

Village of Middleville
100 E. Main St.
Middleville, MI 49333
WSSN# 4360



Consumer Confidence/Water Quality Report 2017

Middleville's Department of Public Works is pleased to present the Water Quality Report. This report is a snapshot of the quality of water that we provided to you in 2017. Included are details about where your water comes from, what it contains, and how it compares to EPA and State standards. Our goal is to provide you a safe, dependable supply of drinking water. Trained, state certified personnel operate your water utility. It is our pleasure to provide you a safe abundant water supply.

General Information

Your water comes from four ground wells, two of which are located near the water storage tower on the west side of town. A third well is located off Irving Rd. near the Village limits. Production well # 1 on Irving Road and production well # 3 on the west side are built to a depth of 78 feet and utilize unconfined sand and gravel aquifers. Production well # 4 on the west side is built to a depth of 352 feet and utilizes the Marshall Sandstone aquifer. Well # 5 is located to the west of Bryanwood Estates Development near the Thornapple River. This well is built to a depth of 197 feet.

For Your Information

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 health risks. More information about contaminants and potential health effects can be obtained by calling the EPA: Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as those 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 risks of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Contaminants and Sources

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:

- 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, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to insure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Definitions: Water Terminology

- N/D: Non-Detects – laboratory analysis indicates the contaminant is not present
- ppm or mg/l: parts per million or milligrams per liter
 - mg/l: one part per million corresponds to a single penny in \$10,000
- ppb: parts per billion or micrograms per liter
 - ppb: one part per billion corresponds to a single penny in \$10,000,000
- pCi/l: picocuries per liter is a measure of the radioactivity in water
- A/L: Action Level- the concentration of a contaminant which, if exceeded triggers treatment or other requirements which a water system must follow
- MCL: Maximum Contaminant Level- the maximum contaminant 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.

- **MCLG: Maximum Contaminant Level Goal-** the goal is the level of a **contaminant** in drinking water below which there are no known or expected risks to health. MCLGs allow for a margin of safety.

Water Testing Data

This report includes all required MDEQ testing which have either MCLs or detects.

Inorganic Contaminant	Date(s) Sampled	MCL	MCLG	Our Water	Range of Detections	Violation
Nitrate	Jan-Dec 2017	>10 ppm	<10 ppm	4.95ppm	0-13.04 ppm	No
Nitrite	Jan-Dec 2017	>1.0 ppm	<1.0 ppm	<0.05 ppm	<0.05ppm	No
Chloride	Jan-Dec 2017	N/A	N/A	33.28ppm	0-49.42 ppm	No
Fluoride	Jan-Dec 2017	4 ppm	4 ppm	0.28ppm	0-0.5ppm	No
Hardness	Jan-Dec 2017	N/A	N/A	293ppm	153-419 Ppm	No
Iron	Jan-Dec 2017	N/A	N/A	<0.03 ppm	0-.09ppm	No
Sodium	Jan-Dec 2016	N/A	N/A	19ppm	0-25.3ppm	No

	Date	AL	MCLG	Our water	# of sites above AL
Lead	9/2015	15 ppb	0	8 ppb	0
Copper	9/2015	1300 ppb	1300 ppb	148 ppb	0

Radiological	Date	Test Result	Violation	MCLG	MCL
Gross Alpha	09/2016	2.9	No	0	15 pCi/l
Radium 226	09/2016	.51	No	0	5 pCi/l
Radium 228	09/2016	.59	No	0	5 pCi/l
Uranium	09/2001	0.4	No	0	30 pCi/l

Contaminant	Date	MCL	Detected Range	Violation
Chlorodibromomethane	9/13/2016	0.080ppm	.0-.0031ppm	No
Chloroform	9/13/2016	0.080ppm	.0-.0056ppm	No
Total Trihalomethanes	9/13/2016	0.080ppm	.0-.0121ppm	No
Bromodichloromethane	9/13/2016	0.080ppm	.0-.0034ppm	No

Contaminant	MCL	Detected Range	Violation	Date of Violation
Total Coliforms	1 positive + 1 repeat positive in a month	Presence/absence	No	

Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. Usually, coliforms are a sign that there could be a problem with the system's treatment or distribution system (pipes). Whenever we detect coliform bacteria in any sample, we do follow-up testing to see if other bacteria of greater concern, such as fecal coliform or E. coli, are present. All samples taken were all found to be negative for E. coli bacteria.

