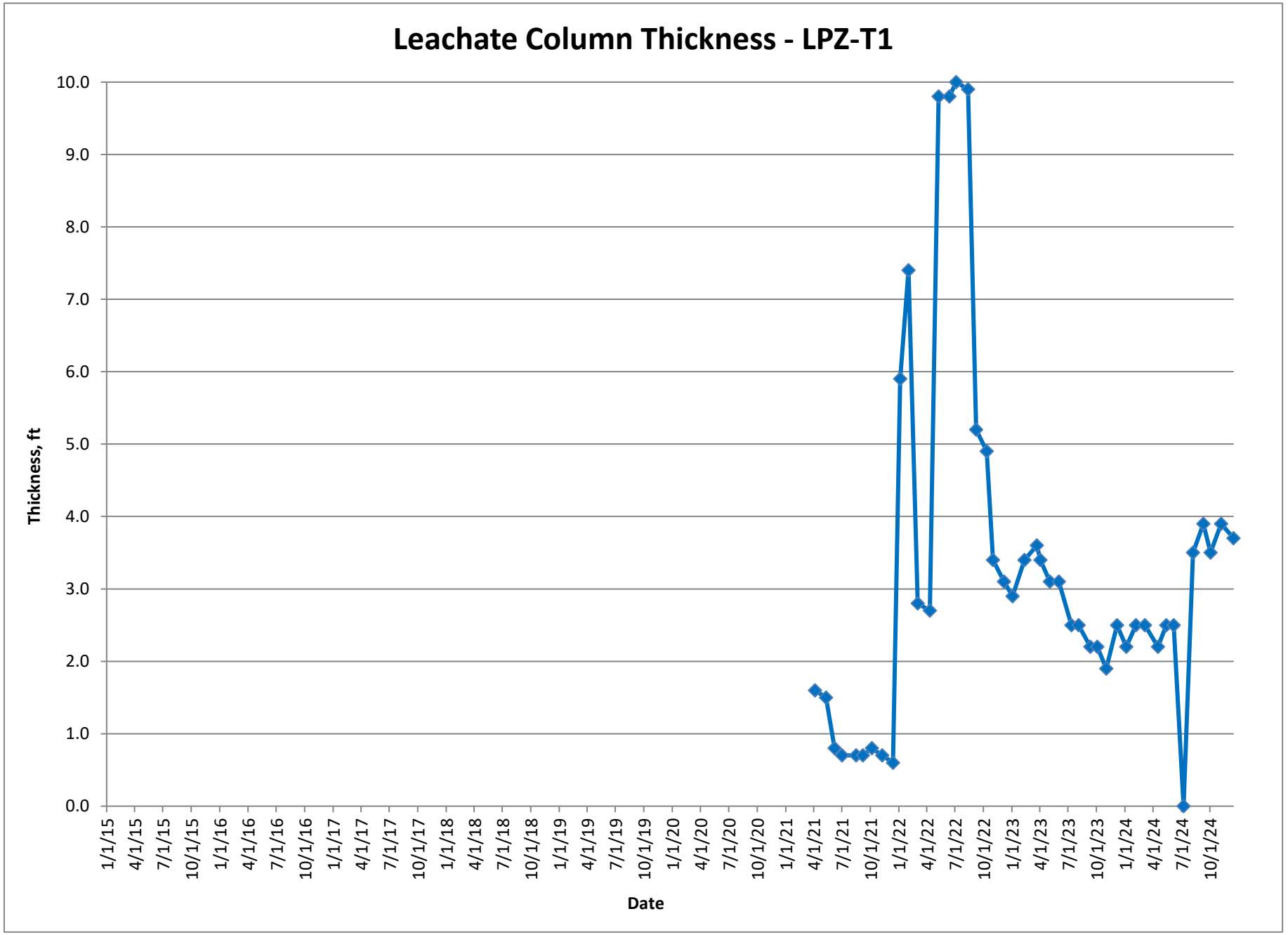
Date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3.0
2.0
1.0
0.0
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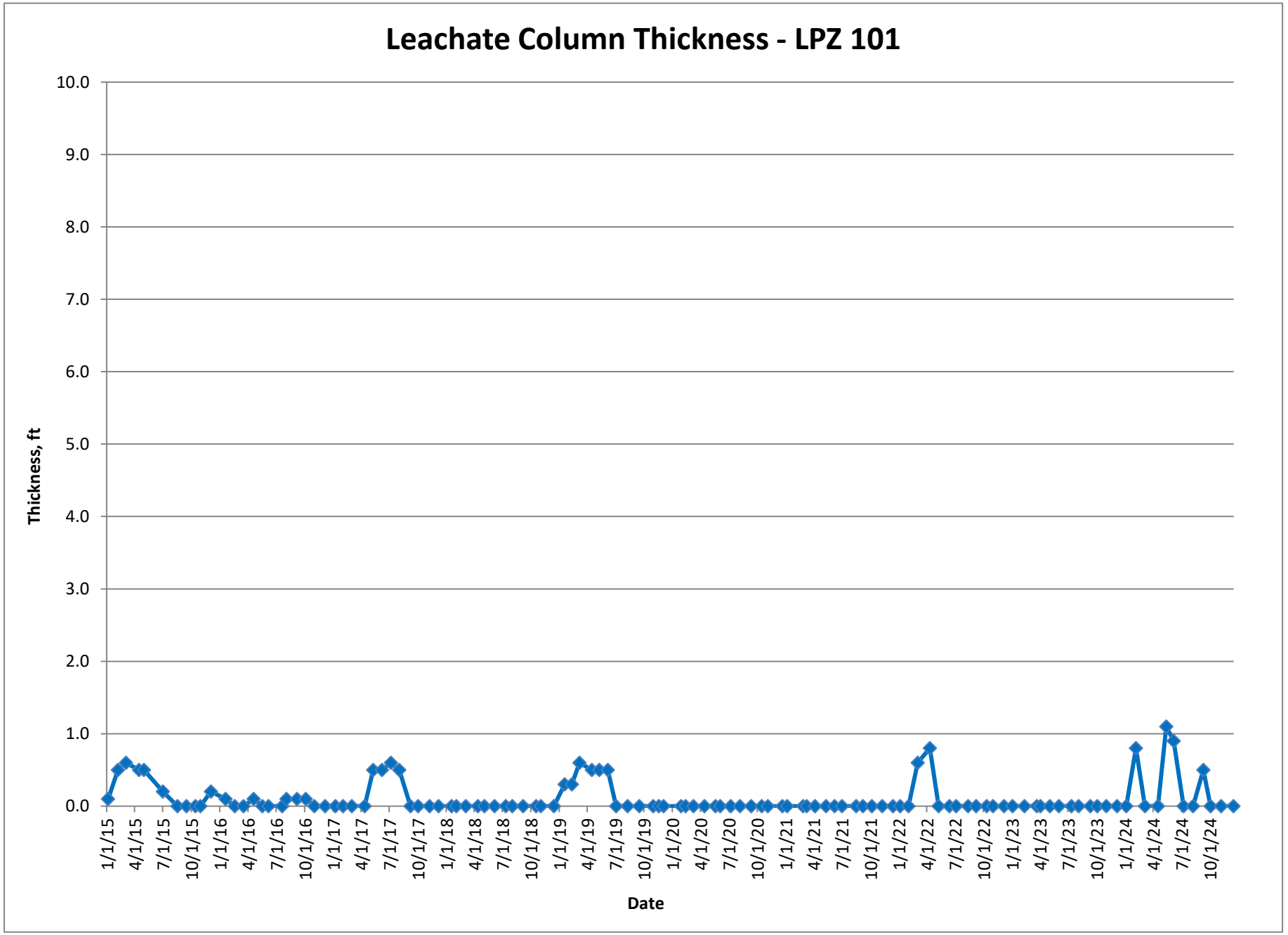
Date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1.0
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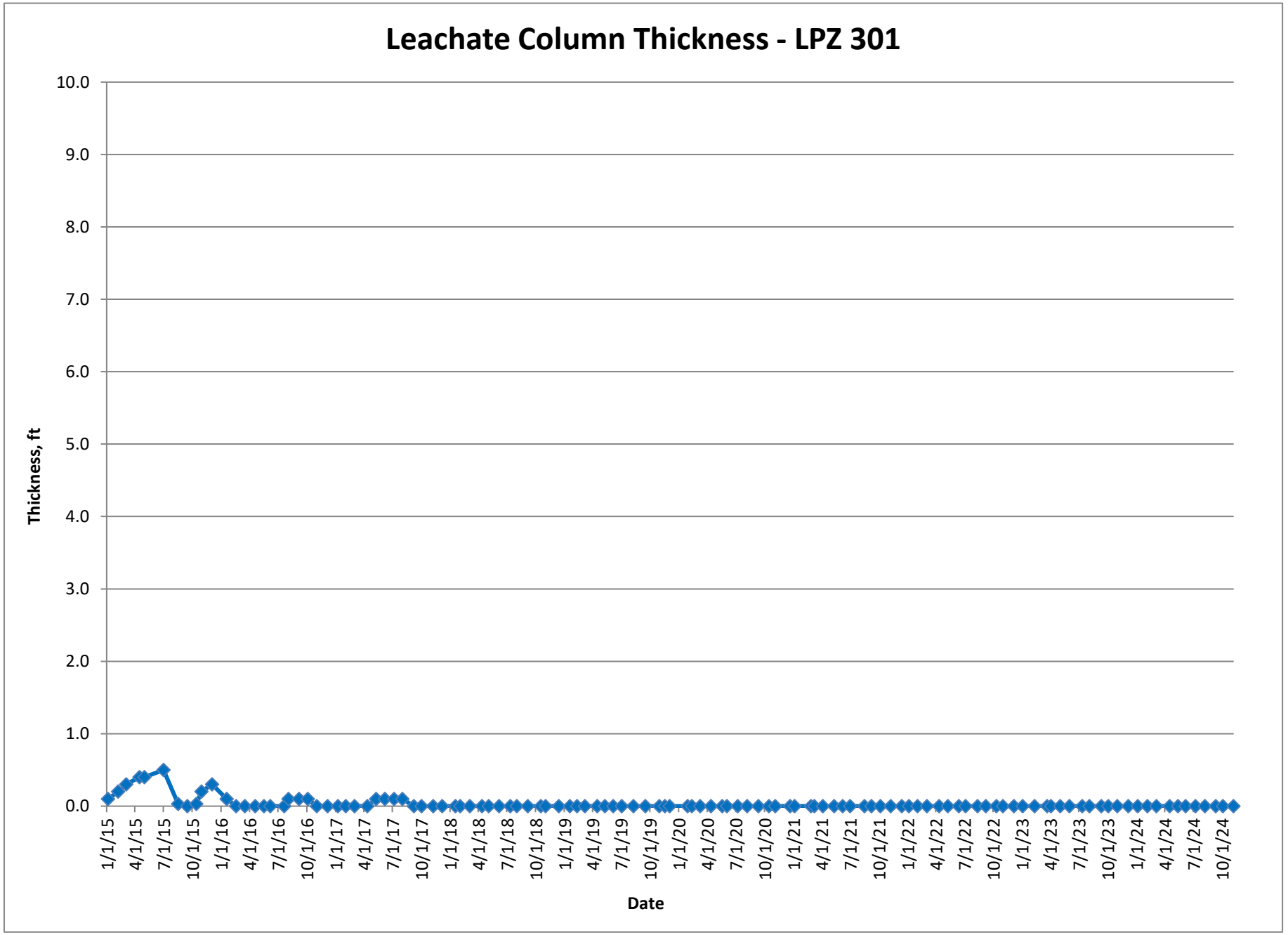
Date


