Preserving

Groundwater Quality Survey and Contaminant Trends Study

2024 Report

THE MIAMI CONSERVANCY DISTRICT

Abstract

This report presents an in-depth analysis of groundwater quality within the Great Miami River Watershed, focusing on data collected through the Miami Conservancy District's (MCD) groundwater monitoring program since 2014. The program aims to assess the impact of human activities on groundwater and identify potential risks to public health and the environment. Key findings include exceedances of primary drinking water standards and human-health benchmarks for certain contaminants, along with trends in agricultural and industrial influences on groundwater quality. The report also discusses MCD's strategic efforts to address these challenges, including stakeholder engagement and data-driven management practices to ensure sustainable water resources.

Introduction

MCD tracks groundwater quality throughout the Great Miami River Watershed. Beginning in 2014, the purpose of the program is to provide a better understanding of the impact of human activities on groundwater quality. In 2024, MCD staff collected samples from 13 groundwater monitoring wells to survey groundwater quality in the buried valley aquifer (see Figure 1). The wells included in the study are surrounded by land uses with the potential to release contaminants into the aquifer.

All wells are installed in unconfined sand and gravel aquifers with permeable soils at the surface. Nine of the wells are situated within 400 feet of a river or lake. A comparison of static water level measurements for those nine wells suggests hydraulic interactions occur between groundwater and surface water. Eight of the wells are screened at shallow (< 50 feet) depths. Table 1 summarizes depths and screened intervals for all the monitoring wells in this survey as well as the period of record for which groundwater monitoring activities have occurred.

Samples are collected twice a year during the spring and fall seasons. MCD contracted with Pace Analytical for analysis of all parameters collected in the spring sampling event and Alloway Environmental Company for the fall event. In 2024, the samples were analyzed for:

- Escherichia coli (E. coli)
- major ions
- metals
- nutrients
- pesticides and herbicides
- semi-volatile organic compounds (SVOCs)
- volatile organic compounds (VOCs)

The results of this study were compared with federal drinking water standards and human health-based screening levels. Drinking water standards are generally more stringent than other water standards, so when groundwater meets drinking water standards it should be suitable for other uses.

The National Primary Drinking Water Regulations are legally enforceable standards set by the USEPA (United States Environmental Protection Agency) that apply to public water systems. Primary standards set maximum contaminant levels (MCLs) that help protect public health by limiting the contaminant concentrations in drinking water. National Secondary Drinking Water Standards are advisable guidelines addressing secondary maximum contaminant levels (SMCLs) that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. The USEPA recommends, but does not require, that public water systems incorporate secondary standards.

The USEPA Office of Water also publishes non enforceable Health-Based Screening Levels (HBSLs) for some constituents which may pose potential human-health concerns but do not yet have an enforceable standard. HBSLs are used as a supplement for evaluating contaminants in drinking water in a human-health context. For this study, all MCLs and HBSLs are referred to as human-health benchmarks and used for interpreting analytical results.

It should be noted that none of the monitoring wells in MCD's groundwater monitoring network are used as a source of drinking water supply. The wells are only used for monitoring purposes.

Sampling Methods

Prior to sampling, water was purged from each well using micropurge techniques (Puls and Barcelona, 1996). Dedicated bladder pumps are installed in each monitoring well to facilitate sample collection and minimize the potential for cross contamination of sampling equipment. The bladder pumps were activated using compressed nitrogen gas and the purge water was discharged to the ground and away from the well opening.

Flow rates for the bladder pumps were not allowed to exceed 1L/min. The flow rate was checked periodically during the micropurge process using a 1-liter plastic bottle. In addition, the drawdown within the well was also measured periodically with an electronic water level tape. In general, little to no drawdown was observed and the wells were typically purged within 60 minutes prior to sampling.

MCD measured general water quality parameters in the field during the micropurge process to ensure fresh water was entering the well prior to sample collection. The parameters dissolved oxygen, pH, oxygen reduction potential (ORP), specific conductance, and temperature were monitored continuously using a flow cell connected to a multiparameter sonde. The sensors on the multiparameter sonde were calibrated at the beginning of each sampling event and then checked at the start of each week with YSI Confidence Solution to determine if calibration was needed. Field measurements were recorded at 5-minute intervals on field sampling logs. When the parameters stabilized (i.e. consistent values compared to prior measurements), the well was considered ready to be sampled. The final dissolved oxygen, pH, oxygen reduction potential (ORP), specific conductance, and temperature results are included in Appendix A.

Samples were collected from each well by replacing the flow cell and associated tubing with dedicated sample tubing. Teflon-lined tubing and fittings were used to direct the flow of water into the sample container. The samples were collected in laboratory supplied sample containers prepared, as necessary, with the appropriate preservatives. The sample containers were placed directly under the flow from the well to collect the sample. Upon collection, the containers were sealed and placed in a cooler with ice. Sample coolers were either picked up by a courier or delivered directly to the laboratory.

Duplicate samples were collected from one monitoring well during each sampling event to evaluate laboratory precision. Field blanks were also collected to assess potential contamination from field conditions during sampling.

All laboratory analyses for the spring groundwater sampling event were performed by Pace Analytical in Englewood Ohio. Alloway Environmental Company in Marion, Ohio conducted all the laboratory analytical work for the fall groundwater sampling event.

Groundwater Chemistry and Comparisons to Benchmarks

In 2024, samples were collected twice between May 13 and June 11 (spring) and September 9 and October 2 (fall).

All analytical results are presented in Appendix A of this report.

Table 2 provides a summary of significant detections of analytical parameters.

Groundwater Levels

Continuous “depth to groundwater” readings are recorded with pressure transducer sensors at 12 of the 13 monitoring wells. Monitoring well PRE10007 does not have a sensor installed. Most of the wells respond quickly to precipitation events because they are shallow wells installed in sand and gravel aquifers with permeable soils near rivers and streams. Groundwater levels measured during the spring sampling event were higher than those measured during the fall (see Figure 2) reflecting winter and spring seasonal recharge. This is typical for shallow wells in the buried valley aquifer system. Figure 2 shows four significant pulses of groundwater recharge in the monitoring wells between January 12 and April 14 resulting from precipitation events.

Later in the year, three large precipitation events with more than an inch of rain occurred between July 10 and September 28, but did not cause groundwater levels in the monitoring wells to rise as high as they did in January and April. The reason is most likely due to higher rates of evapotranspiration in summer and early fall, in comparison to winter and spring. High rates of evapotranspiration prevent precipitation from infiltrating through the unsaturated zone and recharging the aquifer. It is apparent (figure 2) that most 2024 aquifer recharge took place prior to the spring sampling event while little or no aquifer recharge occurred during the fall event except for the end of September when a large precipitation event occurred.

Groundwater Composition

Analysis of major ions (cations and anions) in groundwater samples show the dominant cation is calcium with significant quantities of magnesium and sodium also present. The average calcium concentration of groundwater samples was 97 mg/L. The dominant anion was bicarbonate with lesser amounts of chloride and sulfate. Bicarbonate content was estimated using alkalinity and pH measurements for each sample. The average bicarbonate concentration in groundwater samples was 420 mg/L. A piper diagram of major cations and anions shows the groundwater has a calcium-magnesium-bicarbonate composition (see Figure 3). Calcium-magnesium-bicarbonate groundwater tends to be present in areas where carbonate rocks comprise a significant amount of the aquifer matrix.

Aquifer Redox Conditions

The redox (reduction-oxidation) state of water exerts control on the water chemistry and what kinds of dissolved constituents are likely to be present. Redox processes can mobilize or immobilize naturally occurring toxic metals in aquifer systems, contribute to degradation or preservation of anthropogenic contaminants or generate undesirable byproducts such as manganese, iron, and hydrogen sulfide gas (U.S. Geological Survey, 2009). For this report, the framework of McMahon and Chapelle (2008) was used for assessing redox conditions in the buried valley aquifer at each monitoring well location. The redox framework is based on the dissolved concentrations of five water-quality parameters (O_2, NO_3^-, Mn^{2+}, Fe^{2+}, and SO_4^{2-}) all of which were measured in the groundwater samples collected for this report. Table 3 shows the redox framework. Analysis of groundwater samples and application of the redox framework allowed MCD to determine the general redox category for groundwater sampled in each of the 13 monitoring wells. The results are summarized in table 4.

Figure 4 depicts a conceptualized sequence of redox zones in an aquifer system as they become progressively more reduced with depth (Ohio EPA, 2014). These redox zones may or may not all be present in each location. In general, oxic waters have dissolved oxygen present and no iron or manganese. Suboxic waters have little or no dissolved oxygen but may have nitrate or manganese. Anoxic groundwaters do not have any dissolved oxygen and may have dissolved iron, hydrogen sulfide gas, and even methane. Arsenic could be present in anoxic groundwaters but is generally not present in oxic groundwaters. The reason is arsenic tends to bind with the iron hydroxides and moves with them in groundwater when the iron hydroxides are dissolved (Thomas, 2007).

The redox category remained constant at all monitoring wells for spring and fall sampling events with one exception, monitoring well HAM10010. The redox category at this well changed from mixed conditions to oxic. The reason for the change was a decrease in iron concentration from 0.23 mg/L during the spring event to 0.07 mg/L in the fall. The change in iron concentration may be related to timing of aquifer recharge as well as possible mixing of groundwaters and surface water from the Great Miami River which occasionally overtops its banks and inundates the area in which the well is installed.

Exceedances of Primary Drinking Water Standards and Human-Health Benchmarks

Groundwater samples collected from monitoring wells BUT10014, BUT10017, CLA10011, MIA00205, MON00022, MON10016, SHE00089, and WAR10003 met all human-health benchmarks including MCLs and HBSLs for both sampling events (see Table 5). Concentrations of one or more parameters exceeded human-health benchmarks in groundwater samples collected from monitoring wells BUT10016, CLA10018, HAM10010, PRE10007, and WAR10004. Table 5 provides a summary of all parameters exceeding human-health benchmarks. Parameters exceeding human-health benchmarks in at least one groundwater sample included arsenic, E. coli, iron, manganese, and radon-222.
The MCL for arsenic is 10 µg/L. Arsenic was detected at a concentration of 20.5 µg/L in the spring groundwater sample collected from monitoring well PRE10007. Arsenic was not detected in the fall groundwater sample.

E. coli was detected at 1 MPN/100mL in the spring groundwater sample collected from monitoring well BUT10016. The MCL for E. coli is 0 MPN/100 mL. E. coli was not detected in the fall groundwater sample collected from BUT10016.

The HBSL for iron is 4,000 µg/L. Iron concentrations measured in the spring and fall groundwater samples collected from monitoring well PRE10007 exceeded this benchmark. Manganese concentrations exceeded the HBSL of 300 µg/L in groundwater samples collected from monitoring well BUT10016 for both sampling events.

The proposed MCL for radon-222 is 300 pCi/L. This MCL was proposed by USEPA in 1991, but it was never finalized and is not enforced. Groundwater samples collected from monitoring wells BUT10016, CLA10018, HAM10010, and WAR10004 during the fall event had radon concentrations above 300 pCi/L.

Exceedances of Secondary Drinking Water Standards

Groundwater samples collected from monitoring wells BUT10014, BUT10017, CLA10018, and WAR10004 met all secondary drinking water standards (SMCLs) for both sampling events (see Table 6). Table 6 provides a summary of all parameters exceeding SMCLs. Parameters exceeding applicable SMCLs in at least one groundwater sample included iron, manganese, and total dissolved solids (TDS).

Anthropogenic Contaminants

Chemical parameters detected in groundwater samples that likely reflect anthropogenic sources include chloride, nitrate nitrogen, sodium, the VOC compounds acetone and bromomethane, and SVOC compounds 4-methylphenol, benzoic acid, benzyl alcohol, and phenol. Chloride and sodium are present in groundwater naturally, but human activities can elevate their concentration significantly above natural levels. Likewise, nitrogen primarily in the form of nitrate can be naturally present in groundwater, but anthropogenic sources of nitrogen can elevate nitrate concentrations above levels that would be present in the absence of human activities. SVOCs and VOCs are mostly manufactured compounds that are not typically present in groundwater unless anthropogenic sources are present. A summary of parameters detected in at least one groundwater sample and thought to reflect anthropogenic sources of contaminants follows.

Chloride and Sodium

Chloride has an SMCL of 250 mg/L in drinking water. There is a drinking water advisory (DWA) for sodium of 20 mg/L for individuals on a 500 milligram per day (mg/d), low-sodium diet (U.S. Environmental Protection Agency, 2018). Ohio EPA considers chloride concentrations above 20 mg/L in Ohio groundwater to be an indication of anthropogenic impact (Ohio EPA, 2023). Kunz and Sroka (2004) reported mean background concentrations of chloride ranging from 13 to 23 mg/L in shallow unconsolidated aquifers in Champaign, Clark, and Pickaway counties in Ohio.

For the purposes of determining background concentrations of sodium and chloride in the BVAS, MCD analyzed Ohio EPA ambient groundwater quality data. Sodium and chloride data were examined for seven Ohio EPA ambient monitoring wells installed in the BVAS or in alluvial sand and gravel aquifers within the Great Miami River Watershed. These wells were selected because they were installed in rural areas where impacts from road salt applications as well as other anthropogenic sources are thought to be minimal. The wells were also selected because sodium and chloride data collected from these wells did not show evidence of increasing trends. Sodium and chloride data for these ambient monitoring wells was collected between the years 1981 and 2020.   Analysis of data from 164 groundwater samples showed median sodium and chloride concentrations of 13.0 and 22.2 mg/L respectively. The upper quartile sodium and chloride concentrations were 16.0 and 28.0 mg/L. MCD elected to use the upper quartile concentrations as a conservative threshold for assessing anthropogenic impact.

- Chloride concentrations measured in groundwater samples from monitoring wells BUT10014, BUT10017, CLA1011, HAM10010, MON10016, WAR10003, and WAR10004 exceeded 28 mg/L in at least one sampling event in 2024 and likely reflect anthropogenic sources.

- Sodium concentrations in groundwater samples from monitoring wells BUT10014, BUT10017, HAM10010, MON10016, PRE10007, WAR10003, and WAR10004 exceeded 16 mg/L in one or both sampling events also reflecting anthropogenic sources.

- Anthropogenic sources of chloride and sodium include road salt application for deicing as well as private and municipal wastewater from homes with water softeners.

Nitrogen as Nitrate

Nitrogen in groundwater is found in inorganic and organic forms. Inorganic nitrogen is present as ammonia, nitrite, and nitrate. Of these three inorganic forms, nitrate is the dominant species. According to Madison and Brunett (1985), nitrate concentrations above 3.0 mg/L in groundwater are often indicative of anthropogenic sources. Nitrate concentrations measured in groundwater samples during the spring and fall sampling events for monitoring wells BUT10017, CLA10018, and MIA00205 exceeded the 3.0 mg/L threshold.

