

**2022**  
***Annual Drinking Water Quality Report***  
***Charter Township of Union***

The Charter Township of Union Water Department is pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality 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 committed to ensuring the quality of your water. Union Township has three separate well fields, with wells ranging in depth from 56'6" to 160'.

**We are pleased to report that our drinking water meets federal and state requirements.**

If you have any questions regarding this report or concerning your water utility, please contact Kim Smith, Public Services Director, at 5228 South Isabella Road, Mt. Pleasant, MI 48858, 989-772-4600 ext. 224. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the second and fourth Wednesday of every month at 7:00 p.m. at the Union Township Hall. The Union Township Hall is located at 2010 S. Lincoln Road, Mt. Pleasant, MI 48858.

The Charter Township of Union routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1, 2022 to December 31, 2022. In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Micrograms per liter (ug/l) – a measure of the concentration of a substance in water equivalent to parts per billion (ppb)

Parts per trillion (ppt) or nanograms per liter – is a measurement of the quantity of a substance in the air, water or soil. A concentration of one part per trillion means that there is one part of that substance for every one trillion parts of either air, water or soil in which it is contained.

Action Level - the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) 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 residual disinfectant level goal or 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.

Maximum residual disinfectant level or MRDL – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Contaminant Level Goal - The "Goal" (MCLG) 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.

**Monitoring schedule set by State of Michigan.**

TEST RESULTS							
Regulated Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination	
<b>Inorganic Contaminants</b>							
Arsenic 2020 date of detect	N	ND	Ppb	0	10	Erosion of natural deposits These arsenic values are effective January 23, 2006. Until then the MCL is 50 ppb and there is no MCLG.	
Barium 2020 date of detect	N	.07-.11	Ppm	2	2	erosion of natural deposits	
Copper (90 <sup>th</sup> Percentile) 2021 date of detect  Copper Range = 2021 date of detect	N	500  0 - 800	Ppb	1300	AL=1300	Corrosion of household plumbing systems	
Fluoride 2022 date of detect	N	.38	Ppm	4	4	Erosion of natural deposits	
Sodium 2022 date of detect	N	15-100	Ppm			Naturally occurring, erosion of natural deposits	
Lead (90 <sup>th</sup> percentile) 2021 date of detect  Lead Range = 2021 date of detect	N	2  0-33	Ppb	0	AL=15	Lead service lines, corrosion of household plumbing including fittings and fixtures; erosion of natural deposits	
Free Chlorine – Range = Maximum = 2022 date of detect	N	.085 – 4.55	Ppm	MRDLG 4	MRDL 4	Water additive used to control microbes.	
TTHM	Previous Year			Year Covered by the CCR			
	2 QTR	3 QTR	4 QTR	1 QTR	2 QTR	3 QTR	4 QTR
Distribution Site		17.4 ppb				2.8-19.3 ppb	
RAA (running annual average)		17.4 ppb				11.05 ppb	

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

Regulated Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt) 2022date of detect	N	ND	ppt	NA	370	Discharge and waste from industrial facilities utilizing the Gen X chemical process
Perfluorobutane sulfonic acid (PFBS) (ppt) 2022 date of detect	N	3	ppt	NA	420	Discharge and waste from industrial facilities; stain-resistant treatments
Perfluorohexane sulfonic acid (PFHxS) (ppt) 2022 date of detect	N	ND	ppt	NA	51	Firefighting foam; discharge and waste from industrial facilities
Perfluorohexanoic acid (PFHxA) (ppt) 2022 date of detect	N	ND	ppt	NA	400,000	Firefighting foam; discharge and waste from industrial facilities
Perfluorononanoic acid (PFNA) (ppt) 2022 date of detect	N	ND	ppt	NA	6	Discharge and waste from industrial facilities; breakdown of precursor compounds

Perfluorooctane sulfonic acid (PFOS) (ppt) 2022 date of detect	N	ND	ppt	NA	16	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities
Perfluorooctanoic acid (PFOA) (ppt) 2022 date of detect	N	ND	ppt	NA	8	Discharge and waste from industrial facilities; stain-resistant treatments

One (1) lead and Zero (0) copper samples exceeded the action level.

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 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 service lines and home plumbing. Union Township 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 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. If you are concerned about the 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 at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Number of Lead Service Lines	Number of Service Lines of Unknown Material	Total Number of Service Lines
1	466	1936

The average sodium concentration was 48.000 Ppm.

We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water **IS SAFE** at these levels.

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's Safe Drinking Water Hotline at 1-800-426-4791.

The sources of drinking water (both tap and bottled water) include rivers, 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 materials, and can pick up substances resulting from the presence of animals or from human activity.

Your water comes from seven groundwater wells; they range from 56'6" to 160' drawing from a drift aquifer. The State of Michigan performed an assessment of our source water in 2003 to determine the susceptibility or the relative potential contamination. This report determines the susceptibility of or the relative potential of contamination. The susceptibility rating is on a seven-tier scale from "very-low" to "very-high" based primarily on geologic sensitivity, water chemistry, and contamination sources. The susceptibility of our well's ranges from low to moderate. Wells number three and four have a low rating and wells number one, two, five, and six have a moderate rating. We are making efforts to protect our sources by monitoring the use of surrounding land areas. If you would like to know more about the report a copy can, be obtained from The Charter Township of Union Public

Services Department located at 5228 South Isabella Road, Mt. Pleasant MI 48858. Or call 989-772-4600 ext. 224 if you wish to have a copy of this report mailed to you.

EPA is reviewing the drinking water standard for arsenic because of special concerns that it may not be stringent enough. Arsenic is a naturally occurring mineral known to cause cancer in humans at high concentrations.

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps the U.S. EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. We monitor for these contaminants and the results of monitoring are available on request.

Contaminants that may be present in source water.

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 salt and metals, which can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining and farming.

Pesticides and herbicides, which may come from a variety of sources such as agricultural, urban storm water runoff, and residential uses.

Organic chemical contaminants, which can be naturally occurring or be the result of oil and gas production mining activities.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount 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.

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 from infections. These people should seek advice about drinking water from their health care providers. 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 Hotline (800-426-4791).

Copies of this report will be mailed to each customer. If you wish to obtain an additional copy of this report it can be obtained from the Charter Township of Union Hall located at 2010 South Lincoln Road, Mt. Pleasant, MI 48858. You can also call 989-772-4600 ext. 224 if you wish to have a copy of the report mailed to you. It is also available on line <http://www.uniontownshipmi.com/Departments/PublicServicesDepartment.aspx>.