Leachate Column Thickness - LPZ 301
Thickness, ft
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2.0
1.0
0.0
1/1/15
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4/1/24
7/1/24
10/1/24
Date

Attachment C

Leachate Quality Testing Results

MUSCATINE

1202 Musser St.
Muscatine, IA 52761-1645
(563) 263-2752
Fax (563) 263-3720
www.muscatineiowa.gov

WATER & RESOURCE RECOVERY FACILITY

Client:
Solid Waste Transfer Station
1000 South Houser Street
Muscatine, IA 52761

Report Date: March 20, 2024

Analytical Report

Site	Parameter	Matrix	Result	Units	Method Reference	Date Analyzed	Analyst
	Load Manifest Number:	**14584**					
	Tanker Date:	Tuesday, January 30, 2024					
	Gallons:	5868					
	Ammonia	CWA	**409**	mg/L	SM 4500-NH3 B,E	2/2/2024	cmr
	Total Kjeldahl Nitrogen	CWA	**472**	mg/L	SM 4500-NH3 B,C,E	2/29/2024	ktn
	Total Phosphorus	CWA	**2.13**	mg/L	SM 4500-P B.5,E	2/2/2024	ktn
	Phenols	CWA	**0.035**	mg/L	EPA 420.1	2/15/2024	Microbac
	Chloride	CWA	**989**	mg/L	EPA 300.0	1/31/24 14:16	plb
	Cyanide	CWA	**<0.010**	mg/L	4500 CN C,E *	2/9/2024	cmr/zba
	Total Oil & Grease	CWA	**<4**	mg/L	EPA 1664	2/22/2024	ktn
	Silver	CWA	**<0.040**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Arsenic	CWA	**<0.080**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Barium	CWA	**0.4061**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Cadmium	CWA	**<0.040**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Chromium	CWA	**0.0761**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Copper	CWA	**<0.080**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Mercury	CWA	**<0.012**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Molybdenum	CWA	**<0.080**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Nickel	CWA	**<0.20**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Lead	CWA	**<0.080**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Selenium	CWA	**<0.080**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Zinc	CWA	**<0.040**	mg/L	EPA 200.7	3/12/24 16:40	ktn
	Also Present-						
	Aluminum	*CWA*	*0.8204*	*mg/L*	*EPA 200.7*	3/12/24 16:40	ktn
	Iron	*CWA*	*10.85*	*mg/L*	*EPA 200.7*	3/12/24 16:40	ktn

Approved By: _____
Patti Fuller-Bloechl, Chemist

IA-189

MUSCATINE

1202 Musser St.
Muscatine, IA 52761-1645
(563) 263-2752
Fax (563) 263-3720
www.muscatineiowa.gov

WATER & RESOURCE RECOVERY FACILITY

Client:
Solid Waste Transfer Station
1000 South Houser Street
Muscatine, IA 52761

Report Date: August 24, 2024

Analytical Report

Site	Parameter	Matrix	Result	Units	Method Reference	Date Analyzed	Analyst
	Load Manifest Number:	**16068**					
	Tanker Date:	Tuesday, May 7, 2024					
	Gallons:	5789					
	Ammonia	CWA	**515**	mg/L	SM 4500-NH3 B,E	5/28/2024	cmr
	Total Kjeldahl Nitrogen	CWA	**605**	mg/L	SM 4500-NH3 B,C,E	6/4/2024	cmr
	Total Phosphorus	CWA	**4.22**	mg/L	SM 4500-P B.5,E	5/21/2024	cmr
	Chloride	CWA	**1190**	mg/L	EPA 300.0	5/8/24 17:33	zba
	Silver	CWA	**<0.030**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Arsenic	CWA	**<0.060**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Barium	CWA	**0.6445**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Cadmium	CWA	**<0.030**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Chromium	CWA	**0.08024**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Copper	CWA	**<0.080**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Mercury	CWA	**<0.009**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Molybdenum	CWA	**<0.060**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Nickel	CWA	**<0.15**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Lead	CWA	**<0.060**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Selenium	CWA	**<0.060**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Zinc	CWA	**<0.030**	mg/L	EPA 200.7	5/30/24 13:13	ktn
	Also Present-						
	Iron	*CWA*	*10.20*	*mg/L*	*EPA 200.7*	5/30/24 13:13	ktn

Site	Parameter	Matrix	Result	Units	Method Reference	Date Analyzed	Analyst
	Load Manifest Number:	**16104**					
	Tanker Date:	Wednesday, June 19, 2024					
	Gallons:	5213					
	Total Oil & Grease	CWA	**6**	mg/L	EPA 1664	6/20/2024	cmr

Approved By: _____ - Director
Patti Fuller-Bloechl, Chemist

IA-189

MUSCATINE

1202 Musser St.
Muscatine, IA 52761-1645
(563) 263-2752
Fax (563) 263-3720
www.muscatineiowa.gov

WATER & RESOURCE RECOVERY FACILITY

Client:
Solid Waste Transfer Station
1000 South Houser Street
Muscatine, IA 52761