Common sources of nitrate in groundwater include fertilizers, domestic or municipal wastewater, and animal waste or manure applied as fertilizer. Monitoring wells CLA10018 and MIA00205 are particularly vulnerable to sources of nitrate. Both wells are located within or adjacent to agricultural fields used for corn and soybean production and screened at shallow depths. Wells BUT10017 and CLA10018 had oxic groundwater conditions which tend to allow nitrate to remain stable (McMahon and Chapelle, 2008). In contrast, monitoring well MIA00205 had anoxic groundwater conditions yet still had detectable concentrations of nitrate.

Analysis of nitrogen and oxygen isotopes measured in groundwater samples collected from BUT10017 and CLA10018 in 2017 and 2018 suggested an inorganic fertilizer source for the nitrate present in those wells (Bedaso and Ekberg, 2019).

Semi-volatile Organic Compounds (SVOCs)

SVOCs are compounds that have a lower vapor pressure than VOCs and have low water solubility. They can be found in both the gas phase and condensed phases in the environment. SVOCs are used in a variety of applications including plasticizers, flame retardants, and building materials. They can be found in petroleum products, such as diesel fuels, lubrication oils, and coal tar. SVOCs are also used in the manufacturing processes for plastics, dyes, and many consumer and commercial products. The presence of human made SVOCs in groundwater is an indication of anthropogenic impact.

The SVOC compounds 4-methylphenol (63 µg/L), benzoic acid (28 µg/L), benzyl alcohol (19 µg/L), and phenol (11 µg/L) were detected in the spring groundwater sample collected from monitoring well MON10016. There was no other detection of SVOCs in groundwater samples collected in the spring event. No detection of SVOCs occurred in groundwater samples collected during the fall event including the sample collected from MON10016. Phenol was the only SVOC detected that has a human-health benchmark. The benchmark for phenol is 2000 µg/L.

Volatile Organic Compounds (VOCs)

VOCs are compounds that have high vapor pressure and low water solubility. Many VOCs are human made chemicals used and produced in the manufacturing processes of paints, pharmaceuticals, and refrigerants. Some of the properties of VOCs make them useful as industrial solvents, fuel oxygenates, and dry-cleaning agents. VOCs can also be produced as a by-product from water disinfection processes. The presence of human made VOCs in groundwater is an indication of anthropogenic impact.

The VOC compounds acetone and bromomethane were detected on one or more groundwater samples collected during the spring sampling event. There were no detections of VOCs in groundwater samples collected during the fall event. Acetone was detected in groundwater samples collected from monitoring wells BUT10017 (8 µg/L) and CLA10018 (2.07 µg/L). The detection of acetone for CLA10018 was qualified because the compound was also detected in the method blank suggesting potential laboratory contamination during sample preparation or analysis. The human-health benchmark for acetone is 6000 µg/L. Neither sample concentration was close to this benchmark.

Bromomethane was detected in the groundwater sample collected from monitoring well BUT10014 at a concentration of 1.23 µg/L. This detection was also qualified due to detection of the compound in the method blank. The human-health benchmark for bromomethane is 140 µg/L.

Naturally Occurring Contaminants

Arsenic

Arsenic occurs naturally in regional groundwater and concentrations of arsenic are largely controlled by redox conditions. The dominant mechanism for moving arsenic into groundwater is thought to be the release of arsenic from iron oxides in the aquifer under reducing conditions (Thomas and others, 2008). The MCL for arsenic is 10 µg/L. The concentration of arsenic in the groundwater sample collected from monitoring well PRE10007 (20.7 µg/L) exceeded this standard. Groundwater samples collected from monitoring wells BUT10016 (4.8 µg/L), CLA10011 (6.1 µg/L), and WAR10003 (2.5 µg/L) had detectable concentrations of arsenic for the spring sampling events. Arsenic was not detected in any groundwater samples collected in the fall event. The most likely reason was an increase in the laboratory reporting limit for arsenic from 1 µg/L to 10 µg/L between the two sampling events.

Groundwater samples from all wells with detectable concentrations of arsenic indicated anoxic conditions with elevated levels of iron and low levels of dissolved oxygen suggesting reducing conditions present in the aquifer zone in which the wells are screened.

Lithium

Lithium is a metal that occurs naturally in groundwater from aquifers that contain lithium minerals or saline water. The HBSL for lithium is 10 µg/L. The lithium concentrations measured in spring and fall groundwater sample collected from monitoring well MON00022 (10 µg/L and 12.7 µg/L) equaled or exceeded the HBSL. Lithium was also detected in groundwater samples collected from monitoring wells PRE10007 and WAR10003 during the spring event at estimated concentrations below the laboratory reporting limit.

Nuisance Contaminants

Hardness, iron, manganese, and total dissolved solids are generally considered to be “nuisance” contaminants. These contaminants are present naturally in groundwater from the buried valley aquifer system. Their presence does not typically pose a health threat. Nevertheless, they can have adverse aesthetic impacts that cause water to appear cloudy or colored. They can also adversely impact plumbing fixtures, stain laundry, and cause taste and

odor issues. At high enough concentrations manganese may pose health concerns. In 2004, U.S. EPA issued a lifetime health advisory level of 300 µg/L for manganese in drinking water. This benchmark indicates a safe level of exposure over the course of a lifetime.
Hardness is a measure of the amount of dissolved calcium and magnesium in a water sample. When the hardness value exceeds 180 mg/L the water is very hard (USGS, 2018). All groundwater samples collected in 2024 had hardness values exceeding 180 mg/L. There is no SMCL for water hardness.

The SMCL for Iron is 300 µg/L. Iron concentrations measured in samples collected from monitoring wells BUT10016, CLA10011, PRE10007, and WAR10003 exceeded this standard in both sampling events.

The SMCL for manganese is 50 µg/L. Manganese concentrations in groundwater samples collected from monitoring wells BUT10016, CLA10011, MIA00205, MON10016, SHE00089 and WAR10003 exceeded this standard during both sampling events. Manganese also has a HBSL (lifetime advisory level) of 300 µg/L. The spring and fall groundwater samples collected from well BUT10016 exceeded this standard while the fall sample collected from SHE00089 exceeded the standard.

Total dissolved solids (TDS) are comprised of inorganic salts (principally calcium, magnesium, potassium, sodium, bicarbonates, chlorides, and sulfates). TDS is the sum of cations and anions in a water sample. The SMCL for TDS is 500 mg/L. Groundwater samples collected from wells HAM10010, MON00022, and WAR10003 exceeded this standard for at least one sampling event.

Radon-222

Radon-222 (Radon) is a naturally occurring radioactive gas resulting from the decay of Uranium-238. National and international scientific organizations have concluded that radon causes lung cancer in humans. Breathing radon from the indoor air in homes is the primary public health risk from radon, contributing to about 20,000 lung cancer deaths each year in the United States, according to a 1999 landmark report by the National Research Council on radon in indoor air (National Research Council, 1999). USEPA proposed an MCL of 300 pCi/L (picocuries per liter) for radon in 1999 along with a higher alternative maximum contaminant level (AMCL) of 4,000 pCi/L. An AMCL refers to a less stringent level of contaminant allowed in drinking water when achieving the standard "Maximum Contaminant Level" (MCL) might be technically or economically challenging. The AMCL required a multimedia mitigation program to address radon risks in indoor air. The proposed radon rule was never promulgated.

Radon was detected in all groundwater samples collected during the spring and fall sampling events. Concentrations of radon fell below the proposed MCL for all groundwater samples collected during the spring sampling event. However, radon concentrations exceeded this benchmark in groundwater samples collected from monitoring wells BUT10016, CLA10018, HAM10010, and WAR10004 during the fall event.

Contaminant Trends

Groundwater quality data collected in 2024, and in previous years, was analyzed for trends in contaminant concentrations. MCD selected the chemical parameters chloride, sodium, and nitrogen in the form of nitrate as parameters indicative of anthropogenic sources. The parameters arsenic, iron, lithium, and manganese were selected to examine trends in naturally occurring contaminant concentrations.

Chloride and Sodium

Chloride concentrations measured in samples collected from monitoring wells BUT10014, MON10016 and WAR10003 are often higher than 70 mg/L and consistently above the concentrations measured in samples from the other monitoring wells (see Figure 5). Chloride concentrations in monitoring well WAR10003 seem to be trending upward, while recent concentrations in monitoring wells BUT10014 and MON10016 have declined. There does not appear to be any strong upward or downward trends with chloride concentrations measured in groundwater samples collected from other monitoring wells.

Like chloride, sodium concentrations measured in the three wells (BUT10014, MON10016, and WAR10003) are consistently higher than concentrations measured at other monitoring wells (see Figure 6). As with chloride, sodium concentration in monitoring well WAR10003 seem to be increasing while recent concentrations of sodium in monitoring wells BUT10014 and MON10016 have declined. There does not appear to be any strong upward or downward trends with sodium concentration measured on other monitoring wells.

Seasonal fluctuations in chloride and sodium are often more pronounced in wells with the highest concentrations of those parameters. These fluctuations may reflect infiltration of saline water from snow melt and rainfall events after seasonal applications of road salt.

Nitrogen as Nitrate

Nitrate concentrations measured at monitoring wells BUT10017, CLA10018 and MIA00205 consistently exceed 3 mg/L and likely reflect anthropogenic sources of nitrate to the aquifer screened by those wells (see Figure 7). Concentrations of nitrate in groundwater samples from all three monitoring wells fluctuate from year to year. Nitrate concentrations in monitoring well CLA10018 appear to be trending downward since 2017.

Arsenic

Overall, arsenic concentrations in samples collected from PRE10007 seem to be showing significant fluctuations from sampling event to sampling event and may reflect mixing of groundwater from different aquifer zones (see Figure 8). Arsenic concentrations measured in monitoring wells BUT10016 and CLA10011 fluctuate between 4 and 9 µg/L but don't appear to show an upward or downward trend.

Iron

There are large fluctuations in iron concentrations measured in groundwater samples collected from monitoring well PRE10007. The large fluctuations in arsenic and iron concentrations could be an indication of mixing of oxic and anoxic groundwater in the vicinity of the well. Groundwater samples showed anoxic groundwater redox conditions in 2024.

Monitoring well PRE10007 is in a municipal well field. MCD staff noted fluctuating dissolved oxygen levels in the well during previous sampling events as nearby production wells turned on and off. This suggests there could be fluctuating redox conditions at the well. There does not appear to be any upward or downward trend in iron concentrations in the other monitoring wells.

Concentrations of dissolved iron greater than 0.1 mg/L in groundwater are often associated with the presence of arsenic in the glacial aquifer system of the northern United States (Thomas, 2007). When compared with previous studies, iron concentrations in groundwater samples collected from monitoring wells BUT10016, CLA10011, PRE10007, and WAR10003 consistently exceed the drinking water SMCL of 0.3 mg/L (see Figure 9). Groundwater samples from all four of those monitoring wells consistently have detectable concentrations of arsenic.

Lithium

Lithium is consistently detected at concentrations above the reporting limit in groundwater samples collected from monitoring wells MON00022 and WAR10003 (see Figure 10). Lithium concentrations in MON00022 fluctuate above and below the HBSL of 10 µg/L but do not show an upward or downward trend. Previous concentrations of lithium in monitoring well WAR10003 have been consistent from sampling event to sampling event and ranged between 5 and 7 µg/L. However, the fall 2023 groundwater samples had a lithium concentration of 9.8 µg/L - just below the HBSL. There have been periodic but inconsistent detections of lithium in monitoring wells BUT10014, HAM10010, and PRE10007.

Manganese

Manganese concentrations in groundwater samples collected from monitoring wells BUT10016, CLA10011, MIA00205, MON10016, SHE00089, and WAR10003 consistently exceeded the SMCL of 50 µg/L in previous sampling events. In 2023, the laboratory performing the metals analysis increased the reporting limit from 5 µg/L to 100 µg/L. This reporting limit exceeded the SMCL for manganese and was likely too high to detect manganese in samples from monitoring wells CLA10011, MIA00205, MON10016, and WAR10003. In 2024, the laboratory reporting limit was lowered allowing for manganese to be detected in groundwater samples collected from these monitoring wells.

The HBSL for manganese is 300 µg/L. Manganese concentrations measured in groundwater samples from monitoring well BUT10016 consistently exceed the HBSL. Prior to 2023, manganese concentrations measured in groundwater samples collected from monitoring well

SHE00089 were below the HBSL. However, in 2023 and 2024, manganese concentrations equaled or exceeded the HBSL in at least one groundwater sample.

There does not appear to be a strong upward or downward trend in manganese concentrations for any of the monitoring wells (see Figure 11).

Conclusions

The Great Miami River Watershed faces significant groundwater quality challenges, as evidenced by exceedances of critical drinking water standards and health benchmarks. MCD's monitoring program has been instrumental in identifying and understanding these risks, providing a scientific basis for targeted interventions. The findings underscore the need for continued vigilance and adaptive management to mitigate contamination sources and safeguard public health. Moving forward, MCD remains committed to collaborative efforts with stakeholders to enhance water quality and ensure the long-term resilience of the watershed's groundwater resources.

The sample set of the groundwater monitoring program is insufficient in size and scope to characterize in detail the health of the entire buried valley aquifer system. Yet, the results can be used to better understand which contaminants to target for further investigation and studies. Furthermore, when the 2024 results are compared with previous rounds of sampling and other studies, some themes related to groundwater quality in the aquifer begin to emerge.

Contaminants originating from anthropogenic sources are sometimes present in groundwater samples from sensitive aquifer settings such as shallow unconfined sand and gravel aquifers. This conclusion is supported by other studies which collected groundwater samples from shallow zones in the buried valley aquifer and found similar results (Buszka and others, 2023), (Ohio Environmental Protection Agency, 2015), (Rowe and others, 2004), and (Stuck, 2021a and 2021b).

Naturally occurring contaminants including arsenic and nuisance contaminants are often present in groundwater samples collected from the buried valley aquifer system. Arsenic concentrations may exceed the MCL. Nuisance contaminants often exceed secondary drinking water standards and in some cases health-based screening levels. Water softening as well as iron and manganese removal may be necessary to deliver the desired water quality.

These findings emphasize the importance of managing land use over the buried valley aquifer to preserve the quality of the water. They also highlight the interconnected nature of the Great Miami River and the underlying buried valley aquifer system. Anthropogenic constituents present in rivers and streams can also be found in buried valley aquifers. Proactive groundwater protection strategies are critical to ensure the quality of groundwater in our region.

