

Middlefield Village Water Department

Drinking Water Consumer Confidence Report

2016

The Village of Middlefield has prepared the following report to provide information to you, the consumer, on the quality of our drinking water. Included in this report is general health information, water quality test results, how to participate in decisions concerning your drinking water, how to help protect our drinking water and water system contacts.

Your drinking water met all Ohio EPA standards in 2016.

What is the source of your drinking water?

The Middlefield Village Water Department receives its water from two ground water wells. The wells are located in the Tare Creek Watershed on state route 608 approximately 1.8 miles north of route 87. The water is pumped from the wells to the filter treatment plant located on state route 608 approximately 0.5 miles north of route 87. Here the water is filtered and chlorinated then stored for contact time before being pumped into the distribution system and storage towers. The plant went on line as of October 2008 resulting in a significant reduction of Iron, Manganese and Arsenic in the drinking water. Water consumption was down from 124.287 million gallons in 2015 to 114.235 million gallons in 2015, which is an average amount of water usage in comparison to the past several years.

Ohio EPA completed a study of the Middlefield Villages source of drinking water in 2002 to identify potential contaminant sources and provide guidance on protecting the drinking water source. According to this study, the aquifer (water-rich zone) that supplies water to the Village of Middlefield has a high susceptibility to contamination. This determination is based on the following: Lack of a protective layer of clay/shale/other overlying the aquifer, and the presence of significant potential contaminate sources in the protection area. This susceptibility means that under currently existing conditions, the likelihood of the aquifer becoming contaminated is relatively high. This likelihood can be minimized by implementing appropriate protective measures.

The Middlefield Village completed its own drinking water source protection plan in 2011 and has implemented some precautionary measures but protecting our drinking water source from contamination is the responsibility of all area residents.

Please dispose of hazardous chemicals in the proper manner and report polluters to the appropriate authorities. Properly manage above ground storage tanks. Manage livestock, poultry, and horse waste. Manage agricultural fertilizer. Monitor gas wells for proper operation and notify the appropriate persons before drilling new wells. Comply with any and all hazardous material handling and transporting laws. These are some things that can help protect our drinking water.

Please take special caution to identify any items in your business or home containing mercury. If any items are found or broken exposing your home or business to mercury, use extra care to clean up and dispose of the items in the proper and approved manner. **Never** use a vacuum to clean up mercury. The vacuum will release mercury into the air and increase exposure. **Never** wash mercury down the drain. It may cause pollution of the wastewater treatment plant and the environment.

Items commonly containing mercury include fluorescent light bulbs, thermometers, thermostats, dry cell batteries and some switches. For a complete list of items containing mercury, how to dispose of them and clean up spills visit www.epa.gov/hg/index.html.

Only by working together can we ensure an adequate safe supply of water for future generations. More information about the source water assessment or what consumers can do to help protect the aquifer is available by calling the Village Hall. (440) 632-5248.

What are the sources of contamination in drinking water?

Sources of drinking water both tap water and bottled water, includes 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 materials, 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 run off, industrial or domestic wastewater discharges, oil and gas productions, 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 run-off, 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 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. Immune-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 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.

The EPA requires regular sampling to ensure drinking water safety. In addition to operational sampling and testing, the Middlefield Water Department conducted sampling for bacteriological, inorganic, and residual disinfectant byproducts. Samples were collected for a total of 14 different contaminants in 2016. 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 one year old.

In 2016 we had an, unconditioned license to operate our water system.

Listed below is information on those contaminants that were found in the Middlefield drinking water.

CONTAMINANTS	MCLG	MCL	Level Found	Range of Detection	VIOLATIONS	Year Sampled	Typical Source of Contaminant
Bacteriological							
None Found	0				No Violations	2016	
Radioactive Contaminants							
Radium (pCi/L)	0	5	1.3	NA	No Violations	2014	Erosion of natural deposits.
Inorganic Contaminants							
Copper (ppm)	1.3	AL = 1.3	.77	NA	No Violations	2015	Corrosion of household plumbing systems;
Lead (ppb)	0	AL = 15	<2	NA	No Violations	2015	Erosion of natural deposits.
Arsenic (ppb)	0	10	2	0 - 3	No Violations	2015-2016	Erosion of natural deposits; Runoff from orchards, glass and electronics production wastes.
Barium (ppm)	2	2	0.07	NA	No Violations	2014	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride (ppm)	4	4	0.27	NA	No Violations	2014	Erosion of natural deposits; Water additive which promotes strong teeth; discharge from aluminum and fertilizer factories.
Nitrate (ppm)	10	10	0.1	NA	No Violations	2016	Run off from fertilizer use; Erosion of natural deposits.
Synthetic Organic Chemicals (SOC)							
None Found					No Violations	2015	Run off from herbicides used on row crops.
Volatile Organic Chemicals (VOC)							
Bromodichloromethane (ppb)	NA	NA	2.7	NA	No Violations	2014	By – Product of drinking water chlorination