Report Date: September 17, 2024

Analytical Report

Site	Parameter	Matrix	Result	Units	Method Reference	Date Analyzed	Analyst
	Load Manifest Number:	**16126**					
	Tanker Date:	Wednesday, July 17, 2024					
	Gallons:	5837					
	Ammonia	CWA	**611**	mg/L	SM 4500-NH3 B,E	7/26/2024	cmr
	Total Kjeldahl Nitrogen	CWA	**724**	mg/L	SM 4500-NH3 B,C,E	7/30/2024	ktn
	Total Phosphorus	CWA	**4.92**	mg/L	SM 4500-P B.5,E	7/19/2024	cmr
	Total Oil & Grease	CWA	**<4**	mg/L	EPA 1664	8/2/2024	zba
	Silver	CWA	**<0.020**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Arsenic	CWA	**<0.040**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Barium	CWA	**0.3411**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Cadmium	CWA	**<0.020**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Chromium	CWA	**0.05018**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Copper	CWA	**<0.040**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Mercury	CWA	**<0.006**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Molybdenum	CWA	**<0.040**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Nickel	CWA	**<0.10**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Lead	CWA	**<0.040**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Selenium	CWA	**<0.040**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Zinc	CWA	**<0.020**	mg/L	EPA 200.7	7/31/24 18:48	ktn
	Also Present-						
	Iron	*CWA*	*5.15*	*mg/L*	*EPA 200.7*	7/31/24 18:48	ktn

Approved By: _____
Patti Fuller-Bloechl, Chemist

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MUSCATINE

1202 Musser St.
Muscatine, IA 52761-1645
(563) 263-2752
Fax (563) 263-3720
www.muscatineiowa.gov

WATER & RESOURCE RECOVERY FACILITY

Client:
Solid Waste Transfer Station
1000 South Houser Street
Muscatine, IA 52761

Report Date: January 15, 2025

Analytical Report

Site	Parameter	Matrix	Result	Units	Method Reference	Date Analyzed	Analyst
	Load Manifest Number:	**17506**					
	Tanker Date:	Thursday, November 14, 2024					
	Gallons:	5470					
	Ammonia	CWA	**822**	mg/L	SM 4500-NH3 B,E	11/19/2024	cmr
	Total Kjeldahl Nitrogen	CWA	**976**	mg/L	SM 4500-NH3 B,C,E	12/5/2024	cmr
	Total Phosphorus	CWA	**6.13**	mg/L	SM 4500-P B.5,E	11/22/2024	ktn
	Chloride	CWA	**2020**	mg/L	EPA 300.0	11/21/24 16:57	ktn
	Total Oil & Grease	CWA	**6**	mg/L	EPA 1664	11/22/2024	zba
	Silver	CWA	**<0.030**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Arsenic	CWA	**<0.060**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Barium	CWA	**0.7999**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Cadmium	CWA	**<0.030**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Chromium	CWA	**0.1292**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Copper	CWA	**<0.075**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Mercury	CWA	**<0.009**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Molybdenum	CWA	**<0.060**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Nickel	CWA	**0.1276**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Lead	CWA	**<0.060**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Selenium	CWA	**<0.060**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Zinc	CWA	**<0.060**	mg/L	EPA 200.7	11/20/24 11:22	ktn
	Also Present-						
	Iron	*CWA*	*11.60*	*mg/L*	*EPA 200.7*	11/20/24 11:22	ktn

IA-189

Approved By: _____
Patti Fuller-Bloechl, Chemist

Appendix F
2024 Landfill Gas Annual Report

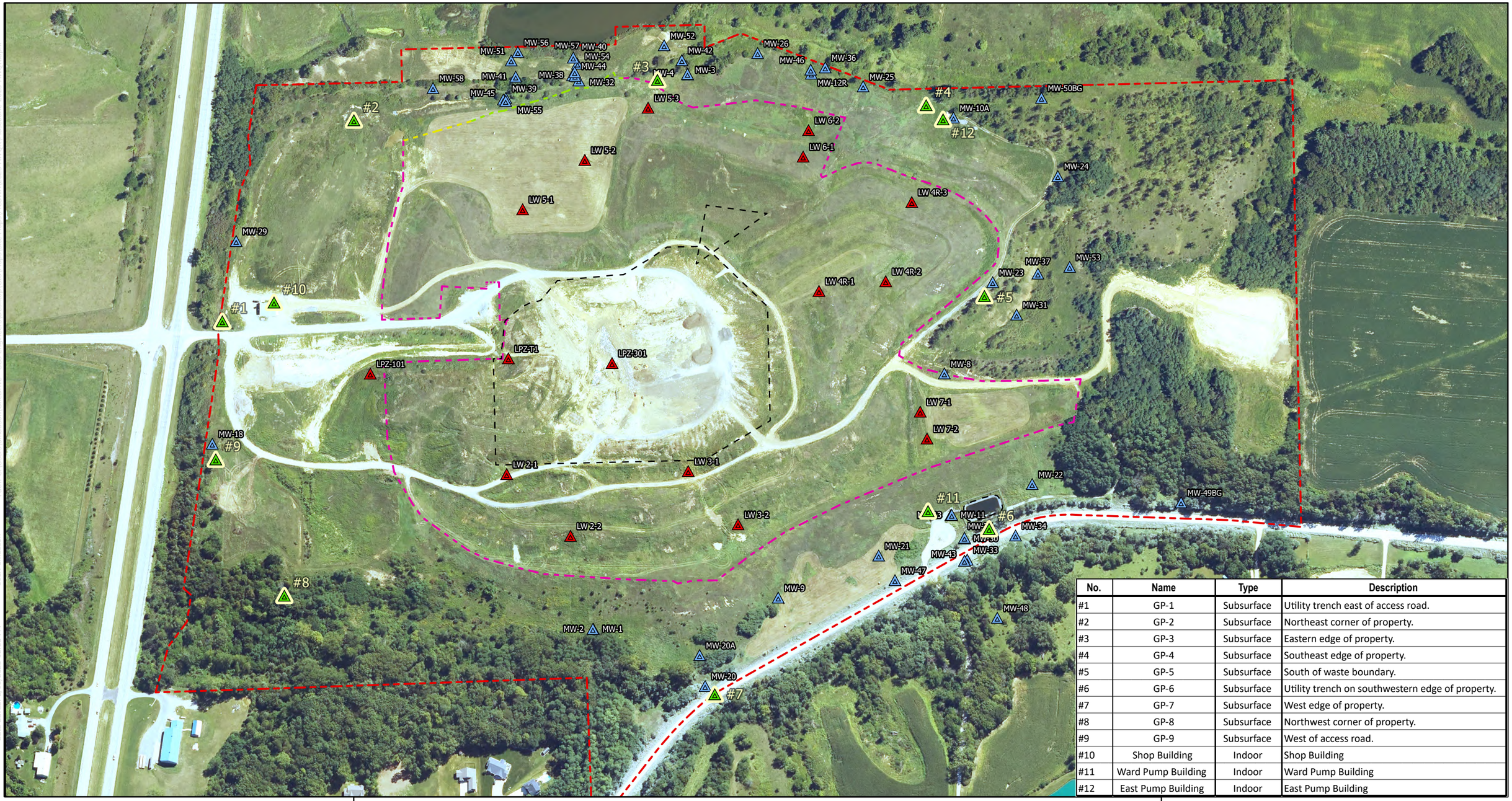
Gas Monitoring Summary
2024 Gas Monitoring Report
Muscatine County Sanitary Landfill
Permit No. 70-SDP-02-75P

Monitoring Points			Methane Results (% LEL)							
Name	Type	Description	1/5/2024	S (Y/N)	4/10/2024	S (Y/N)	7/8/2024	S (Y/N)	10/3/2024	S (Y/N)
GP-1	Subsurface	Utility trench east of access road.	0%		0%		0%		0%	
GP-2	Subsurface	Northeast corner of property.	0%		0%		0%		0%	
GP-3	Subsurface	Eastern edge of property.	0%		0%		0%		0%	
GP-4	Subsurface	Southeast edge of property.	0%		0%		0%		0%	
GP-5	Subsurface	South of waste boundary.	0%		0%		0%		0%	
GP-6	Subsurface	Utility trench on southwestern edge of property.	0%		0%		0%		0%	
GP-7	Subsurface	West edge of property.	0%		0%		0%		0%	
GP-8	Subsurface	Northwest corner of property.	0%		0%		0%		0%	
GP-9	Subsurface	West of access road.	0%		0%		0%		0%	
Shop Building	Indoor	Shop Building	0%		0%		0%		0%	
West Pump Building	Indoor	Ward Pump Building	0%		0%		0%		0%	
East Pump Building	Indoor	East Pump Building	0%		0%		0%		0%	

S(Y/N) - Was screen submerged, yes or no or blank is non-applicable

1) Methane monitoring performed by Landfill staff.