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Appendix A - Tables

Table 1 *- Construction details for groundwater monitoring wells.*

Monitoring Well	Casing Diameter (in)	Well Depth (ft)	Screened Interval (ft)	Aquifer Screened	Distance to River or Lake (ft)	Start of Sampling Record
BUT10014	2	40	35 - 40	Sand and Gravel	120	Spring 2014
BUT10016	2	65	60 - 65	Sand and Gravel	120	Spring 2014
BUT10017	2	39	34 - 39	Sand and Gravel	120	Spring 2016
CLA10011	2	60	55 - 60	Sand and Gravel	135	Spring 2016
CLA10018	2	16	11 - 16	Sand and Gravel	2,810	Spring 2014
HAM10010	2	30	28 - 30	Sand and Gravel	340	Spring 2023
MIA00205	2	24	19 - 24	Sand and Gravel	1,130	Spring 2015
MON00022	2	15	10 - 15	Sand and Gravel	110	Spring 2015
MON10016	2	108	88 - 108	Sand and Gravel	355	Spring 2014
PRE10007	2	60	40 - 60	Sand and Gravel	960	Spring 2016
SHE00089	2	43	38 - 43	Sand and Gravel	600	Spring 2015
WAR10003	2	67	62 - 67	Sand and Gravel	85	Spring 2016
WAR10004	2	32.5	27.5 - 32.5	Sand and Gravel	90	Spring 2015

Table 2 *- Summary of significant detections of analytical parameters.*

Spring 2024		Benchmark		Sample Sites						
Parameter	**Units**	**Type**	**Value**	**BUT10014**	**BUT10016**	**BUT10017**	**CLA10011**	**CLA10018**	**HAM10010**	**MIA00205**
Chloride	mg/L	SMCL	250	52.5			28.2		45.2	
Nitrogen, Nitrate-Nitrite	mg/L	MCL	10			5.25		7.04		4.10
Sodium	mg/L	–	–	34.6					19.5	
E. coli	MPN/100mL	MCL	0		**1**					
Acetone	ug/L	HBSL	6000			8		2.07B		
Bromomethane	ug/L	HHBP	140	1.23B						
4-Methylphenol	ug/L	–	–							
Benzoic acid	ug/L	—	—							
Benzyl alcohol	ug/L	–	–							
Phenol	ug/L	HBSL	2000							
Arsenic	ug/L	MCL	10		4.8		6.1		0.5J	
Iron	µg/L	HBSL, SMCL	4000, 300		**1400**		**2860**			
Manganese	µg/L	HBSL, SMCL	300, 50		**428**		**56**			**53**
Lithium	µg/L	HBSL	10							
Total Hardness	mg/L	—	—	360	299	321	394	308	448	351
Total Dissolved Solids	mg/L	SMCL	500						**514**	
Radon-222	pCi/L	Proposed MCL	300	118	249	173	72.9	119		92.6

Table 2 cont. *- Summary of significant detections of analytical parameters.*

Spring 2024		**Benchmark**		**Sample Sites**						
Parameter	**Units**	**Type**	**Value**	**MON00022**	**MON10016**	**PRE10007**	**SHE00089**	**WAR10003**	**WAR10004**	
Chloride	mg/L	SMCL	250		58.1			128	42.3	
Nitrogen, Nitrate-Nitrite	mg/L	MCL	10							
Sodium	mg/L	–	–		34.1	24.1		48.4	22.8	
E. coli	MPN/100mL	MCL	0							
Acetone	ug/L	HBSL	6000							
Bromomethane	ug/L	HHBP	140							
4-Methylphenol	ug/L	–	–		63					
Benzoic acid	ug/L	—	—		28					
Benzyl alcohol	ug/L	–	–		19					
Phenol	ug/L	HBSL	2000		11					
Arsenic	ug/L	MCL	10			**20.5**		2.5		
Iron	µg/L	HBSL, SMCL	4000, 300			**10400**		**2160**		
Manganese	µg/L	HBSL, SMCL	300, 50		**81**		**285**	**62**		
Lithium	µg/L	HBSL	10	**10**						
Total Hardness	mg/L	—	—	617	321	360	369	448	261	
Total Dissolved Solids	mg/L	SMCL	500	**776**				**666**		
Radon-222	pCi/L	Proposed MCL	300	163	54.7	32.4	82.4	83.7	198	

Numbers in bold exceed a benchmark

B - analyte detected in sample and associated blank

J - estimated value

Table 2 cont. *- Summary of significant detections of analytical parameters.*

Fall 2024		Benchmark		Sample Sites						
Parameter	**Units**	**Type**	**Value**	**BUT10014**	**BUT10016**	**BUT10017**	**CLA10011**	**CLA10018**	**HAM10010**	**MIA00205**
Chloride	mg/L	SMCL	250	42		30			53	
Nitrogen, Nitrate-Nitrite	mg/L	MCL	10			6.39		7.91		7.61
Sodium	mg/L	—	—	35		20			23	
Iron	µg/L	HBSL, SMCL	4000, 300		**1600**		**3000**			
Manganese	µg/L	HBSL, SMCL	300, 50		**480**		**60**			**65**
Lithium	µg/L	HBSL	10							
Total Hardness	µg/L	—	—	390	324	369	409	363	370	403
Total Dissolved Solids	mg/L	SMCL	500							
Radon-222	pCi/L	Proposed MCL	300	273	**467**	270	118	**388**	**477**	177
Fall 2024		**Benchmark**		**Sample Sites**						
Parameter	**Units**	**Type**	**Value**	**MON00022**	**MON10016**	**PRE10007**	**SHE00089**	**WAR10003**	**WAR10004**	
Chloride	mg/L	SMCL	250		50	40		120	37	
Nitrogen, Nitrate-Nitrite	mg/L	MCL	10							
Sodium	mg/L	—	—		36	20		55	22	
Iron	µg/L	HBSL, SMCL	4000, 300			**4500**		**2200**		
Manganese	µg/L	HBSL, SMCL	300, 50		**82**		**300**	**63**		
Lithium	µg/L	HBSL	10	**12.7**						
Total Hardness	µg/L	—	—	523	316	341	378	450	252	
Total Dissolved Solids	mg/L	SMCL	500	**558**				**550**		
Radon-222	pCi/L	Proposed MCL	300	280	145	152	243	170	**491**	

Numbers in bold exceed a benchmark

B - analyte detected in sample and associated blank

J - estimated value

Table 3 *- Threshold concentrations for identifying redox processes in groundwater (modified from McMahon and Chapelle, 2008; Chapelle and others, 2009).*

[O_2, dissolved oxygen; NO_3, dissolved nitrate as nitrogen; Mn^{2+}, dissolved manganese; Fe^{2+}, dissolved iron; SO_4, dissolved sulfate; H_2S, hydrogen sulfide; Mn(IV), oxidized manganese; Fe(III), ferric iron: mg/L, milligrams per liter; —, not applicable, ≥, greater than or equal to; ≤, less than or equal to]

General redox category	Predominant redox process	Distinguishing Fe(III)–from SO_4^{2-}-reduction	Water-chemistry criteria (mg/L)					Fe^{2+}/H_2S mass ratio	Comments
			O_2	NO_3^--N	Mn^{2+}	Fe^{2+}	SO_4^{2-}		
Oxic	O_2 reduction	—	≥0.5	—	< 0.5	< 0.1	—	—	—
Suboxic	—	—	< 0.5	< 0.5	< 0.5	< 0.1	—	—	(1)
Anoxic	NO_3^- reduction	—	< 0.5	≥0.5	< 0.5	< 0.1	—	—	—
	Mn(IV) reduction	—	< 0.5	< 0.5	≥0.5	< 0.1	—	—	—
	Fe(III)/SO_4^{2-} reduction	—	< 0.5	< 0.5	—	≥0.1	≥0.5	—	—
	—	Fe(III) reduction	< 0.5	< 0.5	—	≥0.1	≥0.5	> 10	—
	—	Mix - Fe(III)/SO_4^{2-} reduction	< 0.5	< 0.5	—	≥0.1	≥0.5	≥0.3 and ≤10	—
	—	SO_4^{2-} reduction	< 0.5	< 0.5	—	≥0.1	≥0.5	< 0.3	—
	Methanogenesis	—	< 0.5	< 0.5	—	≥0.1	< 0.5	—	—
Mixed	—	—	—	—	—	—	—	—	(2)

[1]Further definition of redox processes not feasible.

[2]Criteria for more than one redox process are met.

Table 4 *- General redox category for groundwater in each monitoring well.*

Monitoring Well	Redox Category	
	Spring 2024	Fall 2024
BUT10014	Oxic	Oxic
BUT10016	Anoxic	Anoxic
BUT10017	Oxic	Oxic
CLA10011	Anoxic	Anoxic
CLA10018	Oxic	Oxic
HAM10010	Mixed	Oxic
MIA00205	Anoxic	Anoxic
MON00022	Suboxic	Suboxic
MON10016	Suboxic	Suboxic
PRE10007	Anoxic	Anoxic
SHE00089	Suboxic	Suboxic
WAR10003	Anoxic	Anoxic
WAR10004	Oxic	Oxic

Table 5 *- Summary of exceedances of human-health benchmarks.*

Monitoring Well	Spring 2024	Fall 2024
BUT10014		
BUT10016	*E. coli*, Manganese	Manganese, Radon-222
BUT10017		
CLA10011		
CLA10018		Radon-222
HAM10010		Radon-222
MIA00205		
MON00022		
MON10016		
PRE10007	Arsenic, Iron	Iron
SHE00089		
WAR10003		
WAR10004		Radon-222

[*E. coli*, Escherichia coli]

Table 6 *- Summary of exceedances of secondary maximum contaminant levels (SMCLs).*

Monitoring Well	Spring 2024	Fall 2024
BUT10014		
BUT10016	Iron, Manganese	Iron, Manganese
BUT10017		
CLA10011	Iron, Manganese	Iron, Manganese
CLA10018		
HAM10010	TDS	
MIA00205	Manganese	Manganese
MON00022	TDS	TDS
MON10016	Manganese	Manganese
PRE10007	Iron, TDS	Iron
SHE00089	Manganese	Manganese
WAR10003	Iron, Manganese, TDS	Iron, Manganese, TDS
WAR10004		

[TDS, total dissolved solids]

Appendix B – Figures

Figure 1 *- Map showing locations of monitoring wells.*

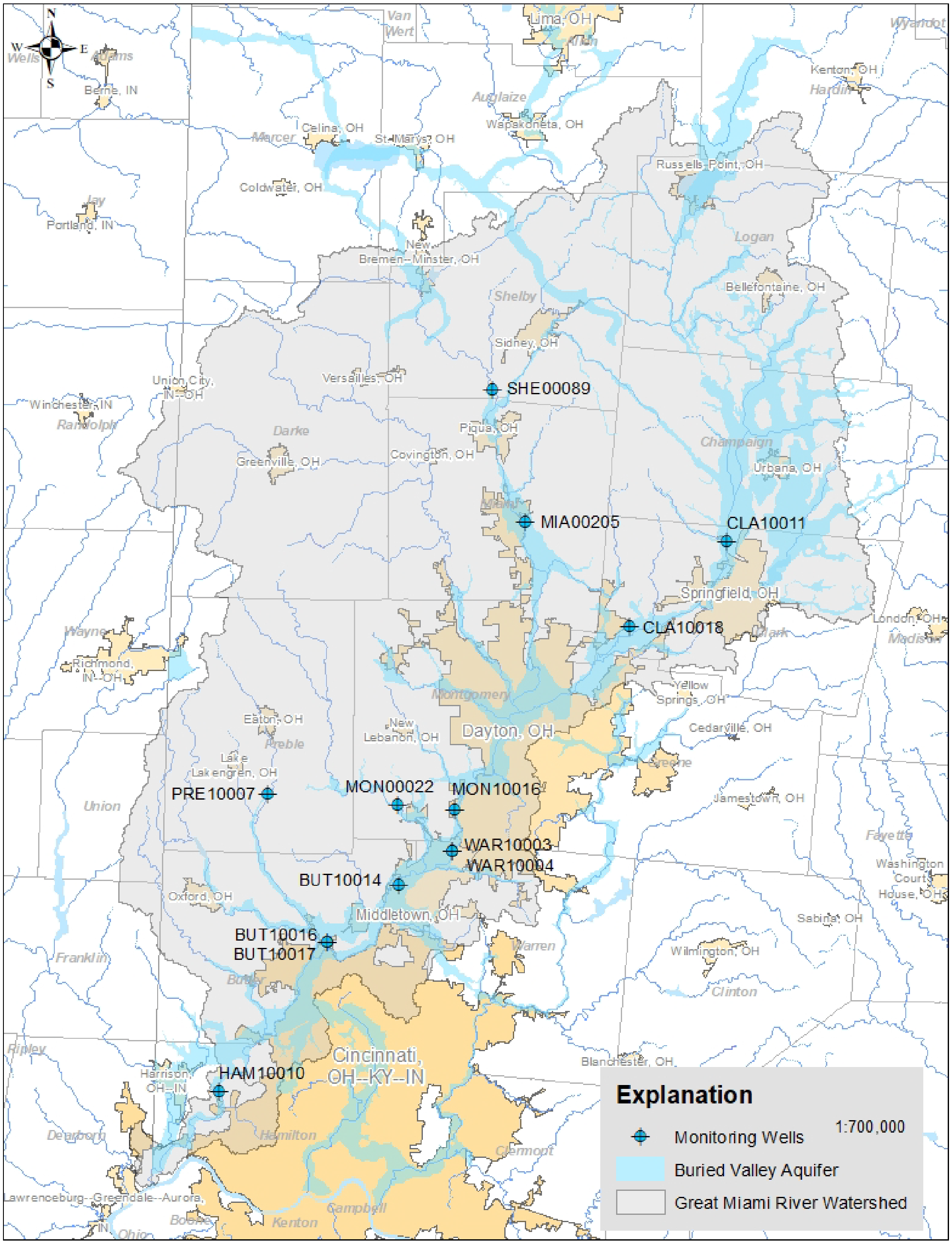


Figure 2 *- Chart showing depths to groundwater and daily precipitation measured in the Great Miami River Watershed. Gray areas show time intervals for spring and fall sampling events.*

