

2021 Burtchville Township Water Quality Report

Drinking water quality is important to our community and the region. Burtchville Township DPW and the Great Lakes Water Authority (GLWA) are committed to meeting state and federal water quality standards including the Lead and Copper Rule. With the Great Lakes as our water source and proven treatment technologies, the GLWA consistently delivers safe drinking water to our community. Burtchville Township operates the system of water mains that carry this water to your home's service line. This year's Water Quality Report highlights the performance of GLWA and Burtchville Townships water professionals in delivering some of the nation's best drinking water. Together, we remain committed to protecting public health and maintaining open communication with the public about our drinking water.

Safe drinking water is a shared responsibility. The water that GLWA delivers to our community does not contain lead. Lead can leach into drinking water through home plumbing fixtures, and in some cases, customer service lines. Corrosion control reduces the risk of lead and copper from leaching into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in service pipes throughout the system, including in your home or business. The Burtchville Township DPW performs required lead and copper sampling and testing in our community. Water consumers also have a responsibility to maintain the plumbing in their homes and businesses, and can take steps to limit their exposure to lead.

Mandatory language regarding contaminants reasonably expected to be found in drinking water. (§141.153(h)(1)(i) through (iv)).

"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 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 (800-426-4791).

The sources of 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 organics, which are by-products 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 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. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health."

Warning about the vulnerability of some populations to contaminants in drinking water. (§151.154(a)).

"Some people may be more vulnerable to contaminants in drinking water than is 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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791)."

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 service lines and home plumbing. Burtchville DPW 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 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 Website at <http://www.epa.gov/safewater/lead>.

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 Environmental Quality 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, GLWA received a grant from the Michigan Department of Environmental Quality 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 (810) 385-8555 .

2021 Lake Huron Regulated Detected Contaminants Table

2021 Inorganic Chemicals - Annual Monitoring at Plant Finished Tap								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation	Major Sources in Drinking Water
Fluoride	04/13/2021	ppm	4	4	0.62	n/a	no	Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	04/13/2021	ppm	10	10	0.31	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	05-16-2017	ppm	2	2	0.01	n/a	no	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Lead and Copper Monitoring at the Customer's Tap in 2021

Regulated Contaminant	Unit	Year Sampled	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Range of Individual Samples Results	Number of Samples Over AL	Major Sources in Drinking Water
Lead	ppb	2021	0	15	.0010	ND/.0010	10	Lead services lines, corrosion of household, plumbing including fittings and fixtures; erosion of natural deposits.
Copper	ppm	2021	1.3	1.3	.0010	.12-.0083	10	Corrosion of household plumbing system; Erosion of natural deposits; leaching from wood preservatives.

* The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.

2021 Disinfection Residual - Monitoring in the Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
Total Chlorine Residual	2021	ppm	4	4	0.8	0.72-0.87	no	Water additive used to control microbes

2021 Disinfection By-Products - Stage 2 Disinfection By-Products Monitoring in the Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level LRAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
(TTHM) Total Trihalomethanes	2021	ppb	n/a	80	23 ug/L	.50	no	By-product of drinking water chlorination
(HAA5) Haloacetic Acids	2021	ppb	n/a	60	17 ug/L	1.0	no	By-product of drinking water chlorination

2021 Turbidity - Monitored Every 4 Hours at the Plant Finished Water Tap

Highest Single Measurement Cannot Exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation	Major Sources in Drinking Water
0.09 NTU	100%	no	Soil Runoff

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Regulated Contaminant	Treatment Technique	Typical Source of Contaminant
Total Organic Carbon ppm	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC is measured each quarter and because the level is low, there is no requirement for TOC removal.	Erosion of natural deposits

Radionuclides - Monitored at the Plant Finished Tap in 2014							
Regulated Contaminant	Test Date	Unit	MCLG	MCL	Level Detected	Violation	Major Sources in Drinking Water
Combined Radium Radium 226 and 228	5/13/14	pCi/L	0	5	0.86 ± 0.55	no	Erosion of natural deposits

2021 Special Monitoring						
Contaminant	Test Date	Unit	MCLG	MCL	Highest Level Detected	Source of Contaminant
Sodium	4/13/2021	ppm	n/a	n/a	4.23	Erosion of natural deposits

These tables are based on tests conducted by GLWA in the year 2021 or the most recent testing done within the last five calendar years. GLWA conducts tests throughout the year only tests that show the presence of a substance or require special monitoring are presented in these tables. 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. The data is representative of the water quality, but some are more than one year old.

