

**2018 ANNUAL DRINKING WATER QUALITY REPORT**  
**VILLAGE OF MILFORD**  
**April 2, 2019**

We're pleased to present to you the 2018 Annual Quality Water 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. Our water source is from one 12-inch diameter and one 16-inch water wells, 114 feet deep, owned by the Village of Milford. Our wells draw water from an underground aquifer that extends north towards Moore Lake in Milford Township. Once the water is pumped from the aquifer, the water is pumped to the Iron Removal Plant and filtered to remove the iron. Chlorine is added as a disinfectant to protect the water after it leaves the plant. Fluoride is added to the water as it leaves the plant to prevent tooth decay.

The State performed an assessment of our source water to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a seven-tiered scale from "very-low" to "very-high" based on geologic sensitivity, well construction, and water chemistry and contamination sources. The susceptibility of our source water is moderate. Through our Well Head Protection Plan (WHPP) approved by the Michigan Department of Environmental Quality, we are making efforts to protect our source water supply. This is an important tool for the protection of our community's drinking water source. Educating the public and our water customers on the proper disposal of chemicals, water conservation, and being informed of the source of our drinking water are important educational tools of a WHPP. One program provided to the residents of our community is the annual Household Hazardous Waste Collection Event (HHWCE) held on the third Saturday of May. All unused or unwanted chemicals, batteries, motor oil, herbicides, pesticides, electronics, oil based paints, solvents, etc. can be brought to the Milford Civic Center site for proper disposal. This program helps to reduce the chance of these chemicals contaminating the groundwater. Information on the WHPP or the HHWCE is available at the Village Offices or Department of Public Services

The Village of Milford monthly monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2018.

If you have any questions about this report or concerning your water utility, please contact us. 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 Council meetings. They are held on **the first and third Mondays of each month at 7:30 PM at the Village Offices.**

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. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the tables below, 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:

*Not-Detected or (ND)* means laboratory analysis indicates that the constituent is not present.

*Parts per million (ppm) or Milligrams per liter (mg/l)* –means that 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.

*Action Level or (AL)* means the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

*Maximum Contaminant Level or (MCL)* means 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 or (MCLG)* means 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 Goal or MRDLG* means 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* means the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control microbial contaminates.

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 table below represents the most current testing information available.

Compounds reported as TRACE were detected at levels above the detection limits, but at levels too low to quantitate. **The table below shows the results of the monthly monitoring.**

<b>Inorganic Contaminants</b>						
<b>Contaminant</b>	<b>Violation Y/N</b>	<b>Level Detected</b>	<b>Unit of Measure</b>	<b>MCLG</b>	<b>MCL</b>	<b>Major Sources in Drinking Water</b>
Fluoride	N	0.64	ppm	4	4ppm	Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminum factor

<b>Volatile Organic Contaminants</b>						
<b>Contaminant</b>	<b>Violation Y/N</b>	<b>Range Lowest-Highest</b>	<b>Unit of Measure</b>	<b>MCLG</b>	<b>MCL</b>	<b>Major Sources in Drinking Water</b>
CIS,1,2-Dichloroethylene	N	0.5-1.0 ppb	ppb	70	70	Discharge from industrial chemical factories.

Your drinking water meet's EPA'S standard for arsenic and does not contain detectable levels of arsenic. I'm pleased to report that our drinking water is safe and meets or exceeds federal and state requirements. The last test was on 8-6-2013

<b>Chlorine Residual</b>						
	<b>Running Annual Average</b>	<b>Monthly Range Lowest-Highest</b>	<b>Unit of Measure</b>	<b>MCLG</b>	<b>MCL</b>	<b>Health Effects</b>
Chlorine	0.13	0.09 - 0.60 ppm	ppm	4.0 ppm	4.0 ppm	Water additive used to control soil microbes.