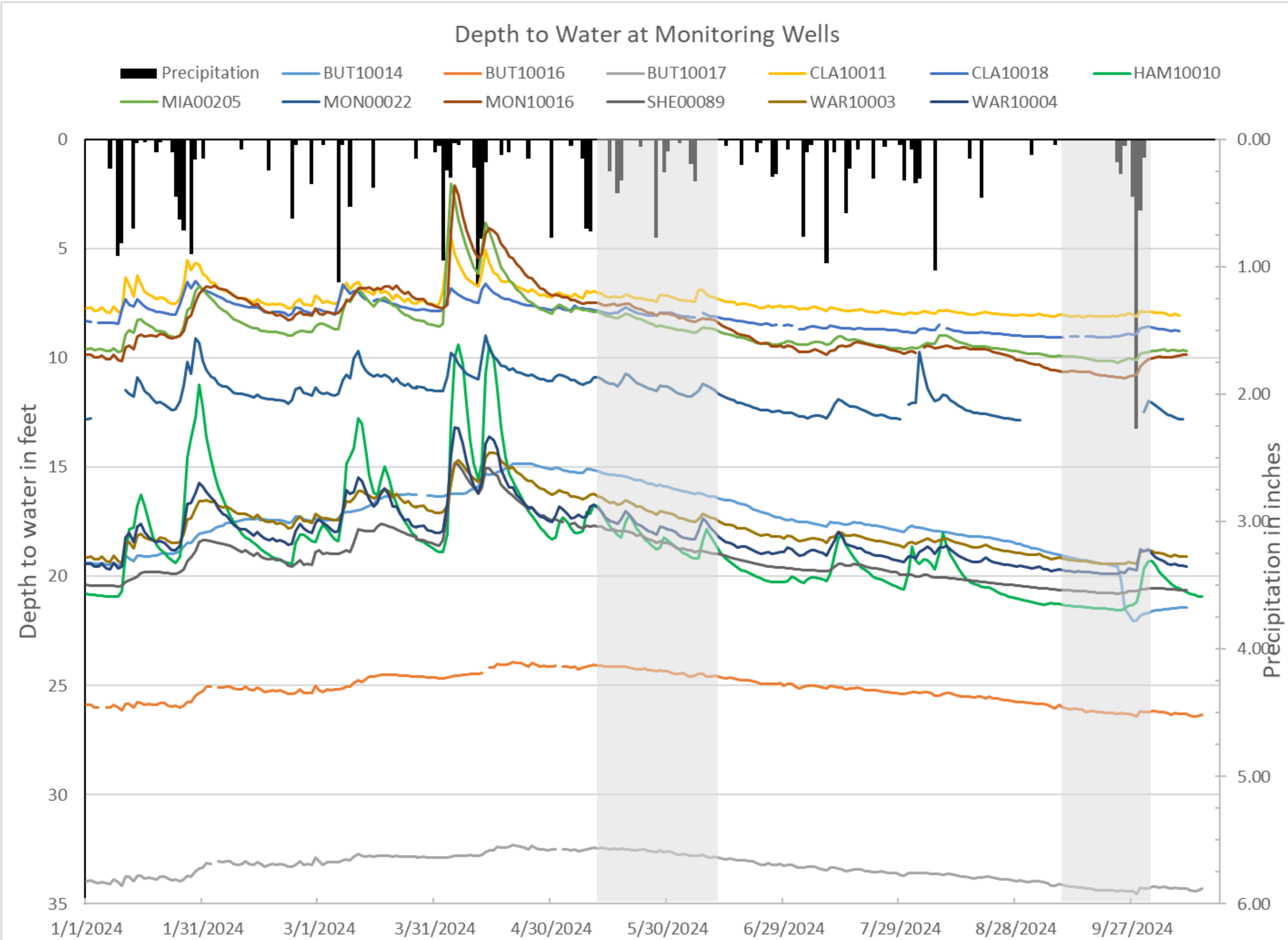


Figure 3 *- Piper diagram illustrating dominant cations, anions, and water type of groundwater samples.*

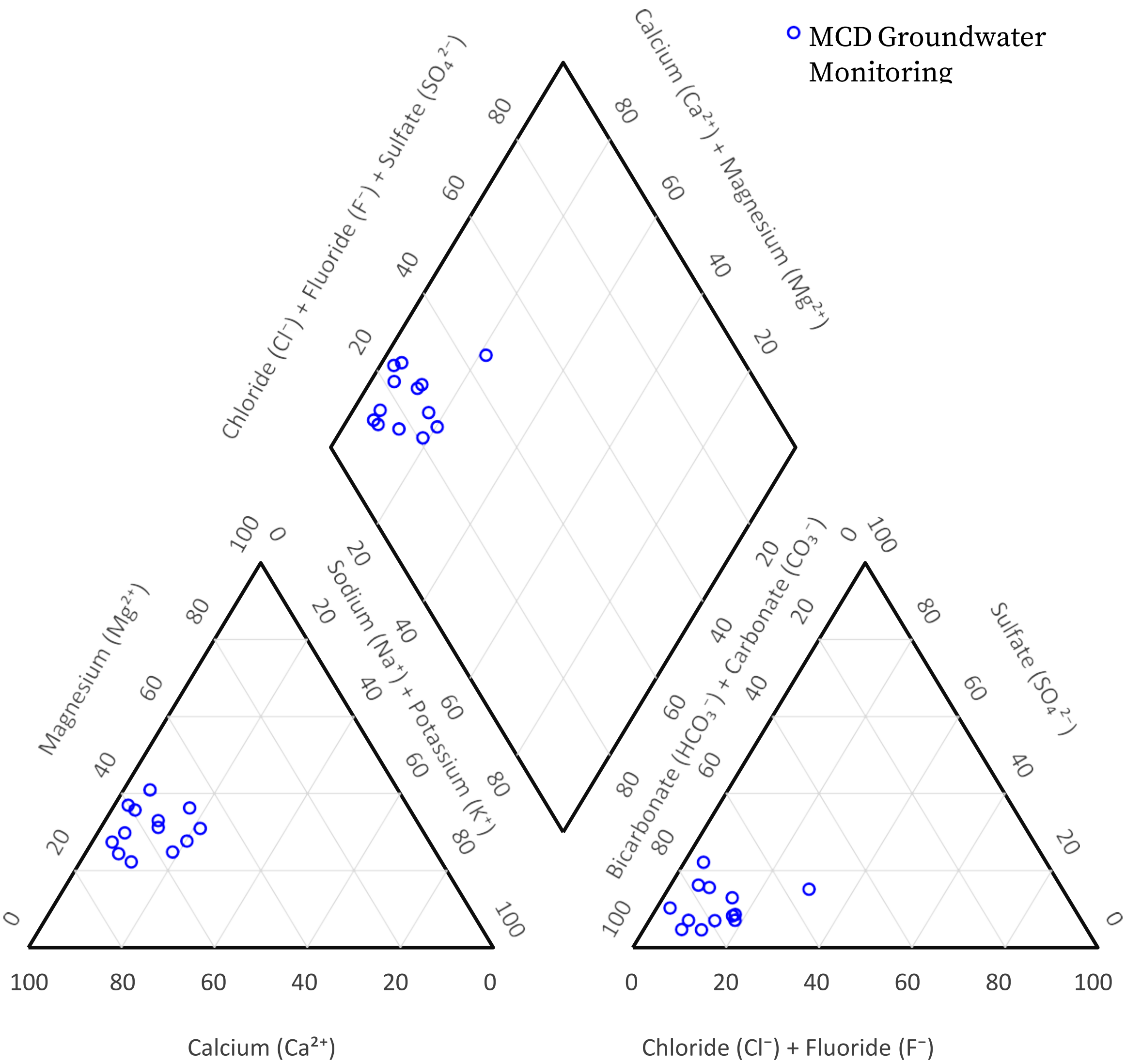


Figure 4 - Conceptualized sequence of redox zones and parameter changes with depth (Ohio EPA, 2014).

