## Your Annual Drinking Water Quality Report for

# City of Wixom Municipal Water

## For January 1, 2021 to December 31, 2021

Dear Water Utility Customer,

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are wholly committed to ensuring the quality of your water.

**Where does my water come from?**

Your source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of potential contamination. The susceptibility rating is a seven-tiered scale ranging from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

In 2015, Great Lakes Water Authority (GLWA) received a grant from the EGLE to develop a source water protection program for the Lake Huron water treatment plant intake. The program includes seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. If you would like to know more information about the Source Water Assessment report, please contact your water department.

The City of Wixom also utilizes two standby groundwater wells in case the supply from GLWA is interrupted. These wells draw water from the Huron River and Rouge River watersheds and are approximately 100 feet in depth. These wells were not used to supply water to the City of Wixom in 2021. However, the city is required to sample them in the case that they ever need to be used.

**The City of Wixom** wants their customers to be informed about their water quality and will be glad to answer any questions pertaining to your water supply. If you as a customer are confused or feel misinformed, give your utility the opportunity to clarify things.

We routinely monitor your drinking water for contaminants according to federal and state laws. The following tables included with this report show the results of our monitoring for the period of January 1 to December 31, 2021. Sample results that are more than five years old are not included in the report, even if it is the last available data for the supply (e.g., some metals are collected on a nine-year frequency).

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency Safe Drinking Water Hot Line at 1-800-426-4791.

The State of Michigan and the U.S, EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2021.

If you wish to obtain a copy of this report, contact the Wastewater Plant at 248-960-0870. If you have questions concerning the contents of this report or the water utility, contact:

F&V Operations and Resource Management, Inc.
248-960-0870

**Opportunities for Public Participation:**

We believe that informed citizens can be strong allies of water systems as they take action on pressing problems. The following is a listing of meeting dates and locations where your elected officials may discuss water system issues.

| City Council | Regular Meeting Schedule | Location / Contact |
|---|---|---|
| City of Wixom | 2nd Tuesday @ 7:00 pm<br>4th Tuesday @ 7:00 pm<br>Monthly | City Hall - Council Chambers<br>49045 Pontiac Trail<br>Wixom, MI 48939<br>cityofwixom@wixomgov.org |

The tables below lists all the drinking water contaminants that were detected during the 2021 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2021. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All the data is representative of the water quality, but some are more than one year old.

**Great Lakes Water Authority – Lake Huron Water Treatment Plant**

**PRIMARY STANDARDS** – Required sampling for substances which have federally enforced regulations, these substances are directly related to the safety of drinking water.

| Inorganic/Organic Chemicals | Sample Date | MCLG | MCL | Result | Range of all Results | Violation | Likely source |
|---|---|---|---|---|---|---|---|
| Barium (ppm) | 5-16-2017 | 2 | 2 | 0.01 | N/A | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits. |
| Fluoride (ppm) | 4-13-2021 | 4 | 4 | 0.62 | N/A | No | Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories. |
| Nitrate (ppm) | 4-13-2021 | 10 | 10 | 0.31 | N/A | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. |
| **Radioactive Contaminants** | **Sample Date** | **MCLG** | **MCL** | **Result** | **Range of all Results** | **Violation** | **Likely source** |
| Combined Radium 226 and 228 (pCi/L) | 5-13-14 | 0 | 5 | 0.86 + or - 0.55 | N/A | No | Erosion of natural deposits |
| **Disinfectant Residual** | **Sample Date** | **MRDLG** | **MRDL** | **Level Detected** | **Range of all Results** | **Violation** | **Likely source** |
| Total Chlorine (ppm) | Daily | 4.0 | 4.0 | 0.8 | 0.72 - 0.87 | No | Disinfectant added to control microbes |
| **TOC Removal** | | | | | | | **Likely source** |
| Total Organic Carbon (TT) | The Total Organic Carbon (TOC) is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each quarter and because the level was low, there are no TOC removal requirements. | | | | | | Erosion of natural deposits |
| **Turbidity** | **Sample Date** | **MCLG** | **MCL/TT** | **Highest Result** | **Range of all Results** | **Violation** | **Likely source** |
| NTU Filtered Water | Daily | N/A | TT = 1 NTU | 0.09 | N/A | No | Soil run-off |
| % of samples Filtered Water | Daily | N/A | 95% <0.3 NTU | 100% | N/A | No | Soil run-off |