## **SPECIAL MONITIORING**

**The following list contains 60 VOC's (Volatile Organic Chemicals) that we test every three months for that are not found in our water.**

BENZENE	DICHLOROPROPENE, 1,3-CIS
BROMOBENZENE	DICHLOROPROPENE, 1,3-TRANS
BROMOCHLOROMETHANE	ETHYBENZENE
BROMOFORM	FLUOROTRICHLOROMETHANE
BROMOMETHANE	HEXACHLOROBUTADIENE
BUTYLBENZENE, NORMAL-	ISOPROPYL BENZENE
BUTYLBENZENE, SEC-	ISOPROPYL TOLUENE , PARA-
BUTYLBENZENE, TERT-	METHYL ETHYL KETONE
CARBON TETRACHLORIDE	METHYLENE CHLORIDE
CHLOROFORM	METHYL TERT-BUTYL ETHER
CHLOROBENZENE	METHYL ISOBUTYL KETONE
CHLOROETHANE	NAPHTHALENE
CHLOROMETHANE	NITROBENZENE
CHLOROTOLENE (COMBINED)	PROPYLBENZENE, NORMAL-STYRENE
DIBROMOETHANE 1,2-(EDB)	TETRACHLOROETHANE, 1,1,1,2-
DIBROMR-3-CHLOROPROPANE, 1,2	TETRACHLOROETHANE, 1,1,2,2-
DIBROMOMETHANE	TETRACHLOROETHYLENE
DICHLOROBENZENE, 1,2-	TETRAHYDROFURAN
DICHLOROBENZENE, 1,3-	TOLUENE
DICHLOROBENZENE, 1,4-	TRICHLOROBENZENE, 1,2,3-
DICHLOROBROMOMETHANE	TRICHLOROBENZENE, 1,2,4-
DICHLOETHANE, 1.1	TRICHLOROETHANE ,1,1,2-
DICHLOROETHANE, 1,2-	TRICHLOROETHANE, 1,1,1-
DICHLORODIFLUOROMETHANE	TRICHLOROETHYLENE
DICHLOROETHYLENE, 1.1	TRICHLOROPROPANE, 1,2,3
DICHLOROETHYLENE, 1.2-TRANS	TRIHALOMETHANES (TOTAL)
DICHLOROPROPANE, 1,2-	TRIMETHYLBENZENE, 1,2,4
DICHLOROPROPANE, 1,3	TRIMETHYLBENZENE, 1,3,5
DICHLOROPROPANE, 2.2	VINYL CHLORIDE
DICHLOROPROPENE, 1.1	XYLENE, META & PARA
	XYLENE (TOTAL)

VOC's are man-made chemicals such as paint thinner, dry cleaning fluid, solvents, and components of gasoline, other petroleum products and plastics.

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

<b>Other Special Monitoring</b>				
<b>Substance</b>	<b>Unit</b>	<b>Highest detected level</b>	<b>Minimum Reportable Limit</b>	<b>Major Sources in Drinking Water</b>
Sodium	ppm	72 ppm	5 ppm	Naturally present in groundwater

## Lead and Copper Monitoring

In 2017, the Village of Milford Water Department staff collected samples drawn from 20 homes throughout the water system, based on EPA requirements to test for the presence of lead and copper in the drinking water. The test results below show the samples taken are well below the action level of 15 ppb for lead and 1.3 ppm for copper. The next round of testing will be conducted during June 1, 2020 to September 30, 2020. The state allows us to monitor for certain contaminants in water less than once a 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 are more than one year old.

<b>Lead &amp; Copper Distribution System Monitoring Results</b>						
<b>Contaminant</b>	<b>Date Tested</b>	<b>MCLG</b>	<b>90<sup>th</sup> Percentile</b>	<b># of Sites over Action Level</b>	<b>Action Level</b>	<b>Major Sources in Drinking Water</b>
Lead	6-1-17 9-30-17	0	4ppb	1	15 ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Copper	6-1-17 9-30-17	1300	140 ppb	0	1300 ppb	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

As you can see by the tables, our system had one violation. 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.

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. Infants and children who drink water containing lead in excess of the action level 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.