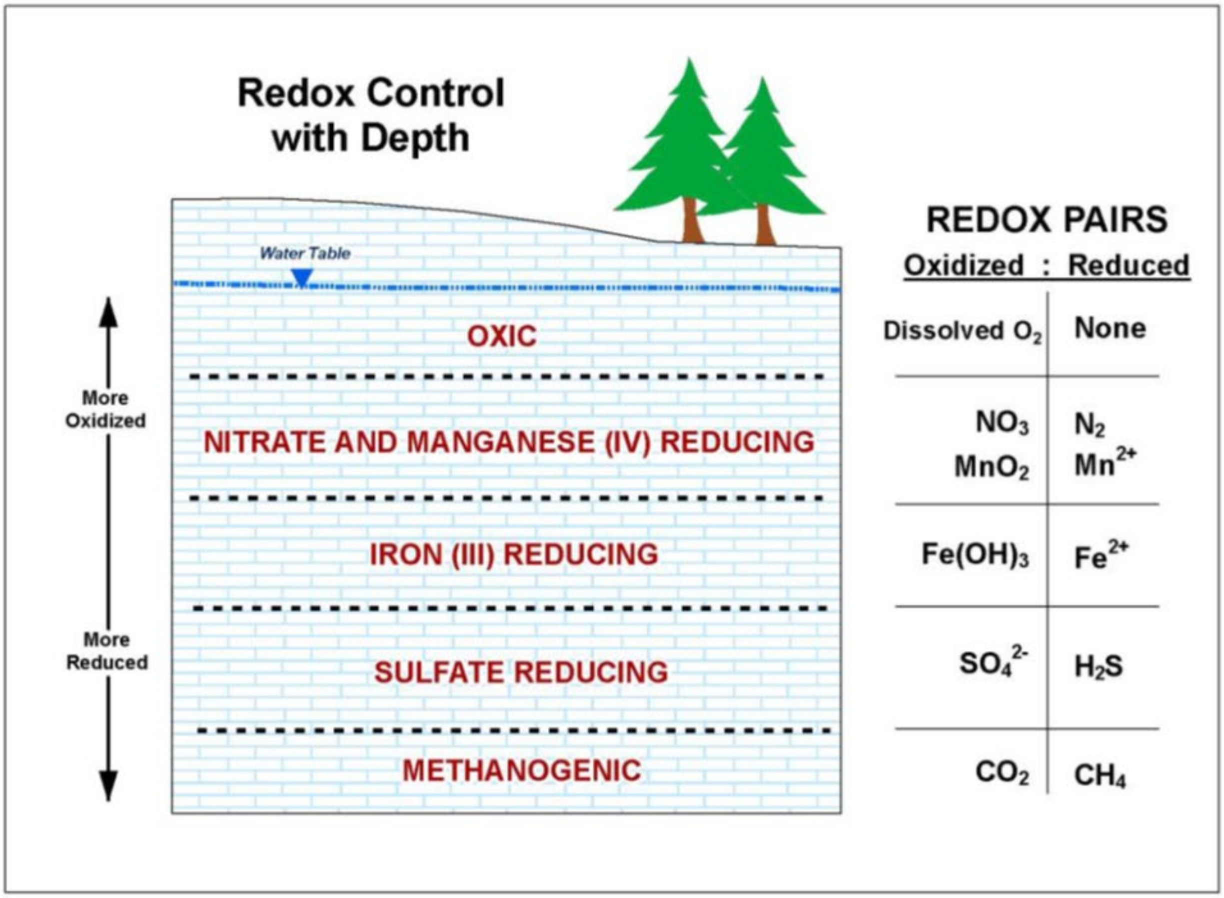


Figure 5 *- Time series of chloride concentrations in monitoring wells.*

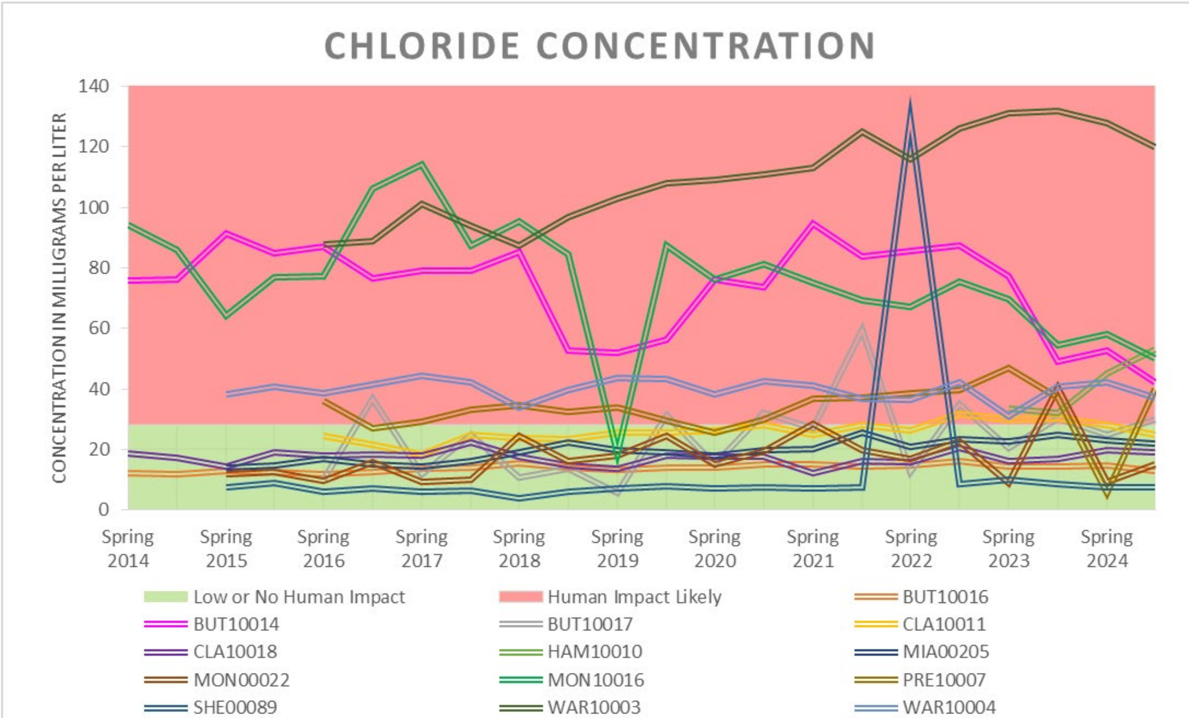


Figure 6 *- Time series of sodium concentrations in monitoring wells.*

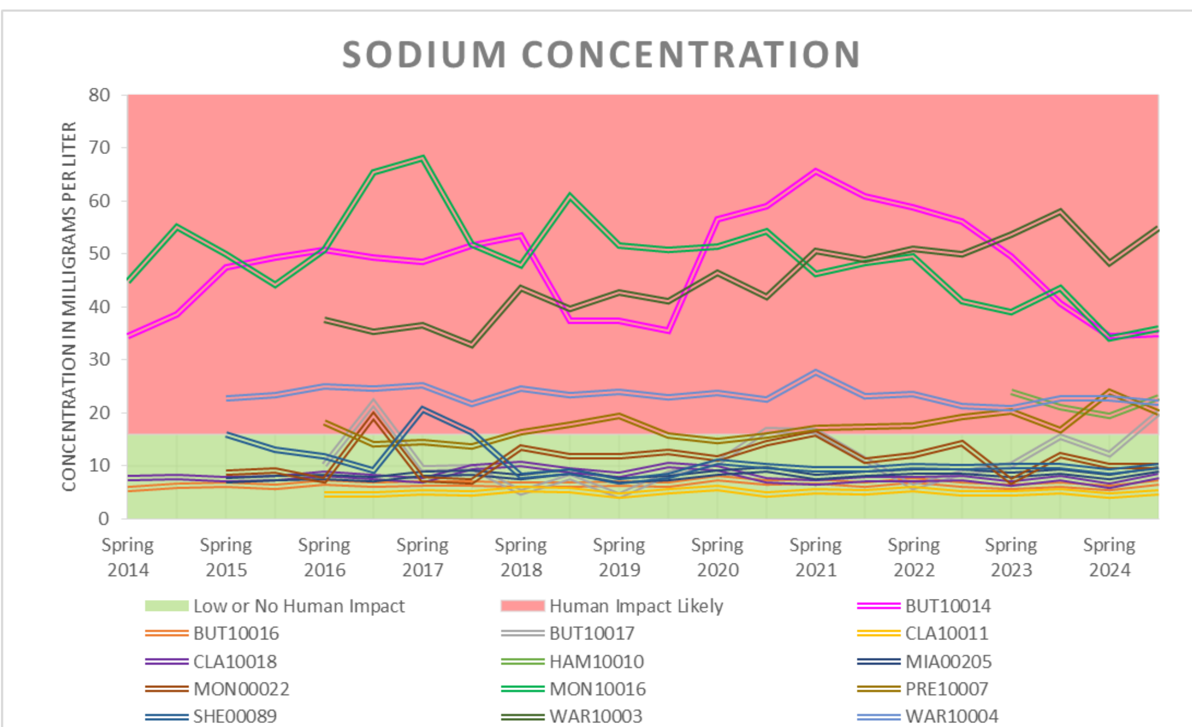


Figure 7 *- Time series of nitrate nitrogen concentrations in monitoring wells.*

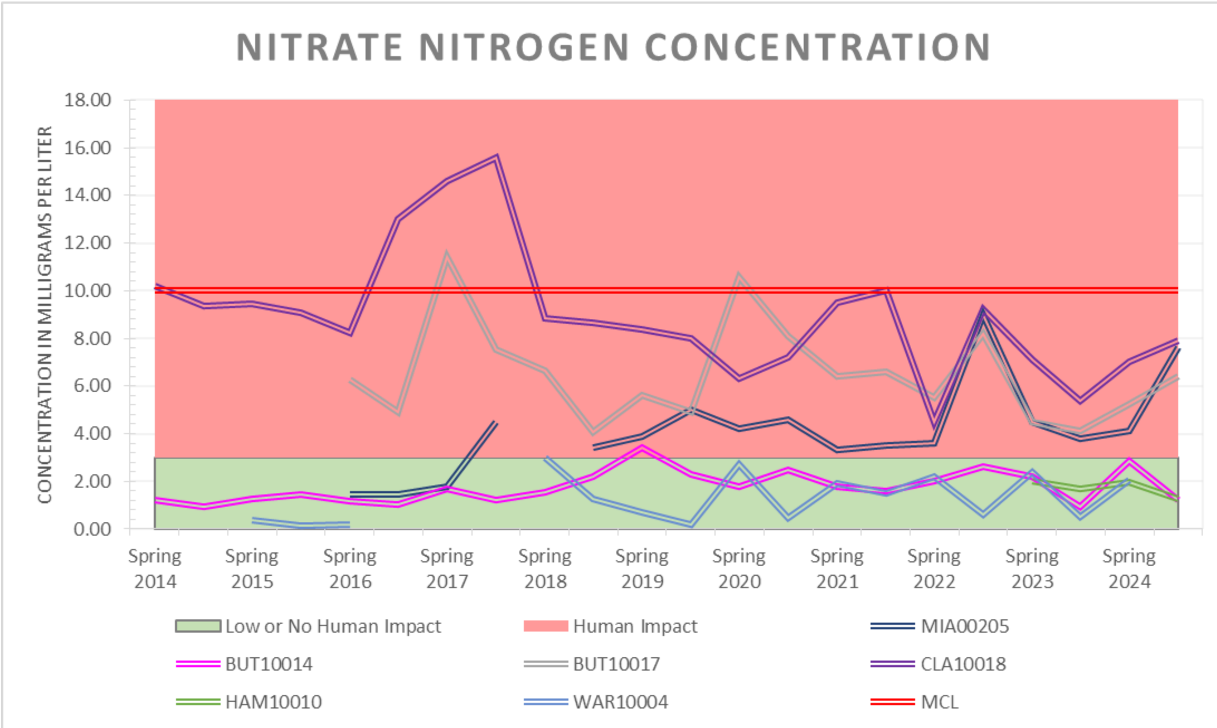


Figure 8 *- Time series of arsenic concentrations in monitoring wells.*

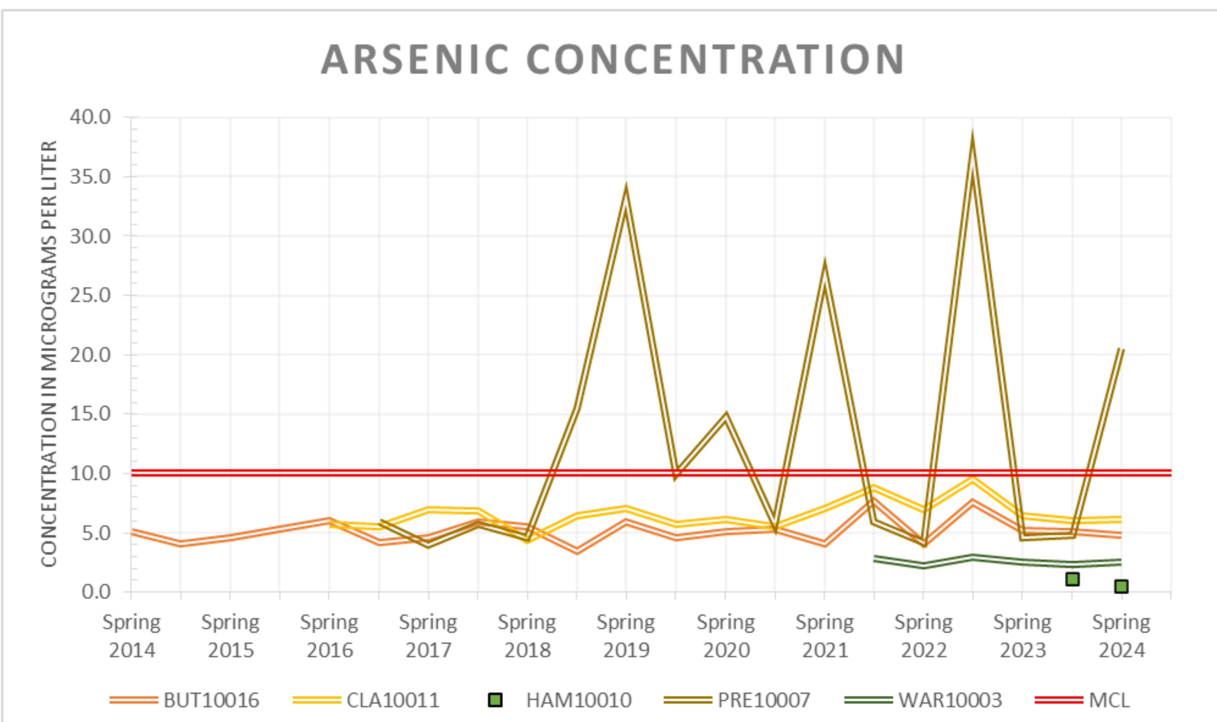


Figure 9 *- Time series of iron concentrations in monitoring wells.*

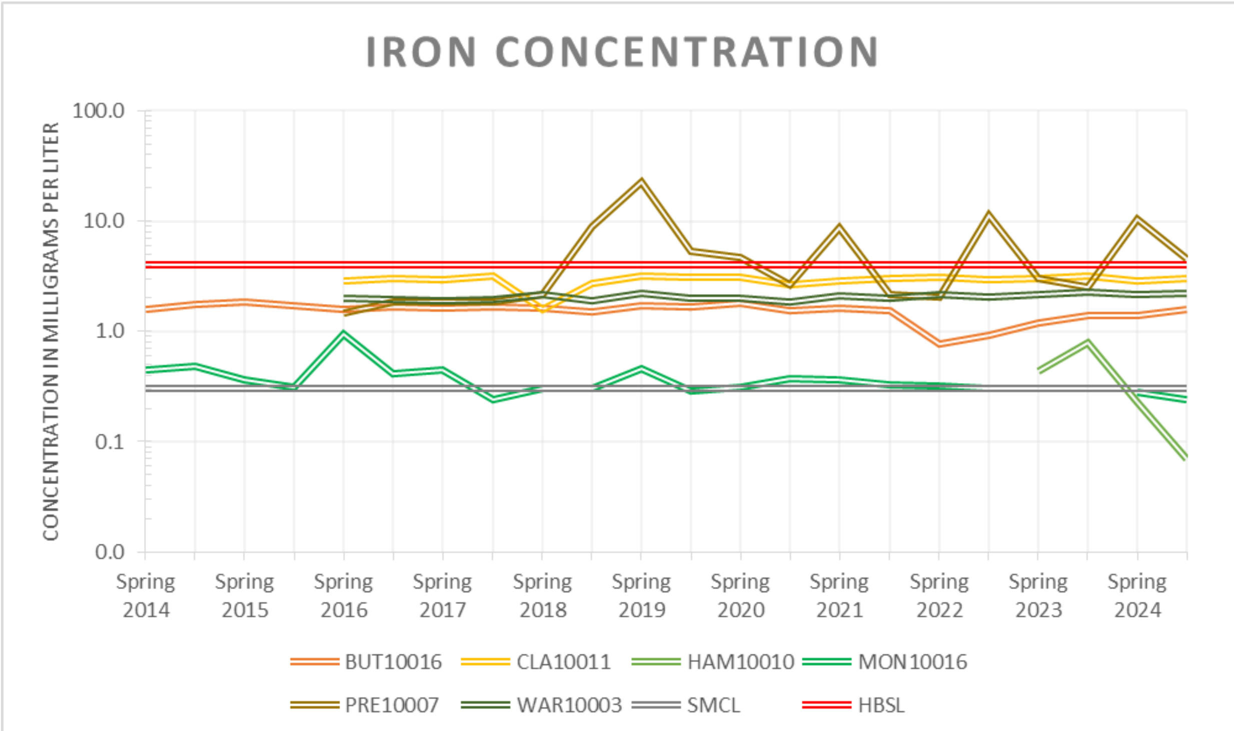


Figure 10 *- Times series of lithium concentrations in monitoring wells.*

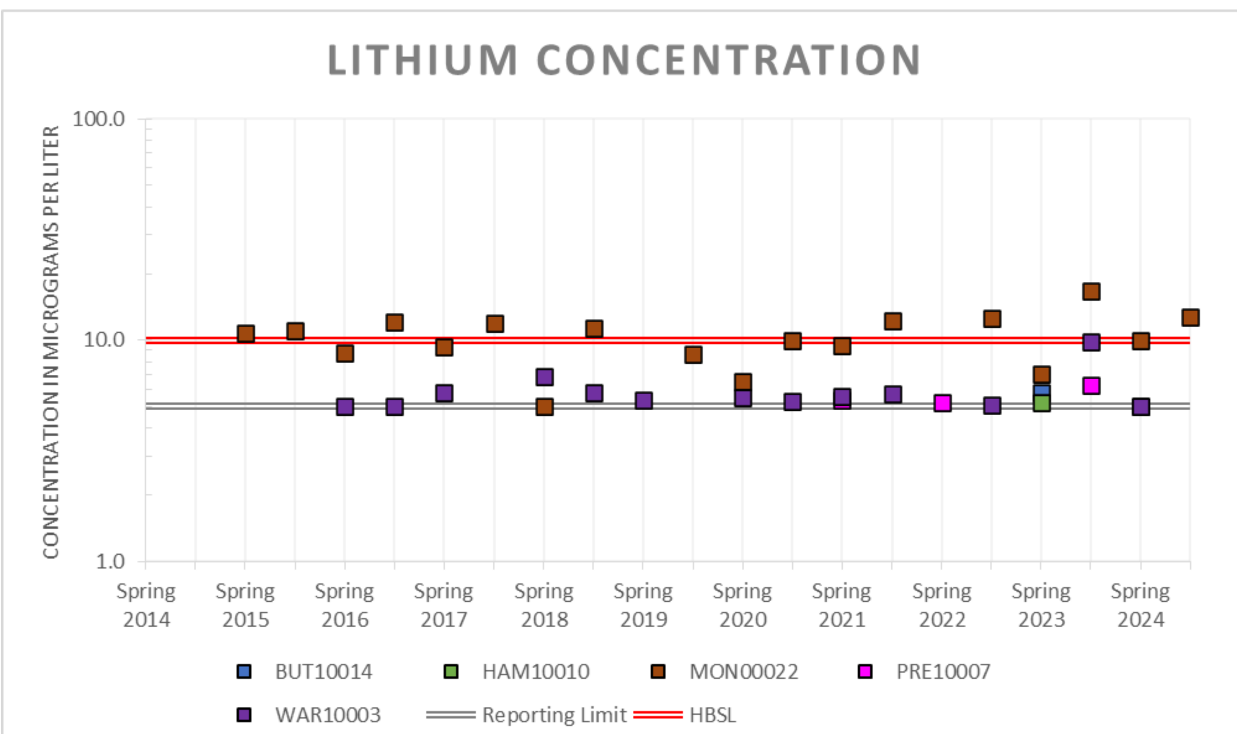
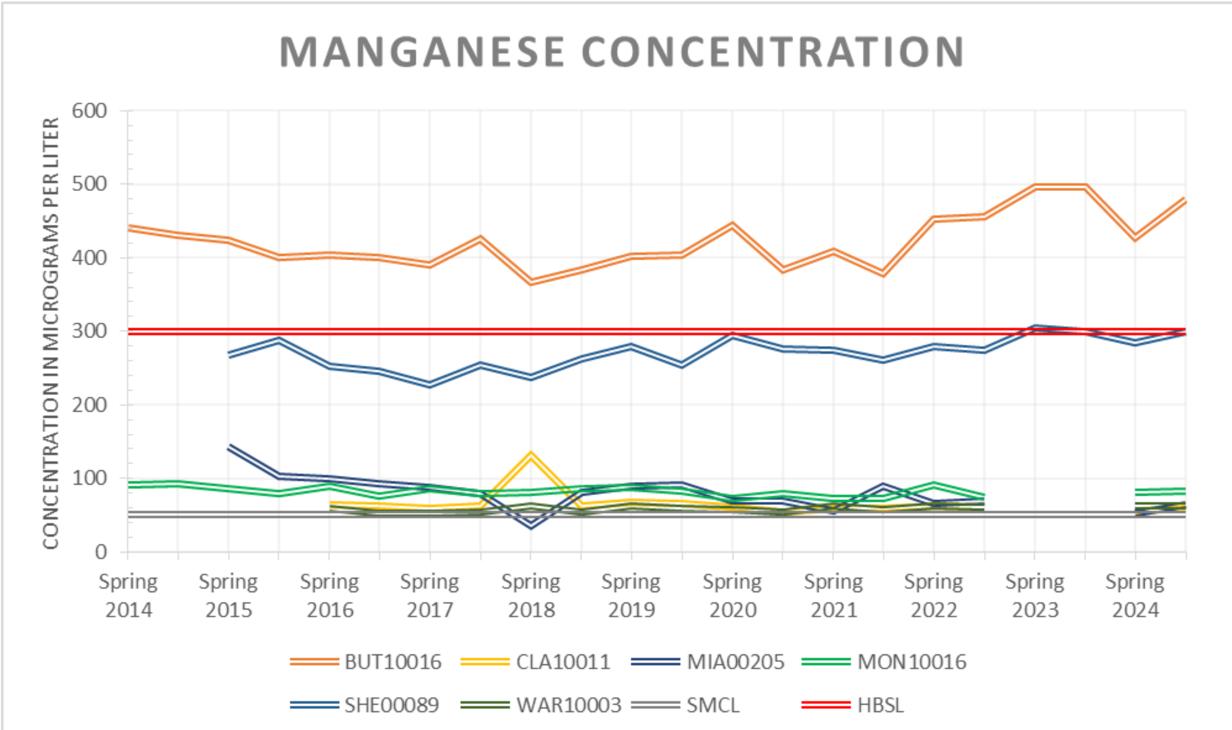


Figure 11 - Time series of manganese concentrations in monitoring wells.