2) Water levels were not measured during this reporting period in gas probes. It should be noted that the gas probes were installed with screens extending to approximately 5-10 feet below ground surface with the exception of GP-9 which was installed to 15 feet below ground surface. However, monitoring well MW-18, in the vicinity of GP-9, has consistently measured water levels lower than 15 feet below ground surface; therefore, it is unlikely that screens are submerged.



No.	Name	Type	Description
#1	GP-1	Subsurface	Utility trench east of access road.
#2	GP-2	Subsurface	Northeast corner of property.
#3	GP-3	Subsurface	Eastern edge of property.
#4	GP-4	Subsurface	Southeast edge of property.
#5	GP-5	Subsurface	South of waste boundary.
#6	GP-6	Subsurface	Utility trench on southwestern edge of property.
#7	GP-7	Subsurface	West edge of property.
#8	GP-8	Subsurface	Northwest corner of property.
#9	GP-9	Subsurface	West of access road.
#10	Shop Building	Indoor	Shop Building
#11	Ward Pump Building	Indoor	Ward Pump Building
#12	East Pump Building	Indoor	East Pump Building

Methane Monitoring Network

Legend

- Methane Monitoring Point
- Monitoring Well
- Leachate Piezometer
- Approximate FML Boundary
- Approximate Existing Waste Boundry
- Interpolated Waste Boundary
- Located Waste Boundary
- Approximate Property Boundary

Muscatine County Sanitary Landfill
Blue Grass, Iowa
Project No: 27223255.25
Drawing Date: January 2025

Figure 1

N E S W

0 275 550 1,100 Feet

SCS ENGINEERS
environmental consultants and contractors

Esri, CGIAR, USGS, Esri, TomTom, Garmin, Foursquare, FAO, METI/NASA, USGS, USDA NAIP, Iowa State University GIS Facility

Path: C:\Users\lmadison\OneDrive - SCS Engineers\Desktop\GIS\Mans\Site Maps\MCSWA\2023 AWOR\Muscatine-2023-AWOR.aprx
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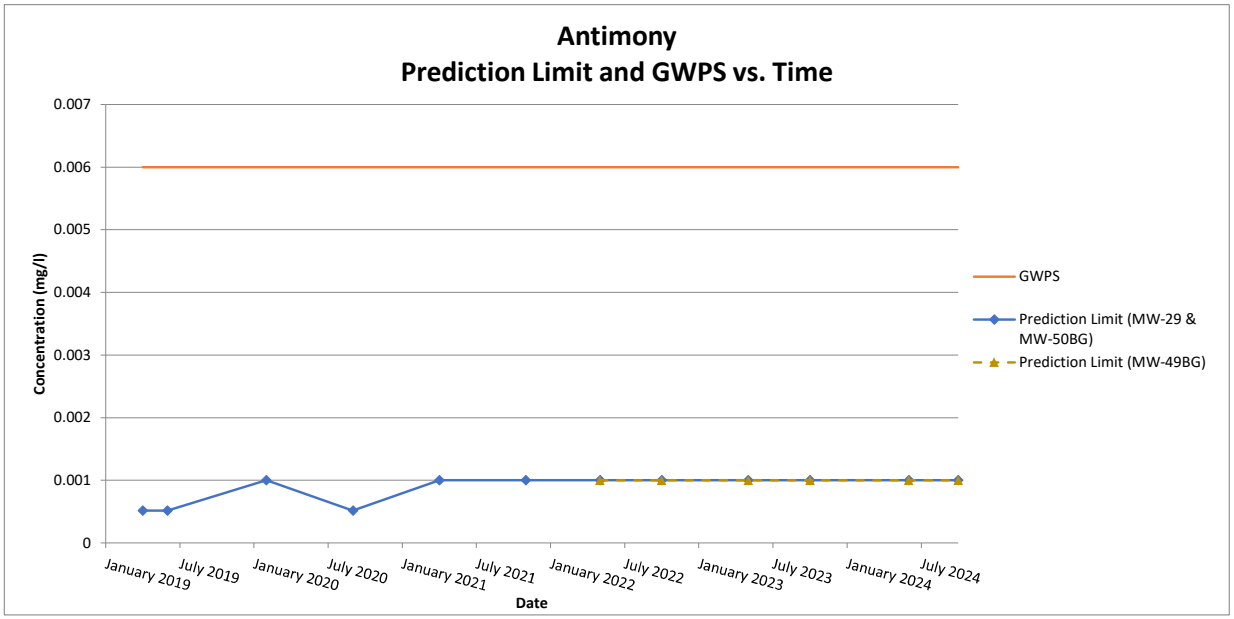
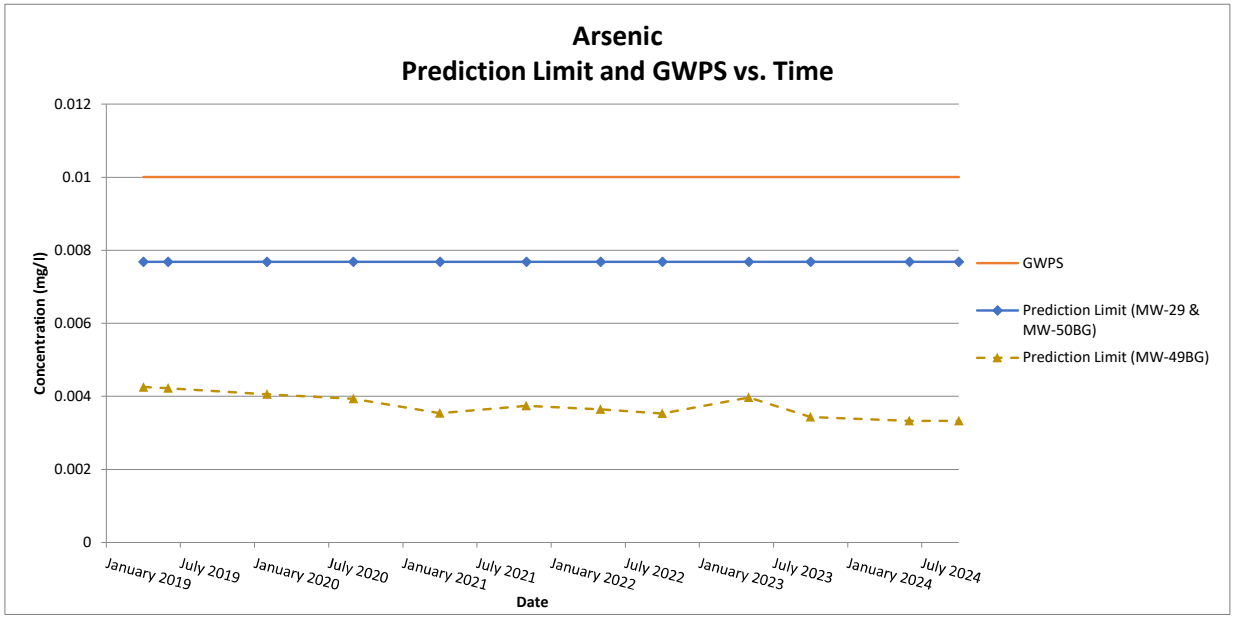
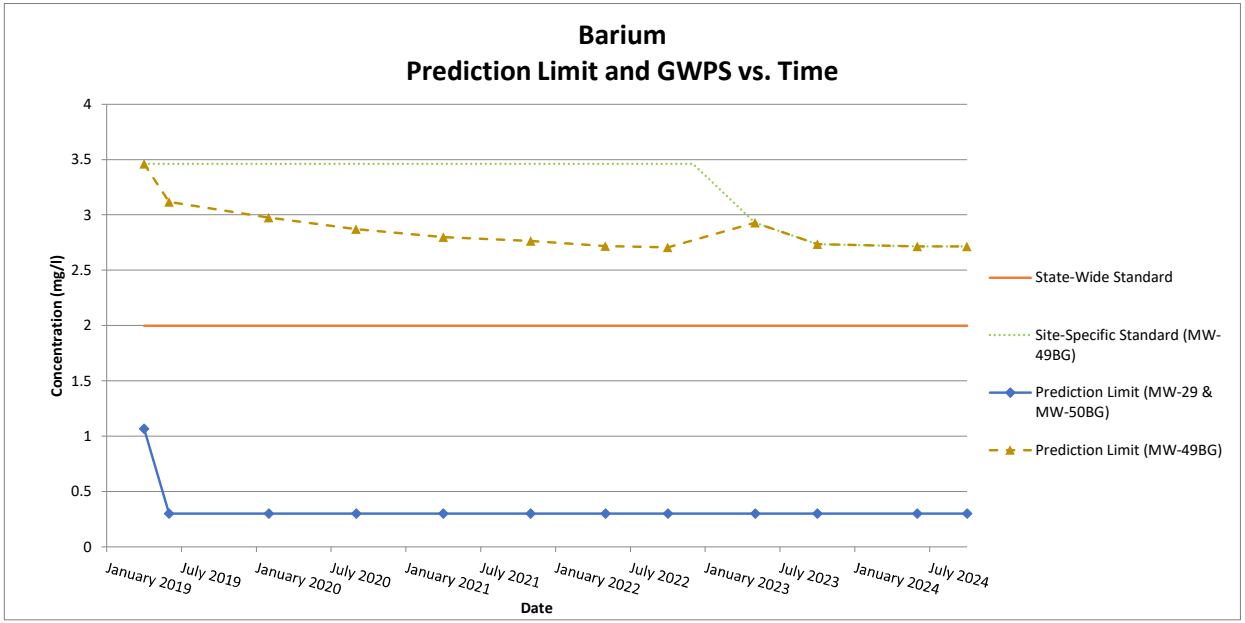
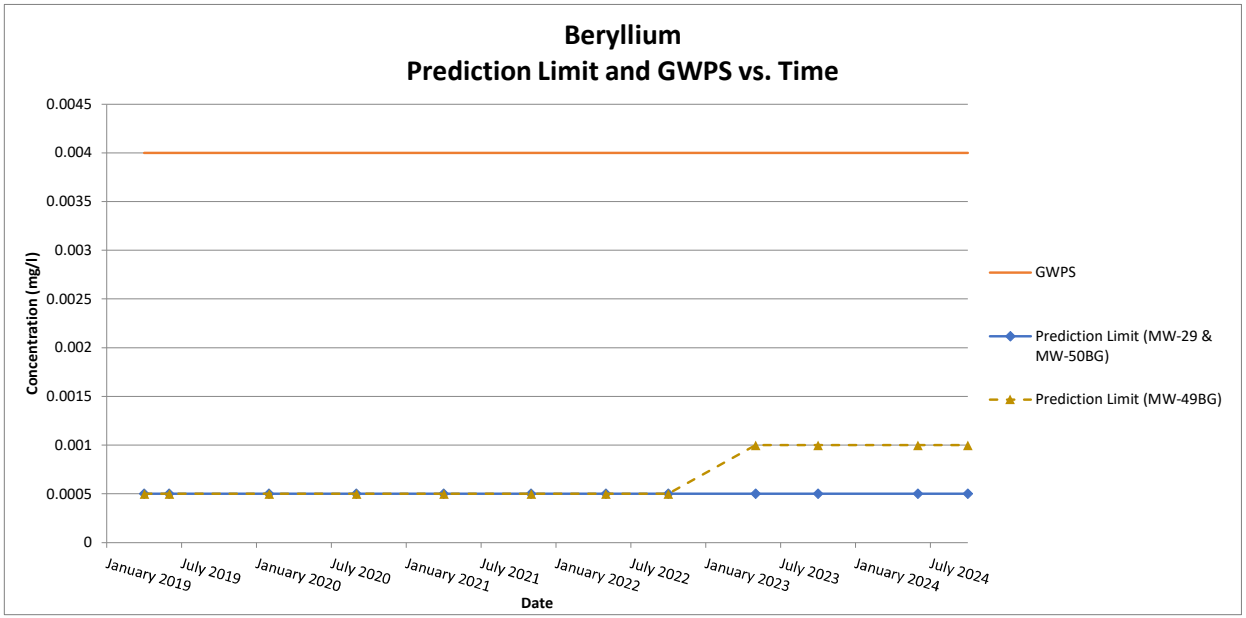
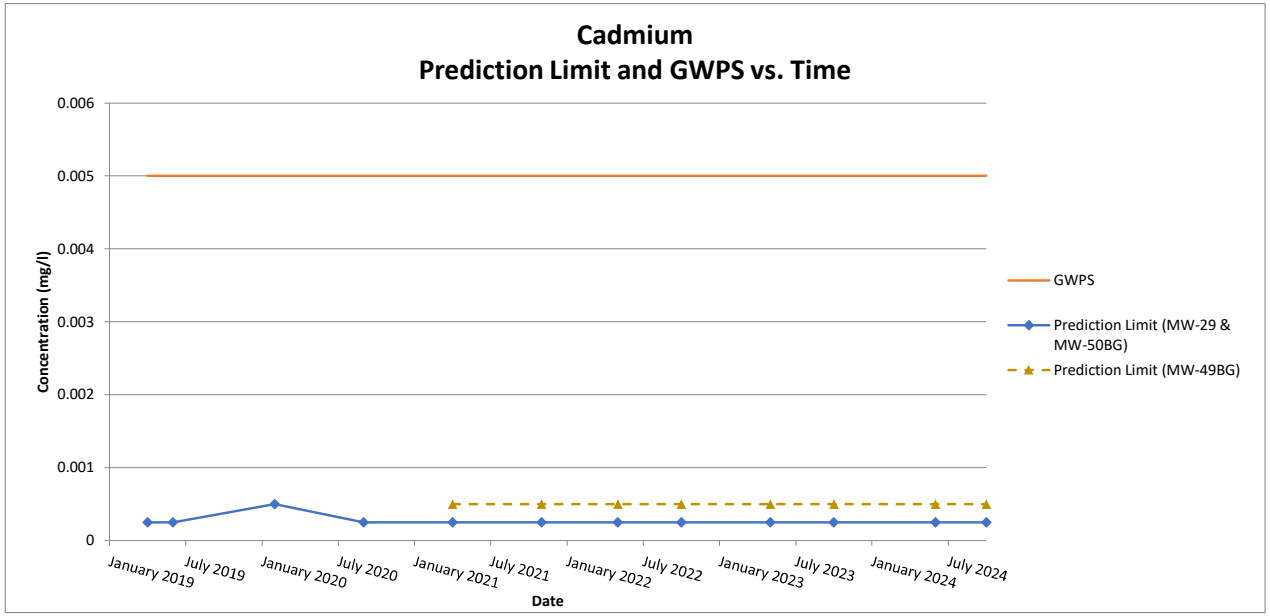
Appendix G
Standards History Graphs