Chlorine or Chloramines	2016											
	J	F	M	A	M	J	J	A	S	O	N	D
Bacteriological sample site # 1				.38	.58	.63	.24	.43	.36	.45	.45	.36
Bacteriological sample site # 2				.44	.32	.47	.11	.25	.68	.21	.21	.25
Bacteriological sample site # 3				.54	.29	.32	.40	.18	.17	.37	.38	.45
Bacteriological sample site # 4				.37	.50	.54	.13	.50	.86	.63	.56	.58
Average of all measurements taken in the month	N/A for RAA in year covered by CCR			.43	.42	.49	.22	.34	.52	.40	.40	.41
Chlorine or Chloramines	2017											
Bacteriological sample site # 1	.53	.66	.60	.56	.41	.77	.65	.56	.39	.27	.49	.28
Bacteriological sample site # 2	.28	.45	.15	.40	.32	.50	.90	.50	.27	.14	.26	.26
Bacteriological sample site # 3	.40	.53	.19	.54	.36	.16	.73	.34	.48	.23	.32	.73
Bacteriological sample site # 4	.69	.74	.74	.64	.46	.63	.50	.42	.54	.22	.78	.50
Average of all measurements taken in the month	.44	.60	.42	.54	.39	.52	.70	.38	.42	.22	.46	.44
RAA calculated quarterly of 12 monthly averages.			.49			.48			.50			.46

Figures in this table represent the amount of total chlorine detected in our drinking water measured in parts per million (ppm).

Additional Monitoring Information

Chlorine residuals: Chlorine is added to our drinking water as a disinfectant. Maximum residual disinfectant level (MRDL) of four ppm has been established by safe drinking water rules. This is the highest level allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. Maximum residual detection level goal (MRDLG) is the established level of a drinking water disinfectant below which there is no known or expected risk to health. That level has been established at two ppm.

Sodium: Sodium has no MCL or MCLG. Sodium contamination in drinking water typically comes from the erosion of natural deposits.

Nitrates: Nitrates in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods due to rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

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 Village of Middleville 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 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>.

The Michigan Department of Environmental Quality has completed a source water assessment for community water supplies. This study evaluates community water source wells for susceptibility to contamination. The evaluations are based on several categories which are well log and location, geologic sensitivity, well construction, water chemistry and isotope data, and isolation from sources of contamination. Scores of these categories are added for an overall well score. All well scores are totaled to arrive at a water system score, which is translated into a susceptibility determination. MIDDLEVILLE'S susceptibility is rated as moderate. Results of the entire assessment report may be viewed at the Village Department of Public Works during the hours of 7:00 AM to 3:30 PM, Monday through Friday.

We are committed to providing you safe, reliable, and healthy water. We are pleased to provide you with this information to keep you informed about your water. This report is

updated and published annually. We will keep you informed of any problems that may occur throughout the year.

Customer questions or comments on drinking water issues are welcome and may be addressed at regularly scheduled Village Council meetings. Meetings are scheduled every second and fourth Tuesday of each month throughout the year. Meetings start promptly at 7:00 PM in the council chambers of the Village Hall located at 100 E. Main Street, Middleville, MI 49333.

This report will not be mailed directly to customers. A copy may be obtained at the Village offices between 9:00 AM and 5:00 PM Monday through Friday. The report is also available on the Village web page at: www.villageofmiddleville.org

For more information about your water or the contents of this report contact Alec Belson, Department of Public Works Director, at 100 E. Main St. Middleville, MI 49333 or call (269) 795-3385.