APPENDIX C - Data

2024 Spring Sampling Event

Parameter	Units	Method	BUT10014	BUT10016	BUT10017	CLA10011	CLA1011[1]	CLA10018	HAM00010
Dissolved Oxygen	mg/L	Field Measured	3.52	0.00	8.79	0.00	0.00	6.55	10.10
pH	S.U.	Field Measured	7.14	7.41	7.14	7.13	7.13	7.18	7.03
Specific Conductance	mS/cm	Field Measured	782	560	640	720	720	639	810
Temperature	°C	Field Measured	14.4	13.4	13.5	12.4	12.4	13.8	13.2
Chloride	mg/L	SM 4500-CL-E	52.5	14.7	24.7	28.2	28.3	19.8	45.2
Fluoride	mg/L	EPA 300.0 REV 2.1	0.242	0.221	0.147	0.218	0.209	0.193	0.190
Nitrogen, Ammonia	mg/L	EPA 350.1	< 0.10	< 0.10	< 0.10	< 0.10	0.30	< 0.10	< 0.10
Nitrogen, Total Kjeldahl	mg/L	SM 4500 Norg D	< 1.00	< 1.00	0.91	< 1.00	< 1.00	1.49	< 1.00
Nitrogen, Nitrite	mg/L	EPA 300.0 REV 2.1	< 0.100	< 0.200	< 0.200	< 0.200	< 0.200	< 0.100	< 0.200
Nitrogen, Nitrate-Nitrite	mg/L	SM 4500 NO3-F	2.86	0.23	5.25	0.19	0.19	7.04	1.98
Total Orthophosphate, as P	mg/L	EPA 300.0 REV 2.1	< 0.400	< 0.400	< 0.400	< 0.400	< 0.400	< 0.400	< 0.400
Sulfate	mg/L	EPA 300.0	36.4	54.3	17.6	66.6	66.5	15.6	36.0
Total Hardness	ug/L	EPA 200.7	360	299	321	394	415	308	448
Aluminum	mg/L	SW846-6020A	< 0.04	0.01J	< 0.04	< 0.04	< 0.04	< 0.04	0.07
Antimony	mg/L	SW846-6020A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Arsenic	mg/L	SW846-6020A	< 0.001	0.0048	< 0.001	0.0061	0.0062	< 0.001	0.0005J
Barium	mg/L	SW846-6020A	0.210	0.214	0.047	0.059	0.059	0.078	0.102
Beryllium	mg/L	SW846-6020A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	SW846-6010B	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cadmium	mg/L	SW846-6020A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Calcium	mg/L	SW846-6010B	97.9	76.6	86.7	99.1	107	75.3	129
Chromium, Hexavalent	mg/L	SM 3500 Cr B	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Cobalt	mg/L	SW846-6020A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Copper	mg/L	SW846-6020A	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	0.002J
Iron	mg/L	SW846-6010B	< 0.100	1.40	< 0.100	2.86	2.91	0.061J	0.230
Lead	mg/L	SW846-6020A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Lithium	mg/L	SW846-6020A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Magnesium	mg/L	SW846-6010B	28.1	26.2	25.3	35.5	36.1	29.2	30.4
Manganese	mg/L	SW846-6010B	< 0.004	0.428	< 0.004	0.056	0.057	0.002J	0.006
Molybdenum	mg/L	SW846-6020A	0.002J	0.003J	< 0.01	0.006J	0.006J	0.003J	0.002J
Nickel	mg/L	SW846-6020A	0.001J	< 0.003	< 0.003	< 0.003	0.001J	0.007	< 0.003
Phosphorus	ug/L	SW846-6010B	< 0.01	0.103	0.020	0.019	< 0.01	0.018	0.016
Potassium	mg/L	SW846-6010B	3.48	1.21	2.62	0.87	0.89	2.00	2.56
Silica	ug/L	SW846-6010B	5.2	6.1	4.7	6.8	6.8	4.4	4.9
Silver	mg/L	SW846-6020A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

2024 Spring Sampling Event

Parameter	Units	Method	BUT10014	BUT10016	BUT10017	CLA10011	CLA1011[1]	CLA10018	HAM00010
Sodium	mg/L	SW846-6010B	34.6	5.87	12.2	4.39	4.49	6.35	19.5
Strontium	mg/L	SW846-6020A	0.71	0.38	0.15	0.31	0.31	2.05	0.48
Thallium	mg/L	SW846-6020A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Vanadium	mg/L	SW846-6020A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Zinc	mg/L	SW846-6020A	0.006J	< 0.02	< 0.02	0.004J	< 0.02	0.01J	0.007J
Alkalinity, Total (As CaCO3)	mg/L	SM 2320B	665	218	273	285	293	649	467
Biochemical Oxygen Demand	mg/L	SM 5210B	< 2.0	< 2.0	< 2.0	< 2.0	529	< 2.0	< 2.0
Carbonaceous BOD	mg/L	SM 5210B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chemical Oxygen Demand	mg/L	HACH 8000	17J	22	19J	< 20	26	< 20	< 20
Cyanide, Total	mg/L	EPA 335.4	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenolics, Total Recoverable	mg/L	EPA 420.4	0.11	< 0.002	0.001J	0.001J	0.002	< 0.002	< 0.002
Total Dissolved Solids	mg/L	SM 2540C	446	356	386	438	428	360	514
Total Organic Carbon	mg/L	SM 5310C	0.4J	< 1.0	< 1.0	1.1	1.0	0.4J	< 1.0
E. coli	MPN/100mL	Colilert	< 1	1	< 1	< 1	< 1	< 1	< 1
Radon-222	pCi/L	SM 7500-Rn	118	249	173	72.9	94.6	119	
Uranium	ug/L	EPA D5174	< 1.00	< 1.00	< 1.00	< 1.00	1.29	< 1.00	1.62
1,1,1-Trichloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,1,2,2-Tetrachloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,1,2-Trichloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,1-Dichloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,1-Dichloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dibromoethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,2,4-Trichlorobenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,2,4-Trimethylbenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,2-Dichloropropane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,3,5-Trimethylbenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,3-Dichlorobenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,3-Dichloropropane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,4-Dichlorobenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
2-Butanone	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
2-Chloroethylvinyl Ether	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
2-Hexanone	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
2-Nitropropane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
4-Methyl-2-pentanone	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Acetone	ug/L	SW846-8260 B	< 1.00	< 1.00	8.00	< 1.00	< 1.00	2.07B	< 1.00
Acrolein	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

2024 Spring Sampling Event

Parameter	Units	Method	BUT10014	BUT10016	BUT10017	CLA10011	CLA1011[1]	CLA10018	HAM00010
Acrylonitrile	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Benzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Bromodichloromethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Bromoform	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Bromomethane	ug/L	SW846-8260 B	1.23B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Carbon disulfide	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Carbon tetrachloride	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Chlorobenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Chloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Chloroform	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
cis-1,2-Dichloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
cis-1,3-Dichloropropene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Dibromochloromethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Dichlorodifluoromethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Diethyl ether	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Ethylbenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Isopropylbenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
m,p-Xylene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Methyl tert-Butyl Ether	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Methylene Chloride	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
o-Xylene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Styrene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Tetrachloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Tetrahydrofuran	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Toluene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
trans-1,2-Dichloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
trans-1,3-Dichloropropene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Trichloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Vinyl Acetate	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Vinyl Chloride	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
1,2,4-Trichlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
1,2-Dichlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
1,3-Dichlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
1,4-Dichlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2,2'-oxybis-(1-Chloropropane)	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2,4,5-Trichorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2,4,6-Trichlorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10

2024 Spring Sampling Event

Parameter	Units	Method	BUT10014	BUT10016	BUT10017	CLA10011	CLA1011[1]	CLA10018	HAM00010
2,4-Dichorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2,4-Dimethylphenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2,4-Dinitrophenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2,4-Dinitrotoluene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2,6-Dinitrotoluene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2-Chloronaphthalene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2-Chlorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2-Methylnaphthalene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2-Methylphenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2-Nitroaniline	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
2-Nitrophenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
3,3'-Dichorobenzidine	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
3-Nitroaniline	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
4,6-Dinitro-2-methylphenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
4-Bromophenyl-phenylether	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
4-Chloro-3-methylphenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
4-Choroaniline	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
4-Chlorophenyl-phenylether	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
4-Methylphenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
N-Nitrosodiphenylamine	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Carbazole	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
4-Nitroaniline	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
4-Nitrophenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Acenaphthene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Acenaphthylene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Anthracene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Benzo(a)anthracene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Benzo(a)pyrene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Benzo(b)fluoranthene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Benzo(g,h,i)perylene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Benzo(k)fluoranthene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Benzoic acid	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Benzyl alcohol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Bis(2-chloroethoxy)methane	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Bis(2-choroethyl)ether	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Bis(2-ethylhexyl)phthalate	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Butylbenzylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Chrysene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10

2024 Spring Sampling Event

Parameter	Units	Method	BUT10014	BUT10016	BUT10017	CLA10011	CLA1011[1]	CLA10018	HAM00010
Dibenzo(a,h)anthracene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Dibenzofuran	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Diethylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Dimethylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Di-n-butylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Di-n-octylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Fluoranthene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Fluorene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Hexachlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Hexachlorobutadiene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Hexachlorocyclopentadiene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Hexachloroethane	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Indeno(1,2,3-cd)pyrene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Isophorone	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Naphthalene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Nitrobenezene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
N-Nitrosodiemethylamine	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
N-Nitroso-di-n-propylamine	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Pentachlorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Phenanthrene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Pyrene	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Phenol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Pyridine	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
1,2-Diphenylhydrazine	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Benzidine	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
alpha-Terpineol	ug/L	SW846-8270 C	< 10	< 10	< 10	< 10	< 10	< 9	< 10
Aldrin	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050			< 0.050	< 0.050
alpha-BHC	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050			< 0.050	< 0.050
beta-BHC	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050			< 0.050	< 0.050
delta-BHC	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050			< 0.050	< 0.050
gamma-BHC (Lindane)	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050			< 0.050	< 0.050
Chlordane (Technical)	ug/L	EPA 8081	< 5.0	< 5.0	< 5.0			< 5.0	< 5.0
alpha-Chlordane	ug/L	EPA 8081	< 0.50	< 0.50	< 0.50			< 0.50	< 0.50
gamma-Chlordane	ug/L	EPA 8081	< 0.50	< 0.50	< 0.50			< 0.50	< 0.50
4,4'-DDD	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10			< 0.10	< 0.10
4,4'-DDE	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10			< 0.10	< 0.10
4,4'-DDT	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10			< 0.10	< 0.10

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Parameter	Units	Method	BUT10014	BUT10016	BUT10017	CLA10011	CLA1011[1]	CLA10018	HAM00010
Dieldrin	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10			< 0.10	< 0.10
Endosulfan I	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050			< 0.050	< 0.050
Endosulfan II	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10			< 0.10	< 0.10
Endosulfan sulfate	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10			< 0.10	< 0.10
Endrin	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10			< 0.10	< 0.10
Endrin Aldehyde	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10			< 0.10	< 0.10
Endrin Ketone	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10			< 0.10	< 0.10
Heptachlor	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050			< 0.050	< 0.050
Heptachlor epoxide	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050			< 0.050	< 0.050
Methoxychlor	ug/L	EPA 8081	< 0.50	< 0.50	< 0.50			< 0.50	< 0.50
Toxaphene	ug/L	EPA 8081	< 5.0	< 5.0	< 5.0			< 5.0	< 5.0
3,5-Dichlorobenzoic acid	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Acifluorfen	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Bentazon	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
2,4-D	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Dalapon	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
2,4-DB	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
DCPA (dacthal)	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Dicamba	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Dichloroprop	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Dinoseb	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
MCPA	ug/L	EPA 8151	< 103	< 101	< 101			< 103	< 108
MCPP	ug/L	EPA 8151	< 103	< 101	< 101			< 103	< 108
Pentachlorophenol	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
Picloram	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
2,4,5-T	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0
2,4,5-TP (Silvex)	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0

