



City of Clare Municipal Water System 2016 Drinking Water Quality Report

We are pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. Our water source comes from wells which draws from the City of Clare aquifer.



We are pleased to report that our drinking water meets federal and state requirements.

If you have any questions about this report or concerning your water utility, please contact Dale Clark at 386-2321. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the first and third Monday evenings of each month, at 6:00 pm in the Commission Chambers at Clare City Hall, 202 West Fifth Street, Clare, Michigan.



The City of Clare Municipal Water System routinely monitors for contaminants in your drinking water according to Federal and State laws. The table below shows the results of our monitoring for the period of January 1st to December 31st, 2016. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It is important to remember that the presence of these constituents does not necessarily pose a health risk.

In order to ensure that tap water is safe to drink, EPA 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.

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:

- 1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- 2) 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.
- 3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- 4) 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 runoff, and septic systems.
- 5) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In the following 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:

Average (Avg) - A running average of all samples collected during the reporting period.

Maximum (Max) - The maximum value of all samples used to calculate the Average. This is the upper part of the range of sample values.



Minimum (Min) - The minimum value of all samples used to calculate the Average. This is the lower part of the range of sample values.

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

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.

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

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (MCL) - The “Maximum Allowed” is the highest level of a contaminant that is allowed in drinking water. MCL’s are set as close to the MCLG’s as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - The “Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG’s allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) – 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 (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG’s do not reflect the benefits of the use of disinfectants to control microbial contaminants.



TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
1. Arsenic Most recent analysis performed 2/22/11	N	Avg 3.0	ppb	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
2. Barium Most recent analysis performed 2/22/11	N	0.07	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
3. Copper 90 th Percentile Most recent analyst -6/15	N	1094	ppb	1.3	AL=1300	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
4. Fluoride	N	Avg .91 Max 1.37 Min 0.56	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth
5. Lead * 90 th Percentile Most recent analyst -6/15	N	4.0	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
6. Nitrate (as Nitrogen)	N	Avg 0.6 Max 0.9 Min 0..5	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
7. Selenium – Most recent analysis 2/22/11	N	Avg .005	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Volatile Organic Chemicals						
8. Cis-1,2-dichloroethene	N	Avg 0.67 Max .8 Min ND	ppb	70	70	Discharge from industrial chemical factories
9. TTHM [Total trihalomethanes]	N	Avg .050 Max .0528 Min .0482	ppb	0	80	By-product of drinking water chlorination
Synthetic Organic Chemicals						
1,4 Dioxane	N	Avg ND Max ND Min ND	ppb	0	7.2	Discharge from industrial chemical factories.
Un-Regulated Chemicals						
11. Sulfate	N	Avg 106 Max 123 Min 77	ppm			Natural occurring element in water supply.
12. Chlorine	N	Avg 0.98 Max 1.28 Min 0.31	ppm	MRDLG = 4	MRDL = 4	Water additive to control microbials.



13. Sodium	N	Avg 59 Max 69 Min 44	ppm			Natural occurring element in water supply.
14. Total Haloacetic Acids	N	Avg .003 Max .005 Min .001	ppm		60	By-product of drinking water chlorination
15. Chloride	N	Avg 116 Max 135 Min 99	ppm			Natural occurring element in water Supply.

* Note: All Lead and Copper samples tested did not exceed the regulated Action Levels.

* Note: Total Trihalomethanes and Haloacetic Acids samples for the Distribution system were inadvertently taken in August of 2016 instead of July, this resulted in a violation. Both samples were below the MCL.

What does this mean?

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or manmade. 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 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.

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 City of Clare 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 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 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

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).

The MDEQ and EPA performed additional analysis in 2002 under the Unregulated Contaminant Monitoring Rule (UCMR) for the presence of 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 4,4'-DDE, Acetochlor, DCPA di/mono acid degradate, EPTC, Molinate, MTBE, Nitrobenzene, Perchlorate and Terbacil. All compounds were not detected (ND).

The hardness of the City's water supply averaged 408 mg/L or 23.8 grains per gallon.

Please call our office if you have questions or wish a copy of this report, source water assessment, wellhead protection plan and/or UCMR results. Copies of this report results will also be made available at the Clare City Hall and the internet.

The staff of the City of Clare work very hard each and every day of the year 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 contact our office for any information on how to protect our water resources.

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Office of the Assistant Secretary for Civil Rights
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