**ADDITIONAL MONITORING** – Required and non-required sampling for substances that do not have federally enforced regulations, these substances are not directly related to your health. They reflect aesthetic qualities such as taste, odor and appearance.

| Sampled at Plant Tap | Sample Date | MCLG | MCL | Average Result | Range of all Results | Violation | Likely source |
|---|---|---|---|---|---|---|---|
| Sodium (ppm) | 4-13-2021 | N/A | N/A | 4.23 | N/A | No | Erosion of natural deposits |

**Additional information about unregulated contaminants can be found here:** www.epa.gov/dwucmr

## City of Wixom – Distribution System

| Copper & Lead | Year Sampled | MCLG | AL | Your Water[1] | Range of all Results | Violation | Likely source |
|---|---|---|---|---|---|---|---|
| Copper (ppb) | 2021 | 0 | 1300 | 129 | 10.2 – 170.4 | No | Corrosion of household plumbing |
| Lead (ppb) | 2021 | 0 | 15 | ND | 0 - 17.6 | No | Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits |
| **Disinfectant By- Products** | **Year Sampled** | **MCLG** | **MCL** | **LRAA** | **Range of all Results** | **Violation** | **Likely source** |
| TTHMs (ppb) | 2021 | N/A | 80 | 41 | 37 – 41 | No | Disinfection By-product |
| HAA5 (ppb) | 2021 | N/A | 60 | 16.0 | 13.8 – 16 | No | Disinfection by-product |
| **Disinfectant Residual** | **Year Sampled** | **MRDLG** | **MRDL** | **Annual RAA** | **Range of all Results** | **Violation** | **Likely source** |
| Total Chlorine (ppm) | 2021 | 4.0 | 4.0 | 0.93 | 0.21 – 1.44 | No | Disinfectant added to control microbes. |
| **Microbial Contaminants** | **Year Sampled** | **MCL, TT** | **MCLG** | **Level Detected** | **Range** | **Violation** | **Likely source** |
| Total Coliform | 2021 | TT | N/A | N/A | N/A | No | Naturally present in environment |
| E. Coli[2] | 2021 | See Table Notes[2] | 0 | 0 | N/A | No | Human and animal fecal waste |

## City of Wixom – Standby Wells

| Water Quality Parameters | Year Sampled | MCLG | MCL | Average Result | Range of all Results | Violation | Likely source |
|---|---|---|---|---|---|---|---|
| Nitrate as N (ppm) | 2021 | 10 | 10 | ND | ND | No | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Nitrite as N (ppm) | 2021 | 1 | 1 | ND | ND | No | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Fluoride (ppm) | 2021 | 4.0 | 4.0 | ND | ND | No | Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories |
| Chloride (ppm) | 2021 | N/A | N/A | 165.8 | 9.4-420 | No | Erosion of natural deposits |
| Total Sodium (ppm) | 2021 | N/A | N/A | 170 | 160 – 180 | No | Erosion of natural deposits |
| Total Iron (ppm) | 2021 | N/A | N/A | 5.45 | 4.9 – 6.0 | No | Naturally occurring mineral |
| Hardness as $CaCO_3$ (ppm) | 2021 | N/A | N/A | 270.8 | 80 – 560 | No | Naturally occurring mineral |
| Sulfate (ppm) | 2021 | N/A | N/A | 31.8 | 17 – 50 | No | Naturally occurring mineral |
| **Water Quality Parameters** | **Year Sampled** | **MCLG** | **MCL** | **Highest Result** | **Range of all Results** | **Violation** | **Likely source** |
| Gross Alpha - Radiological (pCi/L) | 2020 | 0 | 15 | 10.9 ± 0.8 | 3.2 ± 0.5 – 10.9 ± 0.8 | No | Erosion of natural deposits |
| Radium 226 & Radium 228 (pCi/L) | 2021 | 0 | 5 | 4.5 ± 0.6 | 3.8 ± 0.6 – 4.5 ± 0.6 | No | Erosion of natural deposits |

Table Notes:

[1] Ninety (90) percent of the samples collected were at or below the level reported for our water.

