

City of Morenci 2019 Annual Water Report

City of Morenci
Water Department
118 Orchard Street
Morenci, MI 49267

POSTAL CUSTOMER
MORENCI, MICHIGAN



Definitions and Abbreviations

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 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 Residual Disinfectant Level Goal (MRDLG): 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.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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

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

Variances and Exemptions: State or EPA permission not to meet an MCL, an action level, or a treatment technique under certain conditions.

ppm: Parts per million or milligrams per liter-or one ounce in 7,350 gallons of water.

N/d: Not detectable within testing limits.

N/A: Not applicable

ppb: Parts per billion or micrograms per liter-or one ounce in 7,350,000 gallons of water.

%<0.3 NTU: Percent samples less than 0.3 NTU.

pCi/L: Picocuries per liter when measuring radioactivity.

NTU: Nephelometric Turbidity Unit, measure the cloudiness and/or particles of water



Introduction

The City of Morenci has developed and distributed this water quality report as part of our continued effort to provide our water customers with educational information regarding your drinking water supply. This report also demonstrates that your drinking water supply is safe by meeting or exceeding all water quality standards as listed in the Safe Drinking Water Act (SDWA).

The United States Environmental Protection Agency (USEPA) and the Michigan Department of Environment Great Lakes & Energy (EGLE) continually monitor all drinking water utilities to maintain compliance with SDWA regulations. As required by Consumer Confidence Report (CCR) regulations of the recently amended SDWA, a water quality report will be distributed to all water customers by July 1 of each year.

The USEPA and EGLE require the City of Morenci Water Department to take hundreds of water samples yearly to determine the presence of biological, inorganic, volatile organic or synthetic organic contaminants.

Three (3) drinking water violations were recorded during 2019 for the City of Morenci. All monitoring and reporting requirements were not met.

We want our valued customers to be informed about their water quality and safety. If you have any questions or comments regarding this report or our water supply system, please contact: City of Morenci, City Superintendent at: (517) 458-6828. Our Board meets the second and fourth Monday of each month at 7:30 p.m. at the Morenci City Hall This report is available online at: <http://www.CityofMorenci.org>.

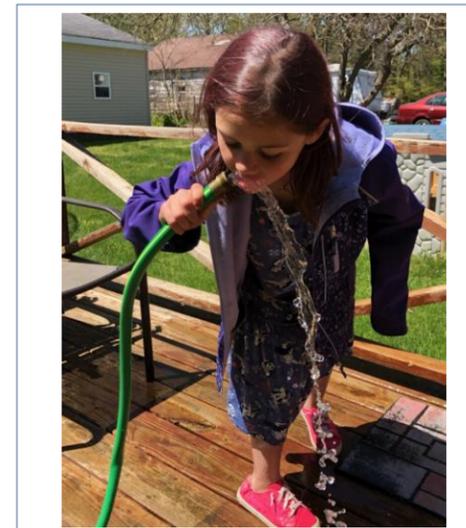
City of Morenci Consumer Confidence Report Water Quality Report for 2019

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcala ó habla con alguien que lo entienda bien

Drinking Water Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about these contaminants and potential health effects can be obtained by calling USEPA's Safe Drinking Water Hot line (800) 426-4791.

Some people may be more vulnerable to contaminants in their drinking water than general population. Immunocompromised 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. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (800) 426-4791.



Source Water Contaminants

To ensure that tap water is safe to drink, regulations are set by the USEPA that limit the amount of certain contaminants in water provided by public water systems.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and groundwater wells. As water travels over the surface of the land or through the ground, it may dissolve minerals or radioactive materials and pick up substances or contaminants 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.

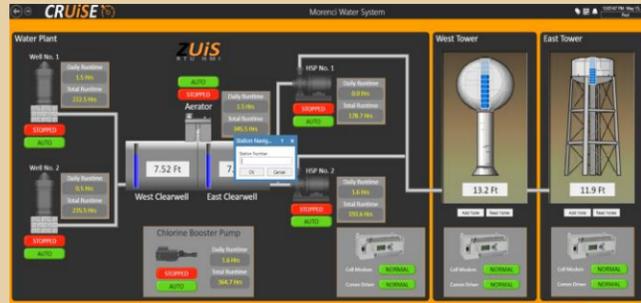
Pesticides and herbicides, which may come from a variety of sources such as agricultural uses, urban storm water runoff and residential uses.

Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, in addition to coming from gas stations, urban storm water runoff, and septic tanks/systems.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Source Water Location

The City of Morenci relies on groundwater for its drinking water supply. The City owns and operates two (2) wells located within the incorporated area of the community. The groundwater supply is a complex system composed of pumps, electronic instruments and other appurtenances. Routine maintenance is performed on all equipment to ensure the reliability of the groundwater supply when it's needed, either in an emergency, or as part of seasonal supply. The municipal drinking water utilizes chlorine for both disinfection and oxidation of iron and manganese, the drinking water is then pumped through approximately 10 miles of watermain to elevated storage tanks for public use.



