

Village of Middlefield Water Department Drinking Water Consumer Confidence Report 2009

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 and water system contacts.

What is the source of your drinking water?

The Middlefield Village Water Department receives its water from two wells. The wells are located approximately one mile north of the center of the Village off of route 608 in the Tare Creek Watershed. The Village's filter treatment plant for our water system is located approximately ½ a mile north of the center of the Village on State Route 608. 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 116.211 million gallons for 2009, which was average consumption in comparison to the past few years.

Ohio EPA recently completed a study of the Village of Middlefield's source of drinking water 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.

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. 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 (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. The Middlefield Water Department conducts samplings for bacteria; inorganic; radiological; synthetic; organic; and volatile organic contaminant sampling. Samples were collected for a total of 50 different contaminants, most of which were not detected in the Middlefield water supply. 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.

We have a current, unconditioned license to operate our water system.

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

CONTAMINANTS	MCLG	MCL	LEVEL FOUND	RANGE OF DETECTIONS	VIOLATIONS	SAMPLE YEAR	SOURCE OF CONTAMINANT
Bacteriological							
24 Samples	-0-	0	-0-	-0-	NO	2009	Sewer Plants; Live stock; Agricultural; and Wildlife
Residual Disinfectants							
Total Chlorine (ppm)	4	MRDL 4	.69	.3 - .9	NO	2009	Water additives used to control microbes.
Inorganic Contaminants							
Nitrate (ppm)	10	10	<.10	NA	NO	2009	Storm water run-off; Industrial and domestic wastewater discharges
Nitrite (ppm)	1	1	<.054	NA	NO	2008	
Copper (ppm)	1.3	AL=1.3	.25	NA	NO	2009	Mining and Farming
Lead (ppm)	0	AL=15	< 2	NA	NO	2009	Corrosion of household plumbing systems
Arsenic							
1 st Quarter (ppb)	0	10	10.0 High/ 6.25 Average	3 - 10	NO	2008/2009	Run-off from orchards; Runoff
2 nd Quarter (ppb)	0	10	9.0 High/ 4.5 Average	3 - 9	NO	2008/2009	from glass and electronics
3 rd Quarter (ppb)	0	10	4.0 High/ 3.25 Average	3 - 4	NO	2008/2009	production wastes
4 th Quarter (ppb)	0	10	4.0 High/ 3.25 Average	3 - 4	NO	2008/2009	
Volatile Organic Contaminants							
Bromoform (ppb)	NA	NA	.67	NA	NO	2009	By-product of drinking water chlorination
Dibromoacetic Acid (ppb)	NA	NA	1.48	NA	NO	2009	By-product of drinking water chlorination
Dichloroacetic Acid (ppb)	NA	NA	2.48	NA	NO	2009	By-product of drinking water chlorination
Chloroform (ppb)	NA	NA	2.83	NA	NO	2009	By-product of drinking water chlorination
Bromodichloromethane (ppb)	NA	NA	3.85	NA	NO	2009	By-product of drinking water chlorination

Dibromochloromethane (ppb)	NA	NA	3.44	NA	NO	2009	By-product of drinking water chlorination
Trichloroacetic acid ppb	NA	NA	1.64	NA	NO	2009	By-product of drinking Water chlorination
Trihalomethanes	NA	80	10.79	NA	NO	2009	By-product of drinking water chlorination

Additional Water Quality Information & Operational Data:
Figures are 2009 averages:

PH =	7.5
Iron (Fe), Total =	< .02 ppm
Manganese (Mn), Total =	< .01 ppm
Alkalinity, Total =	195 ppm as CaCO ₃
Hardness, Total =	218 ppm as CaCO ₃
Phosphorus (P), Total =	.38 ppm

Arsenic Educational Information:

While your drinking water meets the EPA's standard for arsenic, it does contain low levels of arsenic. The EPA's standard balances the current understanding of the possible health effects of arsenic against the cost of removing arsenic from the drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

EPA requires one (1) arsenic sample per quarter. The results are in the table above which indicate a four quarter average. The high number is the highest sample result of the previous four quarters. The EPA considers 5 ppb to 10ppb "low level" arsenic. Note that the Middlefield Water Department has not had an Arsenic sample higher than 5 parts per billion since the filter plant went on line in October of 2008.

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 <http://www.epa.gov/safewater/lead>.

Note: The Middlefield Village Water Department performed routine lead testing in ten different locations in 2009 and had no detectable lead results.

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

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

For more information on your drinking water, contact Michael Cipolla, Water Plant Operator, 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 health risk. 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 Disinfectant 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 a little over 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.

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.