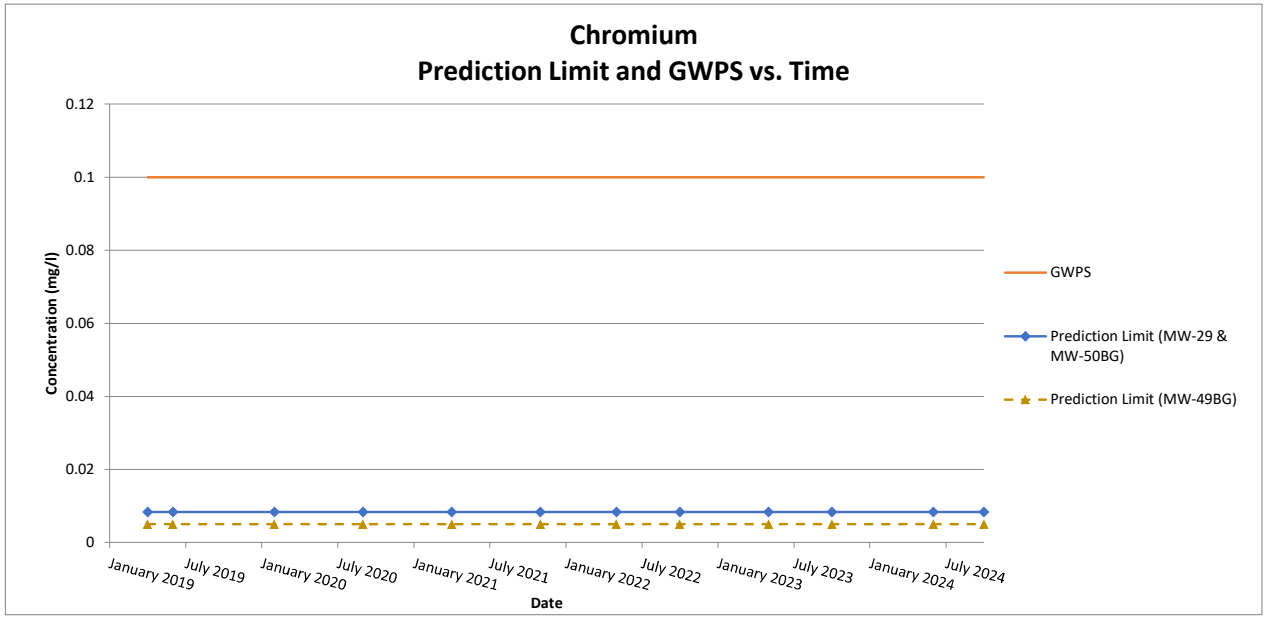

Antimony
Prediction Limit and GWPS vs. Time
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)