[2] E. coli MCL violation occurs if: (1) routine and repeat samples are total coliform-positive and either is E. coli-positive, or (2) the supply fails to take all required repeat samples following E. coli-positive routine sample, or (3) the supply fails to analyze total coliform-positive repeat sample for E. coli.

**City of Wixom – Standby Wells**

**Per- and polyfluoroalkyl substances (PFAS)**

| Regulated Contaminant | MCL | MCLG | Level Detected | Range | Year Sampled | Violation | Typical Source of Contaminant |
|---|---|---|---|---|---|---|---|
| Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt) | 370 | N/A | ND | N/A | 2021 | No | Discharge and waste from industrial facilities utilizing the Gen X chemical process |
| Perfluorobutane sulfonic acid (PFBS) (ppt) | 420 | N/A | ND | N/A | 2021 | No | Discharge and waste from industrial facilities; Stain-resistant treatments |
| Perfluorohexane sulfonic acid (PFHxS) (ppt) | 51 | N/A | ND | N/A | 2021 | No | Firefighting foam; Discharge and waste from industrial facilities |
| Perfluorohexanoic acid (PFHxA) (ppt) | 400,000 | N/A | ND | N/A | 2021 | No | Firefighting foam; Discharge and waste from industrial facilities |
| Perfluorononanoic acid (PFNA) (ppt) | 6 | N/A | ND | N/A | 2021 | No | Discharge and waste from industrial facilities; Breakdown of precursor compounds |
| Perfluorooctane sulfonic acid (PFOS) (ppt) | 16 | N/A | ND | N/A | 2021 | No | Firefighting foam; Discharge from electroplating facilities; Discharge and waste from industrial facilities |
| Perfluorooctanoic acid (PFOA) (ppt) | 8 | N/A | ND | N/A | 2021 | No | Discharge and waste from industrial facilities; Stain-resistant treatments |

***Important information about Lead***

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with services lines and home plumbing. The City of Wixom is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using your water for drinking or cooking. If you have a lead service line, it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. Infants and children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at http://www.epa.gov/safewater/lead.

***Health Effects of Radiological Contaminants***

Radium 226 & Radium 228 was detected above the MCL in the standby wells. However, these wells were not used to supply water to the City of Wixom during 2021. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters or Radium 226 & 228 in excess of the MCL over many years may have an increased risk of getting cancer.

The City of Wixom has 3,439 active service lines. There are 3,439 service lines that are of unknown composition.

In the previous tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

***Action Level*** **(AL)** - The concentration of a contaminant that if exceeded triggers treatment or other requirements that a water system must follow.

***Environmental Protection Agency*** **(EPA)**

***Food and Drug Administration*** **(FDA)**

***Maximum Contaminant Level*** **(MCL)** - The "Maximum Allowed" is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

***Maximum Contaminant Level Goal*** **(MCLG)** - The "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

***Maximum residual disinfectant level (*****MRDL)** - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

***Maximum residual disinfectant level goal*** **(MRDLG)**- The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

***Michigan Department of Environment, Great Lakes, and Energy*** **(EGLE)**

***Nephelometric Turbidity Unit*** **(NTU)** - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

***Not regulated*** **(NR) -** The substance is not currently regulated by the USEPA and or MDEQ. Monitoring helps EPA to determine where these contaminants occur and whether there is a need to regulate them.

***Not applicable*** **(N/A)**

***Not Detected*** **(ND)**

***Parts per million*** **(ppm): Parts per million or milligrams per liter**

***Parts per billion*** **(ppb): Parts per billion or micrograms per liter**

***Running Annual Average*** **(RAA)**

***Treatment Technique*** **(TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

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**The City of Wixom** is proud that your drinking water meets all federal and state requirements. We have learned from our monitoring and testing that some contaminants have been **detected but are well within the standards.** The EPA has determined that your water is safe at these levels.

**Information for people with special health concerns**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hot Line (800-426-4791).

**The sources of all drinking water** (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

**Contaminants that may be present in source water include:**

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Organic Chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production in mining activities.

In order to ensure that tap water is safe to drink, the **EPA** prescribes regulations which limits the number of certain contaminants in water provided by public water systems. **FDA** regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

There is nothing more important to our community than quality drinking water. We will continue to work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.