2017 Burtchville Township
Water Quality Report

A Closer Look at Water Quality

From the Burtchville Township Water Department

Introduction:

Drinking water quality is important to our community and the region. The Township of Burtchville 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 Township 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.

This report covers drinking water quality supplied by the Burtchville Township Water Department. This information is a summary of the quality of the water that we provided to you in 2017, the latest calendar year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards.

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 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.

GLWA voluntarily developed and received approval in 2015 for a source water protection program (SWIPP) 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 Source Water Assessment or the SWIPP, please contact your water department at (810) 385-8555.

www.glwater.org or contact Mary Lynn Semegen, (313) 926-8102, mary.semegen@glwater.org.

Your water comes from surface water treated at the City of Detroit's Lake Huron Water Treatment Plant through a metering and pressure reducing facility located at 3393 Metcalf Road, Fort Gratiot, MI.

- **Contaminants and their presence in water**: Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of some 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 EPA's Safe Drinking Water Hotline (800-426-4791).

- **Vulnerability of sub-populations:** 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 systems 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 from Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

- **Sources of Drinking Water**: The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from Lake Huron. 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 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 and residential uses.
  - **Radioactive contaminants,** which can be naturally occurring or be the result of oil and gas production and mining activities.
  - **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by

public water systems. Food and Drug Administration regulations establish limits or contaminants in bottled water, which provide the same protection for public health.

Water Quality Data

The attached table on the last page lists the drinking water contaminants that were detected during the 2017 calendar year in the source water. The City of Detroit furnished this table, since they are responsible for the quality of our source water. The presence of these contaminants does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data in this table is from testing clone January 1 — December 31, 2017. 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 of the data is representative of the water quality, but some is more than one year old.

Additional Data

The City of Detroit has informed us that they tested for, but did not detect, Cryptosporidium in the source waters; that they did not test for radon.

State drinking water quality regulations require the Burtchville Township Water Department to also collect samples of the water in our system and to have it regularly analyzed for bacteria and occasionally for other contaminants. There were no positive tests for Total Coil form or Fecal Coil form bacteria found in the Burtchville Township water samples during 2017.

Terms and Abbreviations used:

- Maximum Contaminant Level Goal (MCLG): The level of contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.
- Maximum Contaminant Level (MCL): The highest level of contaminant level that is allowed in drinking water. MCL's are set as close as possible to the MCLG's as feasible using the best available treatment technology.
- Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements, which the water system must follow.
- ppb: Parts per billion or micrograms per liter.
- ppm: Parts per million or milligrams per liter
- pCi/l: Picocuries per liter

n/a not applicable

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- Maximum Residual Disinfectant Level Goal (MRDL.G) 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 (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 a microbial contaminants.

- NTU (Nephelometric Turbidity Units) Measures the cloudiness of water
- TT (Treatment Technique) A required process intended to reduce the level of a contaminant in drinking water
- HAA5 (Haloacetic acids) is the total of bromoacetic, chloroacetic,dibromoacetic,dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
- TTHM (Total Trihalomethanes) Total Trihalomethanes is the sum of chloroform, bromodichloromethane,dibromochloromethane and bromoform. Compliance is based on the total.

Water Quality Summary

Is our water system meeting other rules that govern our operations? The State and EPA require us to test our water on a regular basis to insure its safety. We met all the monitoring and reporting requirements for 2017.

We are committed to providing you safe, reliable, and healthy water. We are pleased to provide you with this information to keep you fully informed about your water. We will be updating this report annually, and will also keep you informed of any water quality problems that may occur throughout the year, as they may happen.

For more information about your water or comments about this report, contact Dusty Kowalski, DPW Superintendent, at (810) 385-8555. The Burtchville Township board meets the third Monday of each month at 4000 Burtch road, Lakeport, MI 48059. Time of meeting is 7:00 pm.

Health Effects

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 Township of Burtchville performs a 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.

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 Twp. 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 Hotline at 1-800-426-4791 or http://water.epa.gov/drink/info/lead.

COPPER: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

CLOSING: Burtchville Township and the Great Lakes Water Authority are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. Please contact us with any questions or concerns about your water.

Lake Huron Water Treatment Plant

2017 Regulated Detected Contaminants Tables

2017 Inorganic Chemicals – Monitoring at the Plant Finished Water Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Fluoride	5-16-2017	ppm	4	4	**0.72**	**n/a**	**no**	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	5-16-2017	ppm	10	10	**0.34**	**n/a**	**no**	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	5-16-2017	ppm	2	2	**0.01**	**n/a**	**no**	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

2017 Disinfection By-Products – Monitoring in Distribution System, Stage 2 Disinfection By-Products

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2017	ppb	n/a	80	**0.081 ppb**	**0.0821 ppb**		By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2017	ppb	n/a	60	**0.017 ppb**	**0.017 ppb**		By-product of drinking water disinfection

Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Quarterly Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan-Dec 2017	ppm	4	4	**0.75**	**0.65-0.80**	**no**	Water additive used to control microbes

2017 Turbidity – Monitored every 4 hours at Plant Finished Water

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

Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

2017 Lead and Copper Monitoring at Customers' Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number of Samples over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2017	ppb	0	15	**0.0 ppb**	**0**	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2017	ppm	1.3	1.3	**0.1 ppm**	**0**	no	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.

Regulated Contaminant	Treatment Technique 2017	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 was measured each quarter and because the level was low, there is no TOC removal requirement	Erosion of natural deposits

Radionuclides 2014

Regulated contaminant	Test date	Unit	Health Goal	Allowed Level	Level detected	Violation Yes/no	Major Sources in Drinking water

			MCLG				
Combined Radium 226 and 228	5-13-14	pCi/L	0	5	**0.86 + or - 0.55**	**no**	Erosion of natural deposits

Contaminant	MCLG	MCL	Level Detected 2017	Source of Contamination
Sodium (ppm)	n/a	n/a	**4.46**	Erosion of natural deposits