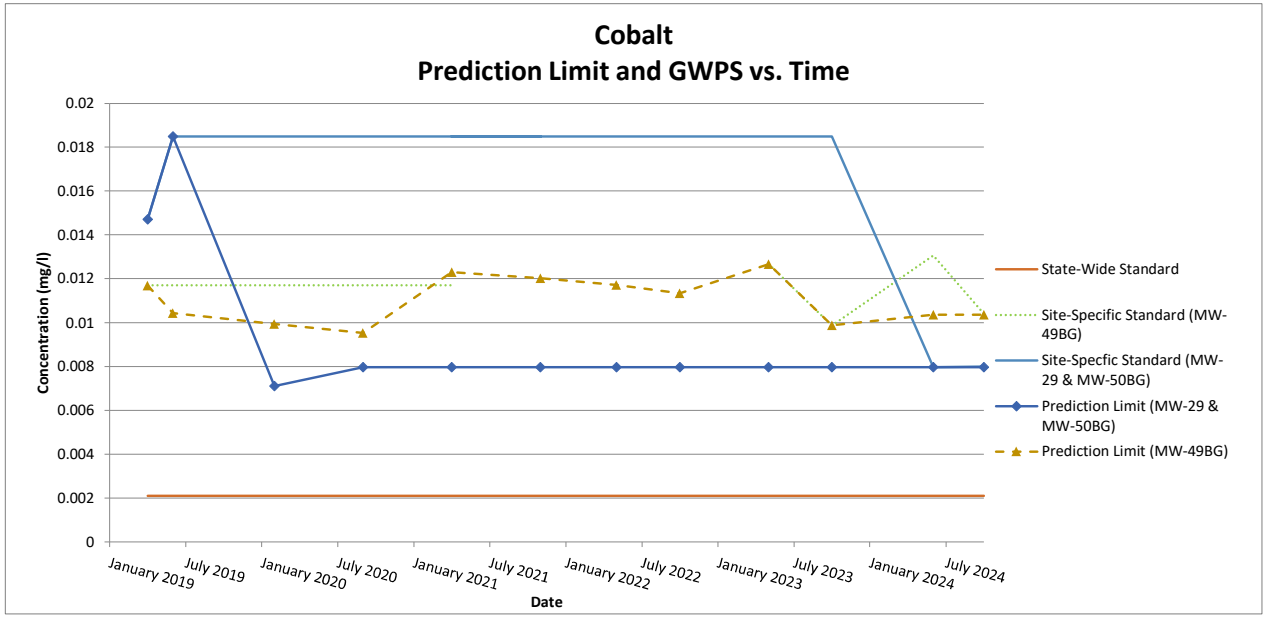

Arsenic
Prediction Limit and GWPS vs. Time
0.012
0.01
0.008
0.006
0.004
0.002
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)

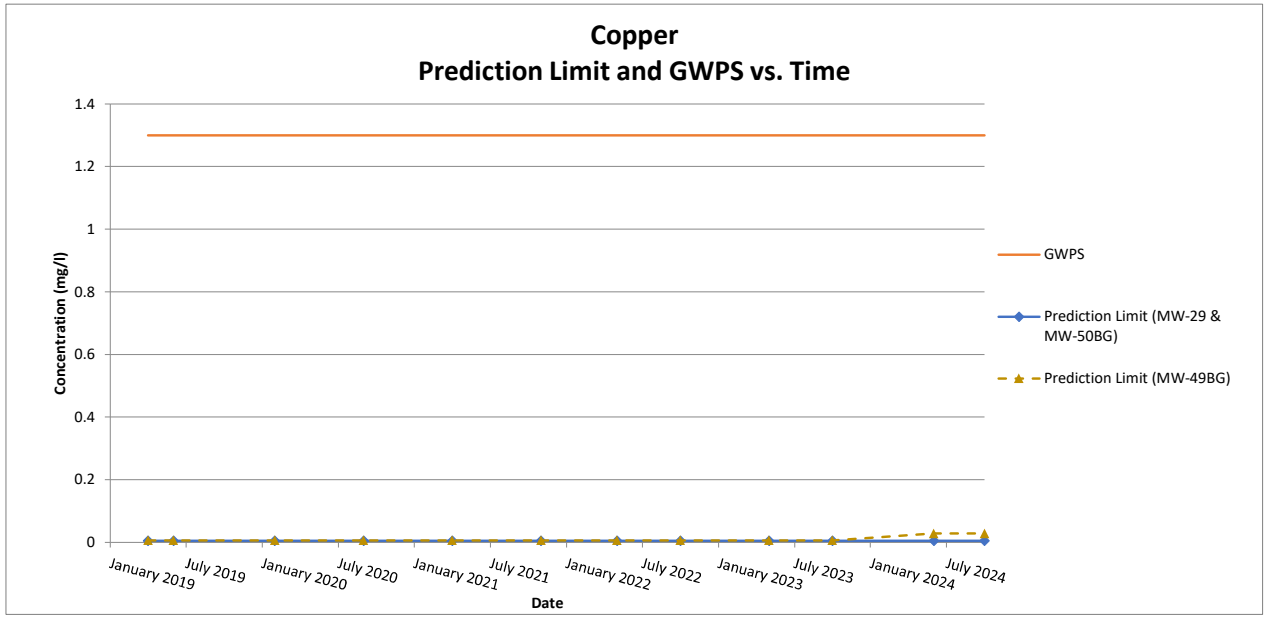

Barium
Prediction Limit and GWPS vs. Time
Concentration (mg/l)
4
3.5
3
2.5
2
1.5
1
0.5
0
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
State-Wide Standard
Site-Specific Standard (MW-49BG)
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)

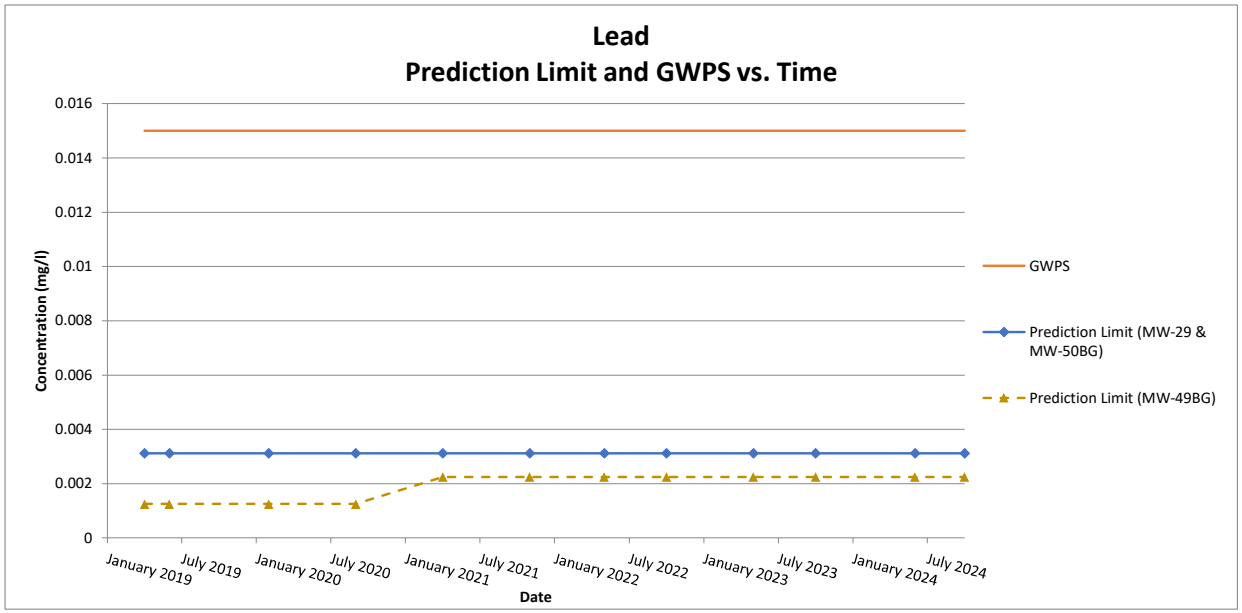

Beryllium
Prediction Limit and GWPS vs. Time
Concentration (mg/l)
0.0045
0.004
0.0035
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)

