

## 2023 Water Quality Report

# Milford Water Works Water Quality Report

Milford City Council, the Milford Water Works, and its operators are proud to present this consumer-confidence report, which includes information related to our water quality for last year, January 2023 through December 2023. Safe drinking water is our primary commitment. The Milford Water Works is controlled by the City Manager and City Council. Questions concerning the water system may be directed to Joe Casteel, Water Plant Supervisor, at 513-831-6819 at the Water Treatment Plant, or 513-248-5080 at City Hall. Milford City Council meets the first and third Tuesday of the month, and all meetings are open to the public.

### **Where does our Water come from?**

Sources of drinking water generally include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves in naturally-occurring minerals and radioactive materials and can pick up substances resulting from human or animal activity.

Milford's raw water is drawn from 4 wells located on the east bank of the Little Miami River in Milford. These wells are approximately 50–60 feet deep and draw their water supply from the aquifer. This raw water is then passed through our treatment process, which includes air stripping, lime softening, stabilization, filtration, chlorination, and fluoridation.

### **What Contaminants might be in the Water?**

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: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) 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; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) 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; (E) 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, USEPA 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.

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 Federal Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

### **Who needs to take special precautions?**

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 infection. 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 (1-800-426-4791).

### **About your drinking water.**

We are pleased to report that Milford met and exceeded all Federal Drinking Water Standards last year. However, drinking water (including bottled water), may reasonably be expected to contain at least small amounts of some contaminants. The Safe Drinking Water Act directs the state along with the EPA (Environmental Protection Agency) to establish and enforce limits on the amount of contaminants that can be in drinking water. Milford tests your water on a daily basis. In addition to these daily tests, we also test weekly for coliform bacteria, which can cause illness. VOCs (Volatile Organic Compounds) are present in the raw water wells #1 and #3 but are below established maximum limits after being passed through the air stripper before final treatment of the water. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than a year old.



# **Water Trivia**



- The earth's surface is nearly 80% water. Of that, 97% is saltwater, 2% is glacier ice, and the remaining 1% is freshwater. The freshwater should be enough to support us if we conserve and protect it.
- Typically, households consume approximately 30% of their water for outdoor use, such as watering the lawn. Inside, toilets use the most water, with an average of 27 gallons per person per day.
- Each day public water systems supply every person in the U.S. with approximately 160 gallons of clean water.
- The average five-minute shower takes between 15 to 25 gallons of water.
- You can refill an 8oz. Glass of water approximately 15,000 times for the same cost as a six-pack of soda.
- An automatic dishwasher uses approximately 9 to 12 gallons of water while hand washing dishes can use up to 20 gallons.
- A gallon of paint or a quart of motor oil can seep into the Earth and pollute 250,000 gallons of drinking water, and a spilled gallon of gasoline can pollute 750,000 gallons of water.
- Of all the water on earth, only 2.5% is fresh water. Fresh water is either groundwater (0.5%), or readily accessible water in lakes, streams, rivers, etc. (0.01%).

\*Information compiled from the OEPA pamphlet "Ohio's Drinking Water...Meeting the Need", and 50 Simple Things Kids Can Do to Save the Earth (Earthworks Group).

Read more: <http://www.lenntech.com/water-trivia-facts.htm#ixzz0l4rx6kUz>



Lead and Copper	MCLG	MCL	Level Found (90 <sup>th</sup> %Tile)	Range	Violation	Sample year	Typical Source Of Contaminants
Copper	1.3 mg/l	AL=1.3 mg/l	0.011mg/l	0 – 0.022mg/l	No	2022	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
<b>Zero of 20 samples were found to have copper levels in excess of the action level of 1.3 mg/l</b>							
Lead	0	AL = 15 ug/l	0.8ug/l	0 – 6.3ug/l	No	2022	Corrosion of household plumbing systems; erosion of natural deposits
<b>Zero of 20 samples were found to have lead levels in excess of the action level of 15 ug/l</b>							

## Pfas

In 2020, our PWS was sampled as part of the State of Ohio’s Per- and Polyfluoroalkyl Substances (PFAS) Sampling Initiative. Results from this sampling indicated PFAS were detected in our drinking water below the action level established by Ohio EPA. Follow up monitoring is being conducted. For more information about PFAS, and to view our latest results please visit [pfas.ohio.gov](https://pfas.ohio.gov).