The Village of Milford 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 or at <http://www.epa.gov/safewater/lead>.

To ensure that the tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water supplies. FDA regulations establish limits for contaminants in bottled water that shall provide the same protection for the public

health. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or manmade. These substances can be:

**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 are naturally occurring or can 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, can also come from gas stations, urban storm water runoff, and septic systems.

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. MCL’s are set at very stringent levels.

<b>Total Coliform Rule (TCR) Detects with No MCL Violation</b>					
<b>Contaminant</b>	<b>MCL</b>	<b>MCLG</b>	<b>Level found</b>	<b>Violation</b>	<b>Typical source</b>
Total Coliform	Two or more positive samples/month	0	0	No	Naturally present in the environment
Fecal coliform or E. coli bacteria		0	0	No	Human or animal fecal waste

We received a monitoring violation for failing to collect a partial chemistry sample by September 30, 2018. A partial chemistry analysis consists of nitrate, nitrite, fluoride, and sodium. We collected a partial chemistry sample on December 10, 2018 and returned to compliance. All results met the standards of the Safe Drinking Water Act. We will work to ensure that this does not happen again.

## Water System Capital Improvements

In our continuing efforts to maintain a safe and dependable water supply it is necessary to make improvements in your water system. The cost of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. The Village of Milford has used funds from a 2.5 % interest loan through the Michigan Department

of Environmental Quality (MDEQ) called the Drinking Water Revolving Funds to make improvements to the water system.

In the past 14 years, the water mains, fire hydrants, and valves on Huron-GM Roads and West Commerce were replaced with 12-inch pipe. East Commerce, East Liberty, First, Atlantic, West Lafayette, and Bellevue Street water mains have all been replaced with new 8-inch pipe. A new 12-inch pipe from the well house was installed that increases the volume of water in the system to the south/southwest sections of the system. The north water tower and the south water tower were replaced to increase the system storage capacity to 1,145,000 gallons.

These same low-interest loan funds also made it possible to recondition the Water Treatment Plant iron removal filters and install a new water booster pump station on Winding Way that has increased water pressures in the southern pressure zone.

These and other improvements are recommendations from the Village of Milford Water Distribution System Master Plan established in 1990, updated in the spring of 2000 and 2005. A 50% matching funds MDEQ grant was used for the delineation of the new well field during the fall of 2004. This new well will be used as a contingency source of drinking water for future needs of the community. Future improvements include installing a new water main from the new 16-inch water well installed on the west side of the community to transport the water back to the Iron Removal Plant.

In April of 2009 we also installed a new 250KW with a 800amp automatic transfer switch generator at the Iron Removal Plant for emergency stand by power. In 2010 we updated the electrical at the Iron Removal Plant and the Well House.

The spring of 2009 we finished the next phase of water system improvements with the use of the MDEQ low-interest loan program to replace a 4-inch and 8-inch water main with a 14-inch water main on Summit Street from Main Street to the northern Village limits on North Milford Road, improve the pumping capacity of the high service pumps, installed two new aerators at the Iron Removal Plant, and extend water service on Monteagle, Garden and Old Plank Roads.

In the spring of 2014 we replaced water main on Commerce between Summit and Crystal, and Caroline street south of Huron street.

In the fall of 2017 we looped the water main on Oakland Street to Caroline Street for the new Marquette project at the old Iverson's site.

Since the events of September 11, 2001, the Village of Milford has reviewed the security of the Village Water System and facilities. New equipment has been installed that will notify us of unauthorized entry. Security of the water system will be regularly reviewed to ensure the safety of the drinking water.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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).

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

We at the Village of Milford 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.

Copies of this report are available at the Village Offices, Milford Library or the Department of Public Service Offices. You may also view the report on the Internet at **[www.villageofmilford.org](http://www.villageofmilford.org)**.

Please call the Department of Public Services office at 248-685-3055 and ask for Robert E. Calley, Director of Public Services if you have questions or would like more information.

Respectfully Submitted, Robert E. Calley Director of Public Service