The Morenci water treatment plant is dedicated to set a new level of water supply operation and maintenance. New Instrumentation and automation technology have been installed to improve its operational accountability and manageability for the operators.

Source Water Assessment Program Susceptibility to Contamination

The EGLE provided us with a SWAP Report for our water supply. This assessment determines the susceptibility or relative potential of contamination to our drinking water wells. The susceptibility rating for the City of Morenci's water source was listed as "moderately low". The ratings are determined on geologic sensitivity, water chemistry and potential contaminant sources located in the areas surrounding the groundwater wells. The source water assessment report provides a screening-level evaluation of potential contamination that **could** occur. It **does not** mean that the contamination **has or will** occur. This information is used to evaluate current water treatment capabilities and prepare for any future threats. This report helps us ensure that quality finished water is delivered to your homes.

Water Quality Data Table

The City of Morenci routinely monitors for contaminants in your drinking water according to Federal and State laws. The table below lists the drinking water contaminants that we detected during the calendar year of this report unless otherwise noted. The State of Michigan requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one year old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report.

The following tables indicate that the **City of Morenci had three water quality 3 violations in 2019**. We have learned from the Department of Environment Great Lakes and Energy (EGLE) that the City of Morenci failed to complete necessary water quality monitoring and the City of Morenci failed to employ a certified water treatment operator.

2019 Water Quality Detected Contaminants for the City of Morenci

City of Morenci Disinfectant and Disinfection By-Products

Contaminant (Units)	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Sample Date	Typical Source of Contaminant
Haloacetic Acids (HAA5) (ppb)	N/A	0.060mg/L	0	N/A	See Footnote	2018	By-product of drinking water chlorination.
Total Trihalomethanes (TTHMs) (ppb)	N/A	0.080mg/L	0	N/A	See Footnote	2018	By-product of drinking water chlorination.
Chlorine (ppm)	MRDL 4ppm	MRDL 4ppm	0.67 - Free 0.78 - Total	0.36 - 0.67 Free 0.38 - 0.78 Total	No	2019	Water additive used to control microbes.

* The chlorine "Level Detected" was calculated using a running average of free and total residuals for November and December.

2019 Water Quality Detected Contaminants for the City of Morenci

Contaminant (Units)	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Sample Date	Typical Source of Contaminant
City of Morenci Regulated Contaminants							
Barium (ppm)	2	2	0.22	N/A	No	2018	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits.
Nitrate (ppm)	10	10	0.11	N/A	No	2019	Runoff from fertilizer use. Septic tank leaching sewage. Erosion of natural deposits.
Nitrite (ppm)	1	1	0.037	N/A	No	2019	Runoff from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.
Fluoride (ppm)	4	4	0.98	N/A	No	2019	Water additive which promotes strong teeth including erosion of natural occurring deposits
City of Morenci Non-Regulated Contaminants							
Sodium (ppm)	N/A	N/A	39	N/A	No	2019	Erosion of natural occurring deposits.
City of Morenci Inorganic Contaminants							
Lead (ppb)	15	0	1	0-2	No	2018	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits.
Copper (ppm)	1.3	1.3	0.13	0-0.15	No	2018	Corrosion of household plumbing systems; Erosion of natural deposits
City of Morenci Radioactive Contaminants							
Combined Radium 226/228 (pCi/L)	0	5	N/d	N/A	No	2013	Decay of natural and man-made deposits. The results were below 5 pCi/L, no testing for radium was required.
Gross Alpha excluding radon and uranium (pCi/L)	0	15	N/d	N/A	No	2016	Decay of natural and man-made deposits. The results were below 15 pCi/L, no testing for radium was required.
Gross Beta (mrem/yr.)	0	4	N/d	N/A	No	2016	Decay of natural and man-made deposits. The EPA considers 50 pCi/L to be the level of concern for beta particles

City of Morenci Water Quality "Table Violations and Educational Footnotes"

Violation #1: Failure to Obtain Certified Drinking Water Operator – The Safe Drinking Water Act requires the City of Morenci employ a certified operator who has knowledge and experience to operate our water system effectively. Previous operator's license expired July 2018, returned to compliance on date Morenci contracted with Michigan Rural Water Association.

Violation #2: Water sampling for nitrates were missed – The City of Morenci is required to monitor our drinking water for specific contaminants on a regular basis. The water department failed to test for nitrate in 2019. Out of compliance on October 1, 2019 and returned to compliance on 12/23/2019.

Violation #3: Water sampling for disinfection by-products were missed – The City of Morenci is required to monitor our drinking water for specific contaminants on a regular basis. The water department failed to test for Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5) in 2019. Out of compliance September 1, 2019. Samples will be collected September 2020 to return to compliance.

Ninety (90) percent of the samples collected were at or below the level reported for our water. Lead is not present in the City's drinking water when it leaves our water treatment plants and underground pipes. Water can leach lead from brass or chromed-plated brass faucets and fixtures in the home. Identification has been made where 1 lead line has been found and 30 lines have been found not to contain lead. 817 sites are unknown.

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. City of Morenci 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 or at <http://www.epa.gov/safewater/lead>