Pfas compound	Statewide Action Level	Highest Level Found	MCL	Range	Violation	Sample Year	Typical Source of Contamination
PFOA	>70 ng/l single or Combined w/ PFOS	<5	n/a	n/a	n/a	2020	Waterproofing and stain resistant chemicals/non-stick coatings
PFOS	>70 ng/l single or Combined w/ PFOA	13	n/a	7.1-13	n/a	2020	Waterproofing and stain resistant chemicals/non-stick coatings
GenX	>700 ng/l	<25	n/a	n/a	n/a	2020	Waterproofing and stain resistant chemicals/non-stick coatings
PFBS	>140,000 ng/l	5.2	n/a	n/a	n/a	2020	Waterproofing and stain resistant chemicals/non-stick coatings
PFHxS	>140 ng/l	<5	n/a	n/a	n/a	2020	Waterproofing and stain resistant chemicals/non-stick coatings
PFNA	>21 ng/l	<5	n/a	n/a	n/a	2020	Waterproofing and stain resistant chemicals/non-stick coatings

## 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. The City 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 at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

## Development

In March of 2011, the City was placed on the Superfund Program National Priority List. This makes the City eligible to receive federal funding to help better locate and remediate the contamination in the aquifer. Presently only two of the City's four wells have had VOC's detected during sampling. Since the discovery in 1985, the City has successfully removed all contamination in the drinking water by using a method called Air Stripping. This process aerates the water to remove VOC's. The OEPA has approved this method and it is still one of the few methods used for removal.

## EPA Findings

Ohio EPA completed a study of the City of Milford's source of drinking water to identify potential contaminant sources and provide guidance and protecting the drinking water source. According to this study, the aquifer that supplies water to the City of Milford has a high susceptibility to contamination. This determination is based on the following:

- the presence of a relatively thin protective layer of clay/shale/other overlaying the aquifer,
- shallow depth (less than 20 feet below ground surface) of the aquifer,
- the presence of significant potential contaminant sources in the protection area,
- And the presence of manmade contaminants in treated water. Several volatile organic compounds and nitrate were detected in the treated and raw water at levels of concern since 1991. This indicates a manmade influence.

The risk of future contamination will be minimized through our endorsed wellhead protection plan. For more information about the source water assessment or what consumers can do to help protect the aquifer contact Joe Casteel, Water Plant Supervisor, at 513-831-6819. The City of Milford has a current unconditional license to operate our water system.

1. MCLG= "Maximum Contaminant Level Goal"— A level of a contaminant, not necessarily achievable, safely below the level of human health concerns
2. MCL= "Maximum Contaminant Level"— An enforceable level of a contaminant as close to the goal as is practical to achieve in light of available treatment technology and cost/benefit considerations.
3. AL= "Action Level"— 90% of test results must be less than specified limit.
4. MRDLG (Maximum Residual Disinfectant Level Goal): Level of drinking water disinfectant below which there is no known or expected risk to health.
5. MRDL (Maximum Residual Disinfectant Level): 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.
6. mg/l= milligrams per liter or parts per million. Parts per Million (ppm) are units of measure for concentration of a contaminant. A part per million corresponds to one second in approximately 11.5 days.
7. ug/l = micrograms per liter or parts per billion. Parts per Billion (ppb) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
8. ng/l= nanograms per liter or parts per trillion. 1 ng/l is equivalent to 0.000001 parts per million.
9. PFAS= Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals applied to many industrial, commercial and consumer products to make them waterproof, stain resistant, or nonstick. PFAS are also used in products like cosmetics, fast food packaging, and a type of firefighting foam called aqueous film forming foam (AFFF) which are used mainly on large spills of flammable liquids, such as jet fuel. PFAS are classified as contaminants of emerging concern, meaning that research into the harm they may cause to human health is still ongoing.

The messages on the water bills announcing how to access the **2022, 2020, 2019, 2018, and 2017** reports provided the incorrect link that led to a past CCR, and we did not explain how to receive a paper copy of the report. In those reports, we did not include all definitions of terms used in the tables, and the MCLG for TTHMs and HAA5 were incorrectly listed as zero, when there are no established MCLGs for these contaminants.

The tables in the **2022** and **2020** CCR reports were missing data for barium (0.069 mg/L) and cyanide (25 ug/L), and we failed to list all units of measure.

#### **2022 CCR**

The correct values for TTHM (35.1-43.3 ug/L) and HAA5 (6-7.5 ug/L) were not reported.

#### **2021 CCR**

We did not compose and deliver an annual CCR report for 2021. If you would like information for the 2021 calendar year, please contact the City of Milford.

#### **2020 CCR**

The table of detected contaminants contained a raw water result for 1,1,1 trichloroethane that should not have been included.

#### **2018 CCR**

In the table of detected contaminants, we incorrectly stated the number of lead and copper samples taken (we sampled 30 sites), and we failed to report detections of tetrachloroethylene (0.5 ug/L) and trichloroethylene (0.5 ug/L).

#### **2017 CCR**

In the 2017 CCR we did not include the mandatory lead educational information. In the table of detected contaminants, we failed to report a detection of trichloroethane (0.69 ug/L), and the range for TTHMs should have been reported as 23.6–43.1 ug/L.