2024 Spring Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
Dissolved Oxygen	mg/L	Field Measured	0.00	0.48	0.00	0.00	0.01	0	3.23
pH	S.U.	Field Measured	7.18	6.75	7.13	7.28	7.18	7.24	7.39
Specific Conductance	mS/cm	Field Measured	648	1013	702	739	644	1030	572
Temperature	°C	Field Measured	12.1	11.6	12.5	13.4	12.8	14.4	14.5
Chloride	mg/L	SM 4500-CL-E	22.9	9.3	58.1	5.7	7.6	128	42.3
Fluoride	mg/L	EPA 300.0 REV 2.1	0.149	0.147	0.135	0.059	0.402	0.181	0.201
Nitrogen, Ammonia	mg/L	EPA 350.1	< 0.10	< 0.10	< 0.10	0.12	< 0.10	0.28	< 0.10
Nitrogen, Total Kjeldahl	mg/L	SM 4500 Norg D	0.85	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Nitrite	mg/L	EPA 300.0 REV 2.1	< 0.200	< 0.200	< 0.200	< 0.100	< 0.200	< 0.200	< 0.200
Nitrogen, Nitrate-Nitrite	mg/L	SM 4500 NO3-F	4.10	0.29	< 0.05	< 0.05	0.11	0.23	2.07
Total Orthophosphate, as P	mg/L	EPA 300.0 REV 2.1	< 0.400	< 0.400	< 0.400	< 0.400	< 0.400	< 0.400	< 0.400
Sulfate	mg/L	EPA 300.0	27.1	224	30.6	5.88	< 5.0	86.4	25.9
Total Hardness	ug/L	EPA 200.7	351	617	321	360	369	448	261
Aluminum	mg/L	SW846-6020A	< 0.04	< 0.04	0.02J	0.01J	0.02J	< 0.04	< 0.04
Antimony	mg/L	SW846-6020A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Arsenic	mg/L	SW846-6020A	< 0.001	< 0.001	< 0.001	0.0205	< 0.001	0.0025	< 0.001
Barium	mg/L	SW846-6020A	0.114	0.087	0.104	0.307	0.152	0.217	0.064
Beryllium	mg/L	SW846-6020A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	SW846-6010B	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.23	< 0.10
Cadmium	mg/L	SW846-6020A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Calcium	mg/L	SW846-6010B	96.4	169	83.9	89.1	88.1	109	57.9
Chromium, Hexavalent	mg/L	SM 3500 Cr B	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Cobalt	mg/L	SW846-6020A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Copper	mg/L	SW846-6020A	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Iron	mg/L	SW846-6010B	< 0.100	< 0.100	0.281	10.4	0.070J	2.16	< 0.100
Lead	mg/L	SW846-6020A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Lithium	mg/L	SW846-6020A	< 0.02	0.01	< 0.02	0.005J	< 0.02	0.005J	< 0.02
Magnesium	mg/L	SW846-6010B	26.8	47.3	27.0	33.5	36.1	42.7	28.2
Manganese	mg/L	SW846-6010B	0.053	0.003J	0.081	0.035	0.285	0.062	< 0.004
Molybdenum	mg/L	SW846-6020A	0.002J	< 0.01	0.002J	0.002J	0.009J	0.003J	0.004J
Nickel	mg/L	SW846-6020A	0.002J	< 0.003	< 0.003	0.001J	0.002J	< 0.003	< 0.003
Phosphorus	ug/L	SW846-6010B	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01
Potassium	mg/L	SW846-6010B	1.17	3.79	2.68	2.1	1.27	2.80	2.46
Silica	ug/L	SW846-6010B	4.3	3.6	4.7	5.5	5.1	6.7	4.0
Silver	mg/L	SW846-6020A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

2024 Spring Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
Sodium	mg/L	SW846-6010B	7.85	10.0	34.1	24.1	8.99	48.4	22.8
Strontium	mg/L	SW846-6020A	0.34	0.50	0.60	0.87	0.49	1.11	0.44
Thallium	mg/L	SW846-6020A	0.0001J	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Vanadium	mg/L	SW846-6020A	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Zinc	mg/L	SW846-6020A	< 0.02	< 0.02	< 0.02	0.004J	0.009J	< 0.02	< 0.02
Alkalinity, Total (As CaCO3)	mg/L	SM 2320B	269	364	325	523	586	277	202
Biochemical Oxygen Demand	mg/L	SM 5210B	868	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Carbonaceous BOD	mg/L	SM 5210B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chemical Oxygen Demand	mg/L	HACH 8000	< 20	52	< 20	17J	< 20	< 20	< 20
Cyanide, Total	mg/L	EPA 335.4	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenolics, Total Recoverable	mg/L	EPA 420.4	< 0.002	0.002	0.001J	< 0.002	< 0.002	0.002	0.001J
Total Dissolved Solids	mg/L	SM 2540C	344	776	426	444	422	666	285
Total Organic Carbon	mg/L	SM 5310C	0.6J	1.1	< 1.0	0.4J	0.6J	0.4J	0.4J
E. coli	MPN/100mL	Colilert	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Radon-222	pCi/L	SM 7500-Rn	92.6	163	54.7	32.4	82.4	83.7	198
Uranium	ug/L	EPA D5174	2.01	1.76	1.05	< 1.00	1.99	< 1.00	< 1.00
1,1,1-Trichloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,1,2,2-Tetrachloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,1,2-Trichloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,1-Dichloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,1-Dichloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,2-Dibromoethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,2,4-Trichlorobenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,2,4-Trimethylbenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,2-Dichloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,2-Dichloropropane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,3,5-Trimethylbenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,3-Dichlorobenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,3-Dichloropropane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,4-Dichlorobenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
2-Butanone	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
2-Chloroethylvinyl Ether	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
2-Hexanone	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
2-Nitropropane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
4-Methyl-2-pentanone	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Acetone	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		2.05	< 1.00	< 1.00
Acrolein	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00

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Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
Acrylonitrile	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Benzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Bromodichloromethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Bromoform	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Bromomethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Carbon disulfide	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Carbon tetrachloride	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Chlorobenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Chloroethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Chloroform	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
cis-1,2-Dichloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
cis-1,3-Dichloropropene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Dibromochloromethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Dichlorodifluoromethane	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Diethyl ether	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Ethylbenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Isopropylbenzene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
m,p-Xylene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Methyl tert-Butyl Ether	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Methylene Chloride	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
o-Xylene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Styrene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Tetrachloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Tetrahydrofuran	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Toluene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
trans-1,2-Dichloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
trans-1,3-Dichloropropene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Trichloroethene	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Vinyl Acetate	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
Vinyl Chloride	ug/L	SW846-8260 B	< 1.00	< 1.00	< 1.00		< 1.00	< 1.00	< 1.00
1,2,4-Trichlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
1,2-Dichlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
1,3-Dichlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
1,4-Dichlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2,2'-oxybis-(1-Chloropropane)	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2,4,5-Trichorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2,4,6-Trichlorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9

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Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
2,4-Dichorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2,4-Dimethylphenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2,4-Dinitrophenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2,4-Dinitrotoluene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2,6-Dinitrotoluene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2-Chloronaphthalene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2-Chlorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2-Methylnaphthalene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2-Methylphenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2-Nitroaniline	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
2-Nitrophenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
3,3'-Dichorobenzidine	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
3-Nitroaniline	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
4,6-Dinitro-2-methylphenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
4-Bromophenyl-phenylether	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
4-Chloro-3-methylphenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
4-Choroaniline	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
4-Chlorophenyl-phenylether	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
4-Methylphenol	ug/L	SW846-8270 C	< 10	< 10	63		< 11	< 9	< 9
N-Nitrosodiphenylamine	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Carbazole	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
4-Nitroaniline	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
4-Nitrophenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Acenaphthene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Acenaphthylene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Anthracene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Benzo(a)anthracene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Benzo(a)pyrene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Benzo(b)fluoranthene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Benzo(g,h,i)perylene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Benzo(k)fluoranthene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Benzoic acid	ug/L	SW846-8270 C	< 10	< 10	28		< 11	< 9	< 9
Benzyl alcohol	ug/L	SW846-8270 C	< 10	< 10	19		< 11	< 9	< 9
Bis(2-chloroethoxy)methane	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Bis(2-choroethyl)ether	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Bis(2-ethylhexyl)phthalate	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Butylbenzylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Chrysene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9

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Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
Dibenzo(a,h)anthracene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Dibenzofuran	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Diethylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Dimethylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Di-n-butylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Di-n-octylphthalate	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Fluoranthene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Fluorene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Hexachlorobenzene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Hexachlorobutadiene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Hexachlorocyclopentadiene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Hexachloroethane	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Indeno(1,2,3-cd)pyrene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Isophorone	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Naphthalene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Nitrobenezene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
N-Nitrosodiemethylamine	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
N-Nitroso-di-n-propylamine	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Pentachlorophenol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Phenanthrene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Pyrene	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Phenol	ug/L	SW846-8270 C	< 10	< 10	11		< 11	< 9	< 9
Pyridine	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
1,2-Diphenylhydrazine	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
Benzidine	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 9	< 9
alpha-Terpineol	ug/L	SW846-8270 C	< 10	< 10	< 10		< 11	< 5	< 5
Aldrin	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
alpha-BHC	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
beta-BHC	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
delta-BHC	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
gamma-BHC (Lindane)	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Chlordane (Technical)	ug/L	EPA 8081	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
alpha-Chlordane	ug/L	EPA 8081	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
gamma-Chlordane	ug/L	EPA 8081	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4,4'-DDD	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4,4'-DDE	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4,4'-DDT	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

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Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
Dieldrin	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Endosulfan I	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Endosulfan II	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Endosulfan sulfate	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Endrin	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Endrin Aldehyde	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Endrin Ketone	ug/L	EPA 8081	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Heptachlor	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Heptachlor epoxide	ug/L	EPA 8081	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Methoxychlor	ug/L	EPA 8081	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Toxaphene	ug/L	EPA 8081	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
3,5-Dichlorobenzoic acid	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acifluorfen	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bentazon	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,4-D	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dalapon	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,4-DB	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
DCPA (dacthal)	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dicamba	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichloroprop	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dinoseb	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MCPA	ug/L	EPA 8151	< 103	< 101	< 101	< 104	< 103	< 101	< 101
MCPP	ug/L	EPA 8151	< 103	< 101	< 101	< 104	< 103	< 101	< 101
Pentachlorophenol	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Picloram	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,4,5-T	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,4,5-TP (Silvex)	ug/L	EPA 8151	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Parameter	Units	Method	BUT10014	BUT10014[1]	BUT10016	BUT10017	CLA10011	CLA10018	HAM10010
Dissolved Oxygen	mg/L	Field Measured	2.65	2.65	0.00	8.65	0.00	5.93	3.56
pH	S.U.	Field Measured	7.18	7.18	7.51	7.27	7.24	7.23	7.20
Specific Conductance	mS/cm	Field Measured	760	760	560	689	722	643	772
Temperature	°C	Field Measured	15.2	15.2	13.4	13.6	13.0	17.4	13.3
Oxidation Reduction Potential	mv	Field Measured	106.9	106.9	-138.5	151.1	-113.3	116.9	130.5
Chloride	mg/L	EPA 300.0 Rev 2.1	42	42	13	30	25	19	53
Fluoride	mg/L	SM 4500-F B, C-11	0.231	0.224	0.299	0.198	0.261	0.262	0.249
Nitrogen, Ammonia	mg/L	EPA 350.1 Rev. 2.0	< 0.05	< 0.05	0.17	< 0.05	< 0.05	< 0.05	0.24
Nitrogen, Total Kjeldahl	mg/L	EPA 351.2 Rev 2.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.70
Nitrogen, Nitrite	mg/L	SM 4500-NO3 F-00,16	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrogen, Nitrate-Nitrite	mg/L	SM 4500-NO3 F-00,16	1.92	1.89	< 0.50	6.39	< 0.50	7.91	1.27
Total Orthophosphate, as P	mg/L	SM 4500 P, E-99, 11	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02
Sulfate	mg/L	EPA 300.0 Rev 2.1	28	28	49	15	62	15	35
Total Hardness	mg/L	SM 2340C-11	390	350	324	369	409	363	370
Aluminum	ug/L	EPA 6010C	< 150	< 150	< 150	< 150	< 150	< 150	< 150
Antimony	ug/L	EPA 6020A	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Arsenic	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Barium	ug/L	EPA 6010C	190	190	250	57	64	92	90
Beryllium	ug/L	EPA 6010C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Boron	ug/L	EPA 6010C	73	60	27	76	17	35	43
Cadmium	ug/L	EPA 6010C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium, Hexavalent	ug/L	SM 3500 Cr B-11	< 5.0	< 5.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Cobalt	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Iron	ug/L	EPA 6010C	< 40	< 40	1600	< 40	3000	< 40	69
Lead	mg/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lithium	ug/L	EPA 6020A	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Magnesium	mg/L	EPA 6010C	26	26	28	29	37	35	26
Manganese	ug/L	EPA 6010C	< 10	< 10	480	< 10	60	< 10	< 10
Nickel	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phosphorus	ug/L	SM 4500-P E-11	< 0.04	< 0.04	0.10	0.04	< 0.04	< 0.04	0.05
Potassium	mg/L	EPA 6010C	3.3	3.2	1.3	3.0	< 1.0	2.0	2.5
Silica	mg/L	EPA 6010C	11	11	15	12	16	9.9	8
Silver	ug/L	EPA 6010C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Sodium	mg/L	EPA 6010C	35	35	6.9	20	5.1	8.2	23

2024 Fall Sampling Event

Parameter	Units	Method	BUT10014	BUT10014[1]	BUT10016	BUT10017	CLA10011	CLA10018	HAM10010
Strontium	ug/L	EPA 6010C	630	630	460	180	340	2500	410
Thallium	ug/L	EPA 6020A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Zinc	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Alkalinity, Total (As CaCO3)	mg/L	SM 2320B-97, 11	330	340	240	280	310	290	310
Carbonaceous BOD	mg/L	SM 5210B-16	< 2	< 2	< 4	< 2	3	< 2	< 2
Chemical Oxygen Demand	mg/L	HACH 8000	< 10	19	17	15	< 10	< 10	< 10
Cyanide, Total	mg/L	EPA 335.4 Rev 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Phenolics, Total Recoverable	mg/L	EPA 420.4 Rev. 1.0	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Dissolved Solids	mg/L	SM 2540C-15	436	442	170	130	466	354	444
Total Organic Carbon	mg/L	SM 5310B-00, 14	< 0.7	< 0.7	< 0.7	0.7	1.1	< 0.7	< 0.7
E. coli	MPN/100mL	SM 9223B-04	< 2	< 1	< 1	< 2	< 1	< 1	< 2
Radon-222	pCi/L	SM 7500-Rn	273	275	467	270	118	388	477
Uranium	ug/L	EPA 6020A	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Acetonitrile	ug/L	SW-8260B	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Acrolein	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Acrylonitrile	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Allyl Chloride	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Benzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Bromochloromethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Bromodichloromethane	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Carbon Tetrachloride	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chlorobenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-Chloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2-Dichlorobenzene	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2-Dichloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