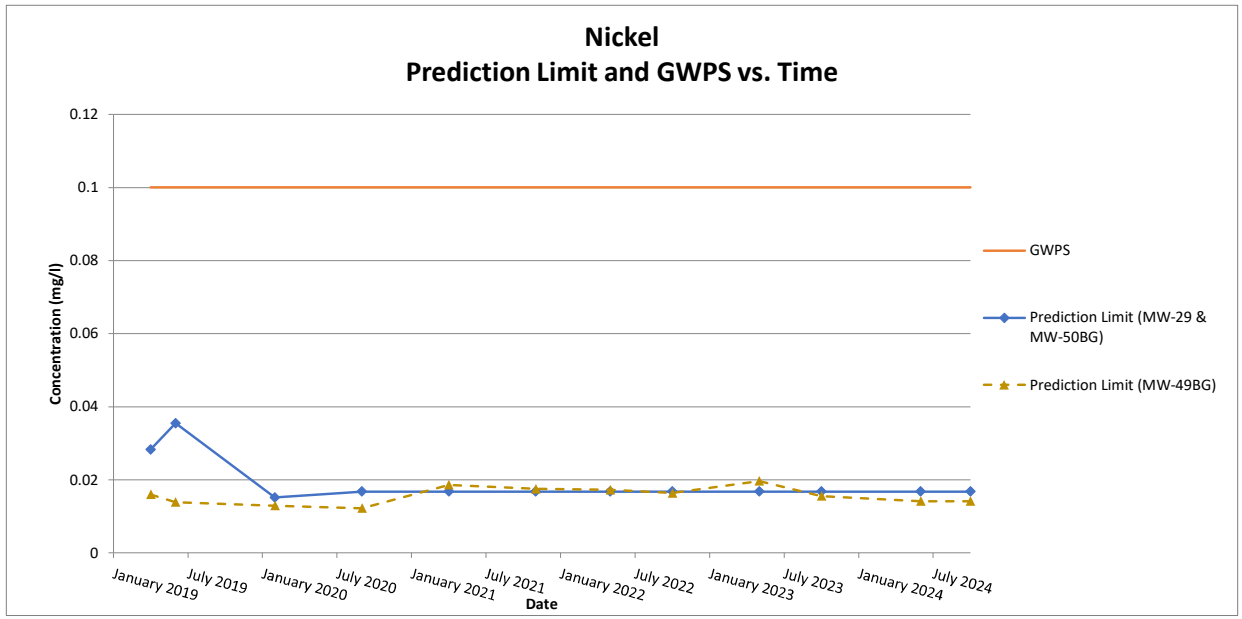

Cadmium
Prediction Limit and GWPS vs. Time
0.006
0.005
0.004
0.003
0.002
0.001
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)

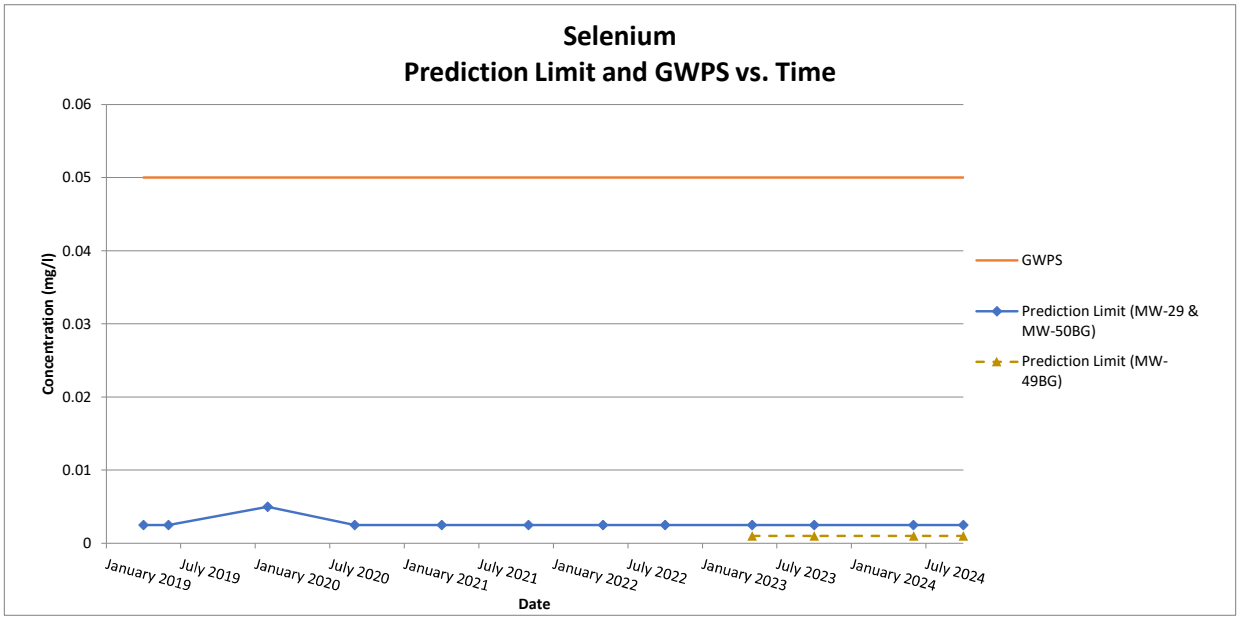

Chromium
Prediction Limit and GWPS vs. Time
0.12
0.1
0.08
0.06
0.04
0.02
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)

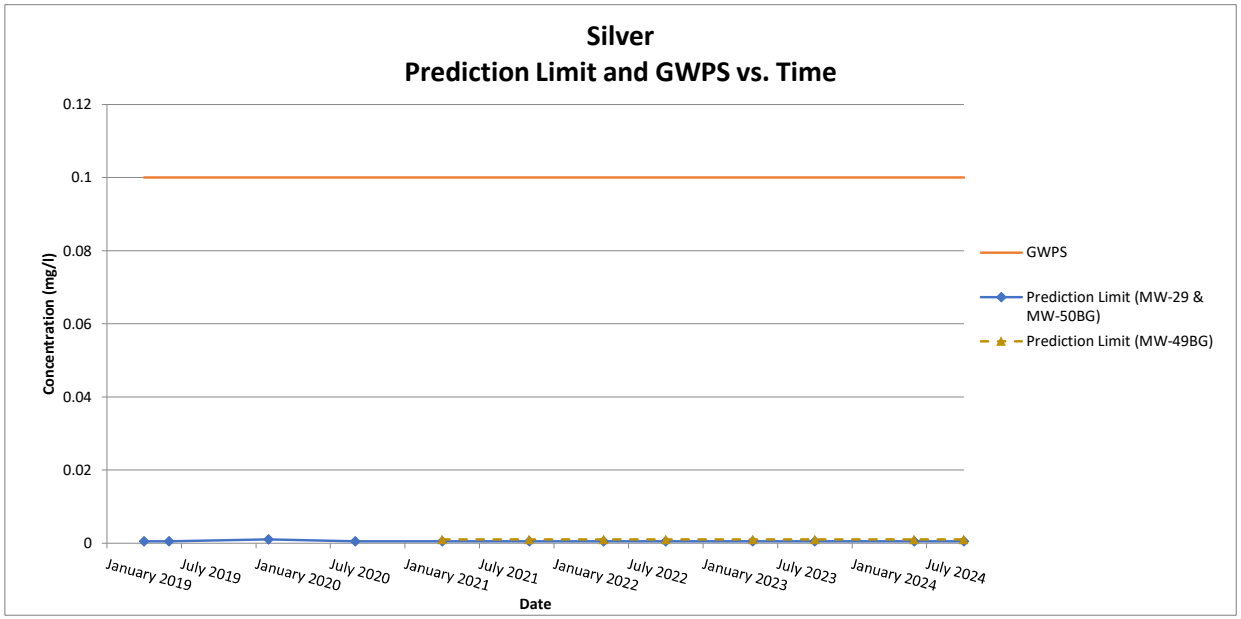

Cobalt
Prediction Limit and GWPS vs. Time
Concentration (mg/l)
0.02
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
State-Wide Standard
Site-Specific Standard (MW-49BG)
Site-Specfic Standard (MW-29 & MW-50BG)
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)