About Unregulated Contaminant Monitoring

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

Unregulated Contaminant	Average Level Detected	Range	Year Sampled	Comments
[Name of Unregulated Contaminant] (unit)				
[Name of Unregulated Contaminant] (unit)				

Burtchville Twp Lead and Copper Monitoring at the Customer's Tap in 2021

Per- and polyfluoroalkyl substances (PFAS)									
Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant		
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt)	N/A	N/A					Discharge and waste from industrial facilities utilizing the Gen X chemical process		
Perfluorobutane sulfonic acid (PFBS) (ppt)	N/A	N/A					Discharge and waste from industrial facilities; Stain-resistant treatments		
Perfluorohexane sulfonic acid (PFHxS) (ppt)	N/A	N/A					Firefighting foam; Discharge and waste from industrial facilities		
Perfluorohexanoic acid (PFHxA) (ppt)	N/A	N/A					Firefighting foam; Discharge and waste from industrial facilities		
Perfluorononanoic acid (PFNA) (ppt)	N/A	N/A					Discharge and waste from industrial facilities; Breakdown of precursor compounds		
Perfluorooctane sulfonic acid (PFOS) (ppt)	N/A	N/A					Firefighting foam; Discharge from electroplating facilities; Discharge and waste from industrial facilities		
Perfluorooctanoic acid (PFOA) (ppt)	N/A	N/A					Discharge and waste from industrial facilities; Stain-resistant treatments		
Inorganic Contaminant Subject to ALs	AL	MCLG	Your Water ⁴	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant		
Lead (ppb)	15	0		0	2021	N0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits		
Copper (ppm)	1.3	1.3		0	2021	N0	Corrosion of household plumbing systems; Erosion of natural deposits		

⁴ Ninety (90) percent of the samples collected were at or below the level reported for our water.

2021 Lake Huron Tap Water Mineral Analysis

Parameter	Units	Max.	Min.	Avg.	Parameter	Units	Max.	Min.	Avg.
Turbidity	NTU	0.11	0.04	0.07	Chloride	ppm	10.1	8.4	9.6
Total Solids	ppm	164	70	124	Phosphorus	ppm	0.48	0.36	0.40
Total Dissolved Solids	ppm	148	68	113	Free Carbon Dioxide	ppm	8.3	4.4	5.8
Aluminum	ppm	0.139	0.023	0.060	Total Hardness	ppm	107	85	98
Iron	ppm	0.3	0.1	0.2	Total Alkalinity	ppm	78	72	75
Copper	ppm	0.001	ND	0.000	Carbonate Alkalinity	ppm	0	0	0
Magnesium	ppm	8.3	6.0	7.4	Bi-Carbonate Alkalinity	ppm	78	72	74
Calcium	ppm	27.7	20.5	25.0	Non-Carbonate Hardness	ppm	29	13	24
Sodium	ppm	16.1	4.0	5.8	Chemical Oxygen Demand	ppm	5.0	ND	1.9
Potassium	ppm	1.1	0.8	1.0	Dissolved Oxygen	ppm	12.6	8.3	10.5
Manganese	ppm	ND	ND	0.000	Nitrite Nitrogen	ppm	ND	ND	0.0
Lead	ppm	ND	ND	0.000	Nitrate Nitrogen	ppm	0.37	0.29	0.33
Zinc	ppm	0.003	ND	0.001	Fluoride	ppm	0.80	0.59	0.67
Silica	ppm	2.5	1.8	2.2	pH		7.53	7.25	7.42
Sulfate	ppm	22.4	17.3	19.3	Specific Conductance @ 25 °C	µmhos	312	188	222
					Temperature	°C	68.2	4.2	19.2