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Parameter	Units	Method	BUT10014	BUT10014[1]	BUT10016	BUT10017	CLA10011	CLA10018	HAM10010
1,1-Dichloroethene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
cis-1,2-Dichloroethene	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1-Dichloropropene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2-Dichloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,3-Dichloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2,2-Dichloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
cis-1,3-Dichloropropene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,3-Dichloropropene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Hexanone	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Methyl Bromide	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Chloride	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Ethyl Ketone	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Methyl Iodide	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methylene Bromide	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methylene Chloride	ug/L	SW-8260B	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
4-Methyl tert-butyl ether	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
4-Methyl-2-Pentanone (MIBK)	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Styrene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Tetrachloroethene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,2,2-Tetrachloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Toluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1-Trichloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,2-Trichloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2,3-Trichloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Vinyl Acetate	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	ug/L	SW-8260B	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene	ug/L	SW-8260B	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
o-Xylene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Xylenes, Total	ug/L	SW-8260B	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
1,2,3-Trichlorobenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2,4-Trichlorobenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2,4-Trimethylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

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Parameter	Units	Method	BUT10014	BUT10014[1]	BUT10016	BUT10017	CLA10011	CLA10018	HAM10010
1,3,5-Trimethylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Chlorotoluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
4-Chlorotoluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
4-Isopropyltoluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Bromobenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Isopropylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Hexachlorobutadiene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Hexane	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Sec-Butylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Tert-Butylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1-Methylnaphthalene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,2-Diphenylhydrazine	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,2,4,5-Tetrachlorobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,2,4-Trichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trinitrobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,3-Dichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dinitrobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,4-Dichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,3,4,6-Tetrachlorophenol	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
2,4-Dimethylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dinitrophenol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2,4,5-Trichlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4,6-Trichlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dichlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dinitrotoluene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,6-Dichlorophenol	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
2,6-Dinitrotoluene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chloronaphthalene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Methyl Naphthalene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Methylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Nitrophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
3 & 4 Methylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4,6-Dinitro-o-Cresol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
4-Bromophenyl Phenyl Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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Parameter	Units	Method	BUT10014	BUT10014[1]	BUT10016	BUT10017	CLA10011	CLA10018	HAM10010
4-Chloro-3-Methylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chloro Phenyl Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Nitrophenol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Acenaphthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acenaphthylene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acetophenone	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Aniline	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Anthracene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(a)anthracene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(a)pyrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(b)fluoranthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(g,h,i)perylene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(k)fluoranthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzyl Alcohol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-chloroethoxy)Methane	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-chloroethyl)Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-choroisopropyl)Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-ethylhexyl)Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butyl Benzyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chrysene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Di-n-butyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Di-n-octyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibenzo(a,h)anthracene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibenzofuran	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Diethyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dimethyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fluoranthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fluorene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorocyclopentadiene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachloroethane	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachloropropene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Ideno(1,2,3-cd)pyrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isophorone	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
N-Nitrosodi-n-butylamine	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
N-Nitrosodi-n-propylamine	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

2024 Fall Sampling Event

Parameter	Units	Method	BUT10014	BUT10014[1]	BUT10016	BUT10017	CLA10011	CLA10018	HAM10010
N-Nitrosodimethylamine	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
N-Nitrosodiphenylamine	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Nitrobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Pentachlorobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Pentachloronitrobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Pentachlorophenol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Phenanthrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Pyrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Pyridine	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Aldrin	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Alpha-BHC	ug/L	EPA 8081B	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Beta-BHC	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Delta-BHC	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Gamma-BHC (Lindane)	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Gamma-Chlordane	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlordane	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4,4'-DDT	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4,4'-DDE	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4,4'-DDD	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dieldrin	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Alpha Endosulfan	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Beta Endosulfan	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Endosulfan sulfate	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Endrin	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Endrin Aldehyde	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Endrin Ketone	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Heptachlor	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Heptachlor epoxide	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Methoxychlor	ug/L	EPA 8081B	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
Toxaphene	ug/L	EPA 8081B	< 12.5	< 12.5	< 12.5	< 12.5	< 12.5	< 12.5	< 12.5
2,4,5-T	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
2,4-DB	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
2,4-D	ug/L	EPA 8151A	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100
Dalapon	ug/L	EPA 8151A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dicamba	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200

2024 Fall Sampling Event

Parameter	Units	Method	BUT10014	BUT10014[1]	BUT10016	BUT10017	CLA10011	CLA10018	HAM10010
Dichloroprop	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Dinoseb	ug/L	EPA 8151A	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
MCPA	ug/L	EPA 8151A	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
MCPP	ug/L	EPA 8151A	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Silvex	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200

2024 Fall Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
Dissolved Oxygen	mg/L	Field Measured	0.18	0.10	0.00	0.00	0.02	0.00	0.65
pH	S.U.	Field Measured	7.28	6.89	7.46	7.38	7.30	7.39	7.57
Specific Conductance	mS/cm	Field Measured	663	907	697	692	648	1036	549
Temperature	°C	Field Measured	13.7	17.4	13.6	13.2	12.2	14.7	15.0
Oxidation Reduction Potential	mv	Field Measured	100.2	78.0	-95.2	-100.5	78.3	-126.6	122.7
Chloride	mg/L	EPA 300.0 Rev 2.1	22	15	50	40	7.4	120	37
Fluoride	mg/L	SM 4500-F B, C-11	0.189	0.190	0.176	0.202	0.419	0.221	0.259
Nitrogen, Ammonia	mg/L	EPA 350.1 Rev. 2.0	0.09	0.08	< 0.05	0.09	< 0.05	0.28	< 0.05
Nitrogen, Total Kjeldahl	mg/L	EPA 351.2 Rev 2.0	0.95	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrogen, Nitrite	mg/L	SM 4500-NO3 F-00,16	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrogen, Nitrate-Nitrite	mg/L	SM 4500-NO3 F-00,16	7.61	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Orthophosphate, as P	mg/L	SM 4500 P, E-99, 11	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sulfate	mg/L	EPA 300.0 Rev 2.1	25	110	26	47	39	81	24
Total Hardness	mg/L	SM 2340C-11	403	523	316	341	378	450	252
Aluminum	ug/L	EPA 6010C	< 150	< 150	< 150	< 150	< 150	< 150	< 150
Antimony	ug/L	EPA 6020A	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Arsenic	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Barium	ug/L	EPA 6010C	130	100	110	260	57	220	62
Beryllium	ug/L	EPA 6010C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Boron	ug/L	EPA 6010C	34	84	55	30	35	230	79
Cadmium	ug/L	EPA 6010C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium, Hexavalent	ug/L	SM 3500 Cr B-11	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Cobalt	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Iron	ug/L	EPA 6010C	< 40	< 40	240	4500	59	2200	< 40
Lead	mg/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lithium	ug/L	EPA 6020A	< 10	12.7	< 10	< 10	< 20	< 20	< 10
Magnesium	mg/L	EPA 6010C	27	41	27.0	32	19	43	27
Manganese	ug/L	EPA 6010C	65	32	82	29	300	63	< 10
Nickel	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phosphorus	ug/L	SM 4500-P E-11	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Potassium	mg/L	EPA 6010C	1.4	4.2	2.6	2.0	1.3	2.7	2.4
Silica	mg/L	EPA 6010C	11	8.4	10	10	11	15	8.8
Silver	ug/L	EPA 6010C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

2024 Fall Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
Strontium	ug/L	EPA 6010C	380	510	650	720	260	1100	430
Thallium	ug/L	EPA 6020A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Zinc	ug/L	EPA 6010C	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Alkalinity, Total (As CaCO3)	mg/L	SM 2320B-97, 11	310	380	280	270	340	300	220
Carbonaceous BOD	mg/L	SM 5210B-16	< 2	< 2	< 4	< 2	< 2	< 4	< 2
Chemical Oxygen Demand	mg/L	HACH 8000	< 10	24	13	11	< 10	< 10	< 10
Cyanide, Total	mg/L	EPA 335.4 Rev 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Phenolics, Total Recoverable	mg/L	EPA 420.4 Rev. 1.0	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Dissolved Solids	mg/L	SM 2540C-15	378	558	346	394	364	550	284
Total Organic Carbon	mg/L	SM 5310B-00, 14	< 0.7	1.0	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
E. coli	MPN/100mL	SM 9223B-04	< 2	< 1	< 1	< 1	< 2	< 1	< 1
Radon-222	pCi/L	SM 7500-Rn	177	280	145	152	243	170	491
Uranium	ug/L	EPA 6020A	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Acetonitrile	ug/L	SW-8260B	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Acrolein	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Acrylonitrile	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Allyl Chloride	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Benzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Bromochloromethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Bromodichloromethane	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Carbon Tetrachloride	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chlorobenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-Chloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2-Dichlorobenzene	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2-Dichloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

2024 Fall Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
1,1-Dichloroethene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
cis-1,2-Dichloroethene	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1-Dichloropropene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2-Dichloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,3-Dichloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2,2-Dichloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
cis-1,3-Dichloropropene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,3-Dichloropropene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Hexanone	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Methyl Bromide	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Chloride	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Ethyl Ketone	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Methyl Iodide	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methylene Bromide	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methylene Chloride	ug/L	SW-8260B	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
4-Methyl tert-butyl ether (MTBE)	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
4-Methyl-2-Pentanone (MIBK)	ug/L	SW-8260B	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Styrene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Tetrachloroethene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,2,2-Tetrachloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Toluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1-Trichloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,2-Trichloroethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2,3-Trichloropropane	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Vinyl Acetate	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	ug/L	SW-8260B	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene	ug/L	SW-8260B	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
o-Xylene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Xylenes, Total	ug/L	SW-8260B	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
1,2,3-Trichlorobenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2,4-Trichlorobenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

2024 Fall Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
1,2,4-Trimethylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,3,5-Trimethylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Chlorotoluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
4-Chlorotoluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
4-Isopropyltoluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Bromobenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Isopropylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Hexachlorobutadiene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Hexane	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Sec-Butylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Tert-Butylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1-Methylnaphthalene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,2-Diphenylhydrazine	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,2,4,5-Tetrachlorobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,2,4-Trichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trinitrobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,3-Dichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dinitrobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,4-Dichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,3,4,6-Tetrachlorophenol	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
2,4-Dimethylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dinitrophenol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2,4,5-Trichlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4,6-Trichlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dichlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dinitrotoluene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,6-Dichlorophenol	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
2,6-Dinitrotoluene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chloronaphthalene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Methyl Naphthalene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Methylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Nitrophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
3 & 4 Methylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4,6-Dinitro-o-Cresol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

2024 Fall Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
4-Bromophenyl Phenyl Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chloro-3-Methylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chloro Phenyl Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Nitrophenol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Acenaphthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acenaphthylene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acetophenone	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Aniline	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Anthracene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(a)anthracene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(a)pyrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(b)fluoranthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(g,h,i)perylene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(k)fluoranthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzyl Alcohol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-chloroethoxy)Methane	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-chloroethyl)Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-choroisopropyl)Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-ethylhexyl)Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butyl Benzyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chrysene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Di-n-butyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Di-n-octyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibenzo(a,h)anthracene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibenzofuran	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Diethyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dimethyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fluoranthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fluorene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorocyclopentadiene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachloroethane	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachloropropene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Ideno(1,2,3-cd)pyrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isophorone	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

2024 Fall Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
1,2,4-Trimethylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,3,5-Trimethylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Chlorotoluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
4-Chlorotoluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
4-Isopropyltoluene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Bromobenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Isopropylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Hexachlorobutadiene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Hexane	ug/L	SW-8260B	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Sec-Butylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Tert-Butylbenzene	ug/L	SW-8260B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1-Methylnaphthalene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,2-Diphenylhydrazine	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,2,4,5-Tetrachlorobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,2,4-Trichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trinitrobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,3-Dichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dinitrobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
1,4-Dichlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,3,4,6-Tetrachlorophenol	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
2,4-Dimethylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dinitrophenol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2,4,5-Trichlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4,6-Trichlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dichlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dinitrotoluene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,6-Dichlorophenol	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
2,6-Dinitrotoluene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chloronaphthalene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Methyl Naphthalene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Methylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Nitrophenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
3 & 4 Methylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

2024 Fall Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
4,6-Dinitro-o-Cresol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
4-Bromophenyl Phenyl Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chloro-3-Methylphenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chloro Phenyl Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Nitrophenol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Acenaphthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acenaphthylene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acetophenone	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Aniline	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Anthracene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(a)anthracene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(a)pyrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(b)fluoranthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(g,h,i)perylene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(k)fluoranthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzyl Alcohol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-chloroethoxy)Methane	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-chloroethyl)Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-choroisopropyl)Ether	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-ethylhexyl)Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butyl Benzyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chrysene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Di-n-butyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Di-n-octyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibenzo(a,h)anthracene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibenzofuran	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Diethyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dimethyl Phthalate	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fluoranthene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fluorene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorocyclopentadiene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachloroethane	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachloropropene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Ideno(1,2,3-cd)pyrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

2024 Fall Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
Isophorone	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
N-Nitrosodi-n-butylamine	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
N-Nitrosodi-n-propylamine	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
N-Nitrosodimethylamine	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
N-Nitrosodiphenylamine	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Nitrobenzene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Pentachlorobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Pentachloronitrobenzene	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Pentachlorophenol	ug/L	SW-8270C	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Phenanthrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenol	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Pyrene	ug/L	SW-8270C	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Pyridine	ug/L	SW-8270C	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Aldrin	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Alpha-BHC	ug/L	EPA 8081B	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Beta-BHC	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Delta-BHC	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Gamma-BHC (Lindane)	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Gamma-Chlordane	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlordane	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4,4'-DDT	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4,4'-DDE	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4,4'-DDD	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dieldrin	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Alpha Endosulfan	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Beta Endosulfan	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Endosulfan sulfate	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Endrin	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Endrin Aldehyde	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Endrin Ketone	ug/L	EPA 8081B	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Heptachlor	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Heptachlor epoxide	ug/L	EPA 8081B	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Methoxychlor	ug/L	EPA 8081B	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
Toxaphene	ug/L	EPA 8081B	< 12.5	< 12.5	< 12.5	< 12.5	< 12.5	< 12.5	< 12.5
2,4,5-T	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200

2024 Fall Sampling Event

Parameter	Units	Method	MIA00205	MON00022	MON10016	PRE10007	SHE00089	WAR10003	WAR10004
2,4-DB	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
2,4-D	ug/L	EPA 8151A	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100
Dalapon	ug/L	EPA 8151A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dicamba	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Dichloroprop	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Dinoseb	ug/L	EPA 8151A	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
MCPA	ug/L	EPA 8151A	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
MCPP	ug/L	EPA 8151A	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Silvex	ug/L	EPA 8151A	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200

[1] – duplicate sample

Keeping the promise since 1915

The Miami Conservancy District protects communities in southwest Ohio from flooding, preserves water through stewardship, and promotes the enjoyment of our waterways.

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