



Annual Drinking Water Quality Report

VILLAGE OF CHESANING Chesaning, Michigan

March 16, 2016

The Village of Chesaning Council and staff are pleased to present this year's Annual Quality Water Report to you. This report is designed to inform you about the quality of water and services we delivered to you in 2015. Our constant goal is to provide you with a safe and dependable supply of drinking water every day. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

The Village adds two chemicals to treat the source water and to protect the distribution system. Aquadine is added to control the iron in the source water and give some corrosion protection to the water system. Chlorine is added to reduce the risk of bacteria contamination. The Village has a "Back-flow Protection Program" as an added protection to the system.

The Village has four wells to serve it and of those four only two are mainly being used at any one time. We use only the best wells based on quality and quantity. Well #2 is being monitored more often for radium 226/228 and Gross Alpha. As a result of the detected levels being higher than the MCL allowance, the well will not be used except in an extreme emergency. A public notice will be issued each time the Village has to use well #2.

The Village's wells are from 140 feet to 400 feet deep drawing from the Saginaw Formation Aquifer and/or glacial drift. The *Michigan Department of Environmental Quality* (MDEQ) performed an assessment of our source water in 2003 to determine the susceptibility or the relative potential of contamination. The Village had a re-evaluation of the assessment in 2007 due to some changes and testing at the wells. The susceptibility rating is on a seven-tiered scale from "very-low" to "very-high" based primarily on geologic sensitivity, water chemistry and contaminant sources. The susceptibilities of the Village's well sources are "moderate", "moderate", "very low" and "low" for wells 1, 2, 5a and 6 respectively. The Village did a Tritium analysis in 2006 and 2015 to determine the vulnerability of the source of ground water. The results of the analysis showed that the Village's water supply is "not vulnerable", however, future activities could compromise the integrity of the confining unit. Although the water supply is "not vulnerable", potential contamination does exist.

If you have any questions about this report, the "Source Water Assessment" report or concerning your water quality, please contact Rodney Cantu (Water Treatment Superintendent) at 845-3410. We would like our customers to be informed about their water utility. You may learn more by attending any of our regularly scheduled council meetings. They are held on the 1st and 3rd Tuesday of every month at 7:30pm at the Village council room 103 N 3rd street.

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs,

springs, and wells. As water travels over 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. In order to ensure that tap water is safe to drink, the *Environmental Protection Agency* (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. *Food and Drug Administration* (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

Contaminants that may be present in source water:

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 results 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.

The Village of Chesaning routinely monitors for contaminants in your drinking water according to Federal and State laws. Though we monitor for more than seventy contaminants, only the ones detected are in the table (below). Some of the contaminants are not monitored annually; the year of monitoring is indicated in the table. This table shows the results of our monitoring for the period of **January 1st to December 31st, 2015**. In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following definitions.

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

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) 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.

Maximum Contaminant Level Goal - The “Goal”(MCLG) is 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 Residual Disinfectant Level – The “Maximum Allowed” (MRDL) is 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.

Maximum Residual Disinfectant Level Goal – The “Goal” (MRDLG) is 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.

TEST RESULTS							
Contaminant	Violation Y/N	Level Detected	Detected Range	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants							
1. Total Coliform Bacteria	N	1	0 to 1		0	More than one	Naturally present in the environment
Radioactive Contaminants							
5. Alpha emitters 2013 next cycle 2010-2016	N	10	3 to 10	pCi/l	0	15	Erosion of natural deposits
6. Combined radium 2011 next cycle 2010-2016	N	4	3 to 4	pCi/l	0	5	Erosion of natural deposits
Inorganic Contaminants							
8. Arsenic 2013 Freq. – every 3 years	N	ND	ND	ppb	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
10. Barium 2013 Freq. – every 9 years	N	.08	.04 to .08	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
13. Chromium 2013 Freq. – every 9 years	N	ND	ND to ND	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
14. Copper 2014 Freq. - every 3 years None of the 10 samples taken exceeded the action level	N	.3 90 th percentile	.1 to 1.2	ppm	1.3	AL=1.3	Corrosion of household plumbing systems
16. Fluoride	N	.5	.4 to .5	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth
17. Lead 2014 Freq. – every 3 years None of the 10 samples taken exceeded the action level	N	0 90 th percentile	0 to 1	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits
20. Nitrite	N	ND	ND	ppm	1	1	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
21. Selenium	N	.001	ND To	ppb	50	50	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits

			.001				
73. TTHM 2015 [TotalTrihalomethanes]	N	.004	.004	Ppm	0	100	By-product of drinking water chlorination
Chlorine	N	.19 avg.	0.01- 1.55	ppm	4 MRD LG	4 MRDL	Water additive used to control microbes

Microbiological Contaminants

1. Total Coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

Radioactive Contaminants

6. Combined Radium 226/228: Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Inorganic Contaminants

17. 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. Village of Chesaning 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 you 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Volatile Organic Contaminants:

73. TTHMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

We are some times asked for information on some other constituents that are in the Village's water supply. The table below list some of the non-regulated contaminants detected. All of the wells are monitored and the table shows the highest level detected. Of the wells we do use, Chloride was 286 ppm, Hardness was 178 ppm, Iron was 0.4, and Sodium was 208 ppm.

TEST RESULTS							
Contaminant	Violation Y/N	Level Detected	Detected Range	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Non-Regulated Contaminants							
Chloride		355	198 to 551	ppm			Erosion of natural deposits
Hardness (As CaCO3)		177	147 to 208	ppm			Erosion of natural deposits
Iron		0.5	0.3 to 0.5	ppm			Erosion of natural deposits
Sodium		309	211 to 410	ppm			Erosion of natural deposits

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All 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 the 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 at 1-800-426-4791.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters (more than ½ gal.) of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Total Coliform: The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform is found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

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 infections. 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at the Village of Chesaning work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Please call the Village office if you have questions concerning your water utility.

Water Department
Village of Chesaning
103 N 3rd St
Chesaning, MI. 48616
989-845-3800

Please call the Village's Water Superintendent if you have any questions concerning your water quality or this report.

Rodney Cantu, Superintendent
Water Department
Village of Chesaning
103 N 3rd St
Chesaning, MI. 48616

989-845-3410