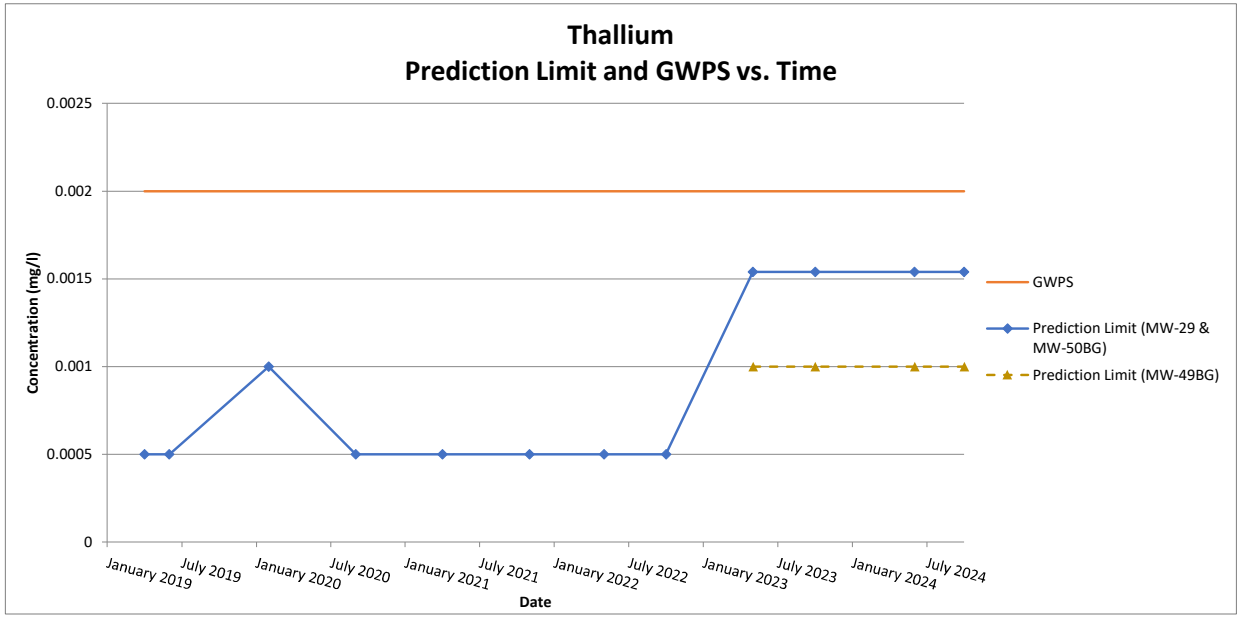

Copper
Prediction Limit and GWPS vs. Time
Concentration (mg/l)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)

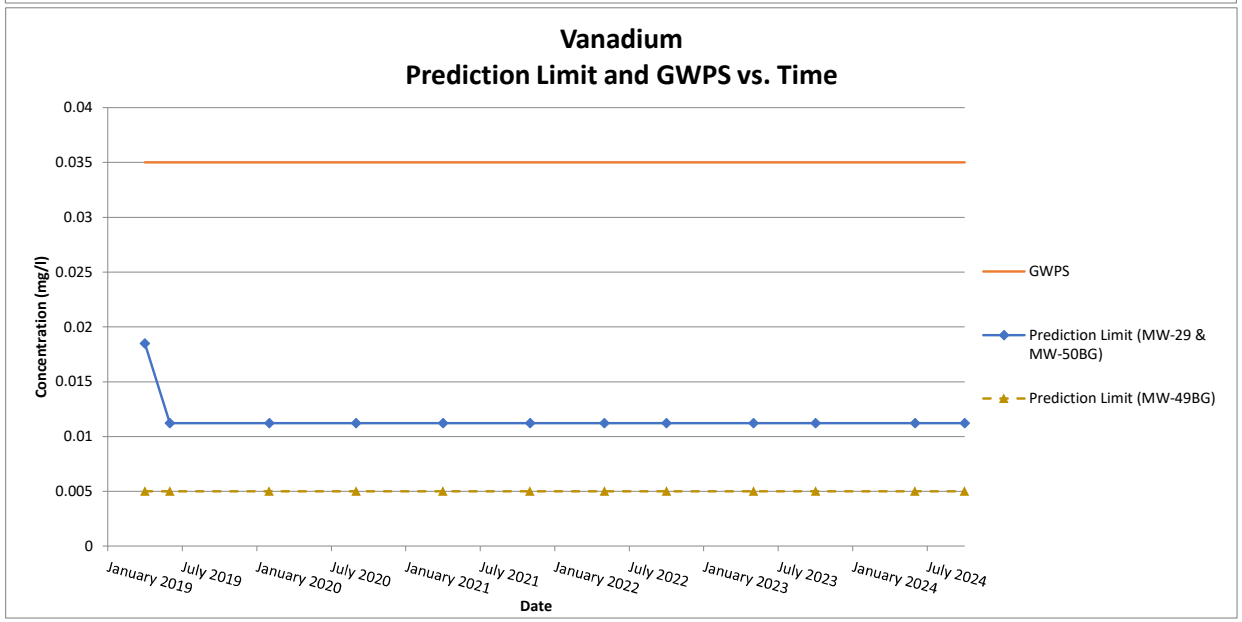

Lead
Prediction Limit and GWPS vs. Time
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)

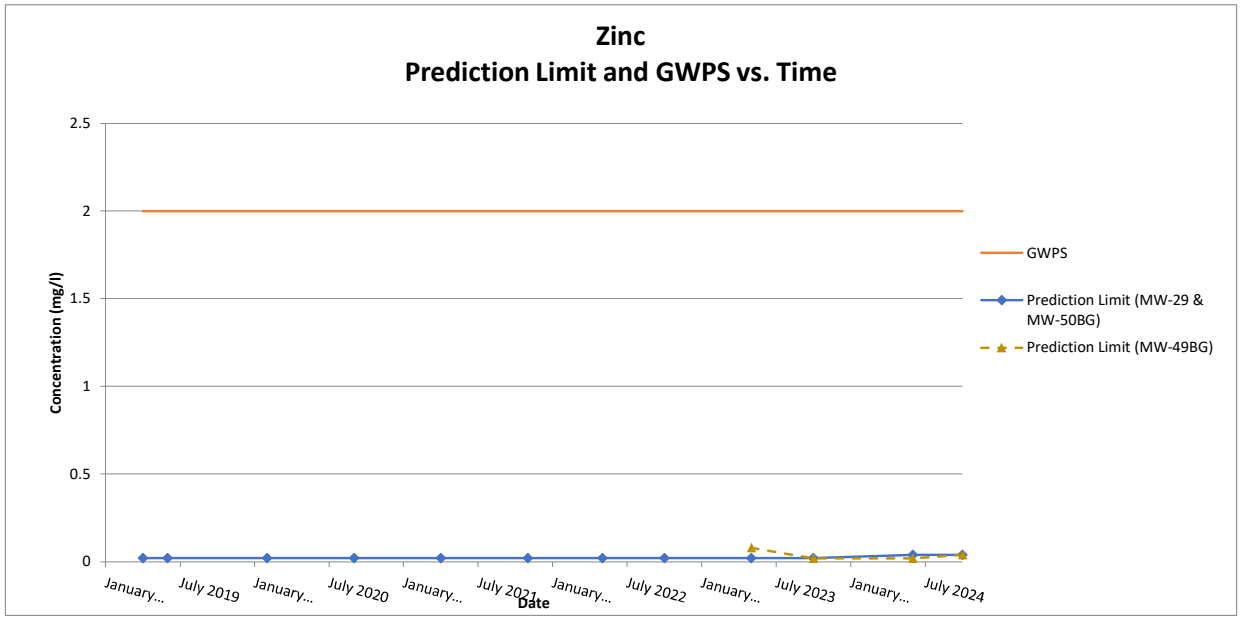

Nickel
Prediction Limit and GWPS vs. Time
0.12
0.1
0.08
0.06
0.04
0.02
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)


Selenium
Prediction Limit and GWPS vs. Time
0.06
0.05
0.04
0.03
0.02
0.01
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)


Silver
Prediction Limit and GWPS vs. Time
0.12
0.1
0.08
0.06
0.04
0.02
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)


Thallium
Prediction Limit and GWPS vs. Time
0.0025
0.002
0.0015
0.001
0.0005
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)


Vanadium
Prediction Limit and GWPS vs. Time
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Concentration (mg/l)
January 2019
July 2019
January 2020
July 2020
January 2021
July 2021
January 2022
July 2022
January 2023
July 2023
January 2024
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)


Zinc
Prediction Limit and GWPS vs. Time
2.5
2
1.5
1
0.5
0
Concentration (mg/l)
January...
July 2019
January...
July 2020
January...
July 2021
January...
July 2022
January...
July 2023
January...
July 2024
Date
GWPS
Prediction Limit (MW-29 & MW-50BG)
Prediction Limit (MW-49BG)