Presented By

City of Middletown

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017

PWS ID#: 0901712

Report Introduction

The City of Middletown is pleased to present this annual drinking water report. Included in this report is an explanation of where your water comes from, the contents of drinking water, and a listing of water quality test results with information on how to interpret the data.

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Source Water Assessment

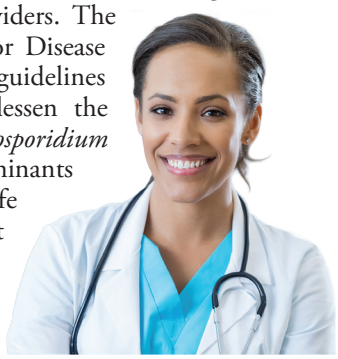
Protecting our water source is one important way the City of Middletown limits contaminants in our drinking water. The Ohio Environmental Protection Agency (OEPA) completed a study of the City of Middletown's source of drinking water to determine its susceptibility. According to this study, the aquifer (water-rich zone) that supplies water to the City of Middletown has a high susceptibility to contamination. This determination is based on the following:

- Lack of a protective layer of clay overlying the aquifer;
- Shallow depth (less than 15 feet below ground surface) of the aquifer;
- The presence of significant potential contaminant sources in the protection area; and
- Past detections of man-made contaminants in Middletown's aquifer

The risk of future contamination is being minimized by implementing appropriate protective measures. The City of Middletown has developed and implemented a comprehensive Wellhead/Source Water Protection Plan to help prevent potential contamination from entering the aquifer. The protection plan contains an educational component, source control strategies, a contingency and emergency response plan, and groundwater monitoring strategies. More information about the source water assessment or what consumers can do to help protect the aquifer is available by calling (513) 425-1860 or (513) 425-7781.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.



Source Water Description

Your drinking water comes from the Great Miami Buried Valley Aquifer. Thirteen production wells produce up to twenty million gallons per day of drinking water. The untreated well water is pumped to the water treatment plant, where it is softened using lime, disinfected with chlorine, and then filtered through dual media water filters. Fluoride is then added to the water as a measure to prevent tooth decay. Middletown has established water supply connections with Warren County, Southwest Regional Water District, and the City of Monroe. These emergency connections can be used in extraordinary conditions such as drought, source failure, line breaks, fires, and other periods of unusually high water demand.

Chlorination

Chlorination of drinking water began in the early years of the 20th Century in Great Britain, where its application sharply reduced typhoid deaths. Shortly after this dramatic success, chlorination of drinking water was introduced into the United States, resulting in the virtual elimination of waterborne diseases such as cholera, typhoid, dysentery, and hepatitis A. Chlorine has protected America's drinking water supply from waterborne infectious diseases for about a century. The certified operators at the City of Middletown's Water Treatment Plant make sure the water is safely disinfected with chlorine. The average level of chlorine found in the drinking water in 2017 was 0.99 ppm. The range of detection was 0.98 to 1.05 ppm.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

> **Water treatment is a complex, time-consuming process.**

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

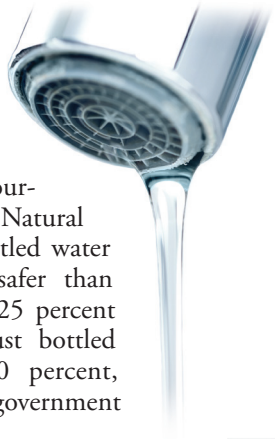
Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

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

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Tap vs. Bottled



Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent, according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Furthermore, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to $1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at https://goo.gl/Jxb6xG.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Scott Belcher, Treatment Plant Manager, City of Middletown, at (513) 425-7781.

PUBLIC NOTICE – MONITORING REQUIREMENTS NOT MET in July and November 2017

The City of Middletown did not meet the required Coliform monitoring requirements in July and November 2017. The City is required to collect and test 50 routine samples per month. Fewer than 50 Coliform sample results for July (48 samples) and November (49 samples) were submitted to Ohio EPA which is a violation of Ohio Administrative Code Rule 3745-81-21.

What should you do?

- There is nothing you need to do at this time. You do not need to boil your water or take other corrective action.
- This notice is to inform you that Middletown City PWS did not correctly monitor and report results for the presence of total coliform bacteria in the public drinking water system during the July and November 2017 time periods, as required by the Ohio Environmental Protection Agency.

What is being done?

- The City of Middletown is taking action to notify the people served by our water system concerning the monitoring violation.
- We are now collecting 55 routine samples each month to ensure that adequate monthly monitoring is performed.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can share it by posting this notice in a public place or distributing copies by hand or mail.

Contact Information

For more information concerning your drinking water, please call:

Water Billing
(513) 425-7870 Water bills, water turned on or off

Water Distribution
(513) 425-1896 Leaks or water pressure problems

Water Treatment Plant
(513) 425-7781 Water quality and after-hour emergency calls

General Information
(513) 425-7766

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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. A list of laboratories certified in the State of Ohio to test for lead may be found at http://www.epa.ohio.gov/ddagw or by calling (614) 644-2752. 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 www.epa.gov/lead.

UCMR3 Sampling

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

Public Meetings

How do I participate in decisions concerning my drinking water? Public participation and comments are encouraged at regular meetings of City Council or by calling one of the numbers in Contact Information later in this report. Important information is also available on the Web at www.cityofmiddletown.org.

Test Results

Our drinking water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables included in this report shows only those substances that were detected between January 1 and December 31, 2017. Maximum Contaminant Levels (MCLs) and Maximum Contaminant Level Goals (MCLGs) have been established by the EPA for many substances in drinking water. MCLs and MCLGs are based on scientific information about possible health effects of these substances. The safe drinking water supplied by the City of Middletown consistently meets or exceeds established water quality standards. Information concerning detected contaminants is listed in this report. Although a very small amount of contaminants were detected in the drinking water, the level at which they were detected poses no known or expected risk to health. As shown in the tables included with this report, sampling results indicate that contaminants in Middletown's drinking water are well below the MCLs.

The state recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Note that we have a current, unconditioned license to operate our water system.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2017	2	2	0.0612	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2017	[4]	[4]	1.02	0.98–1.05	No	Water additive used to control microbes
Fluoride (ppm)	2017	4	4	0.89	0.78–1.04	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2017	60	NA	3.77	2.867–4.682	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	1.94	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	23.21	21.77–24.65	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2016	1.3	1.3	0.0583	0.007 – 0.123	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

Definitions

AL (Action Level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).