Chloroform (ppb)	NA	NA	2.38	NA	No Violations	2014	(Sampled at water plant before distribution)
Dibromochloromethane (ppb)	NA	NA	2.27	NA	No Violations	2014	
Disinfection Byproducts							
TTHM's (Total Trihalomethanes)	Stage 2 D/DBP DS201						By –Product of drinking water chlorination (Sampled in distribution system)
Chloroform (ppb)	NA	NA	4.42	NA	No Violations	2016	
Bromodichloromethane (ppb)	NA	NA	4.41	NA	No Violations	2016	
Dibromochloromethane (ppb)	NA	NA	2.9	NA	No Violations	2016	
Total THM's (ppb)	0	80	11.73	NA	No Violations	2016	
HAA5 (Haloacetic Acids)	Stage 2 D/DBP DS201						By-Product of drinking water chlorination (Sampled in distribution system)
Dichloroacetic Acid (ppb)	NA	NA	1.187	NA	No Violations	2016	
Total HAA5's (ppb)	0	60	<6	NA	No Violations	2016	
TTHM's (Total Trihalomethanes)	Stage 2 D/DBP DS202						By – Product of drinking water chlorination
Chloroform (ppb)	NA	NA	6.41	NA	No Violations	2016	
Bromodichloromethane (ppb)	NA	NA	6.09	NA	No Violations	2016	
Dibromochloromethane (ppb)	NA	NA	3.88	NA	No Violations	2016	
Total TTHM's (ppb)	0	80	16.38	NA	No Violations	2016	
HAA5 (Haloacetic Acids)	Stage 2 D/DBP DS202						(Sampled in distribution system)
Trichloroacetic Acid (ppb)	NA	NA	1.083	NA	No Violations	2016	
Dichloroacetic Acid (ppb)	NA	NA	2.005	NA	No Violations	2016	
Total HAA5's (ppb)	0	60	<6	NA	No Violations	2016	
Residual Disinfectants	MRDLG	MRDL	Level Found	Range of Detection	Violations	Year Sampled	Source of Disinfectant
Total Chlorine (ppm)	4	4	.6	.4 – .7	No Violations	2015-2016	Water additives to control microbes
Additional Water Quality Information & Operating Data							
Sample	Average		Measured in	Range of Detection	Violations	Year Sampled	Reason for Sample
PH	7.7		0 (acidic) – 14 (alkaline)	7.5 – 8.0	No Violations	2016	Monitoring of water condition as an acidic or alkaline state. Effects pipe conditions and water quality.
Total Alkalinity (ppm)	207		CaCO3	188 - 226	No Violations	2016	Indicates resistance to PH change and buffering capacity of the water to neutralize acid. Also effects taste.
Total Hardness (ppm)	235		CaCO3	217-262	No Violations	2016	Related to Alkalinity. Indicator of dissolved minerals in water. Helpful info for home owners and businesses.

Total Hardness (gpg)	13.7	CaCO3	12.7-15.3	No Violations	2016	Related to Alkalinity. Indicator of dissolved minerals in water. Helpful info for home owners and businesses.
Total Iron (ppm)	<.001	Fe	0 – 0.05	No Violations	2016	Indicator of the effectiveness of Arsenic removal system. Removal of iron also improves taste and appearance of water.
Total Manganese (ppm)	0	Mn	0 - 0	No Violations	2016	Indicator of the effectiveness of the Arsenic removal system. Removal of Manganese also improves taste and appearance of water.
Total Phosphorous (ppm)	.4	P	.3 - .6	No Violations	2016	Monitoring of sodium phosphate blend addition for iron sequestering and pipe conditioning.

*Under the Stage 2 Disinfectants/Disinfection Byproducts Rule (D/DBPR), our public water system was required by USEPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE), and is intended to identify locations in our distribution system with elevated disinfection byproduct concentrations. The locations selected for the IDSE may be used for compliance monitoring under Stage 2 DBPR, beginning in 2012. Disinfection byproducts are the result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection byproducts are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water, including both TTHMs and HAA5s. Middlefield Water Dpt. established sampling locations in 2012 and began using these locations in 2013.

Lead Educational Information:

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 Middlefield Village water system is responsible for providing high quality 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>.

How do I participate in the decisions concerning my drinking water?

Public participation and comment are encouraged at regular meetings of the Middlefield Village Council which meets the second Thursday of every month at 7:00 p.m.

For more information on your drinking water, contact Michael Cipolla, Water Plant Operator, or Joseph Tucholski, Director of Streets and Utilities, at 440-632-5248.

Definitions of some terms contained in this report.

Maximum Contaminant Level Goal (MCLG): 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 Contaminant Level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Detection Level Goal (MRDLG): The level of residual disinfectant below which there is no known or expected risk to health.

Maximum Residual Detection Level (MRDL): The highest residual disinfectant level allowed.

Parts per Million (ppm) or Milligrams per Liter (mg/L): Are units of measure of concentration of a contaminant. A part per million corresponds to one second in approximately 11.5 days.

Parts per Billion (ppb) or Micrograms per Liter (ug/L): Are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

Grains per Gallon (gpg) A unit of water hardness defined as 1 grain of calcium carbonate (CaCO₃) dissolved in 1 US gallon of water.

The “<” symbol: A symbol which means less than. A result of < 5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

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

NA: Not Applicable. A code used in drinking water reporting for a particular category that does not apply to the results.