



2019 WATER QUALITY REPORT

DEAR CUSTOMER:



This report has been prepared to inform the customers of the Marion, Howell, Oceola, Genoa (MHOG) Sewer & Water Authority of the quality of their drinking water.



Your drinking water complied with all Environmental Protection Agency (EPA) and Michigan drinking water health standards for the latest sampling period. Infants, some elderly or immune-compromised persons such as those undergoing chemotherapy; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. If you are in one of the categories listed above you may be more vulnerable than the general population to certain contaminants in drinking water. You should seek advice about drinking water from your physician or health care provider.

MHOG Sewer & Water Authority
4288 Norton Road
Howell, MI 48843
Important Information Enclosed
2019 Water Quality Report

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A geologic sensitivity analysis of the (6) MHOG Water Treatment Plant (WTP) production wells (400' deep, 16" diameter sandstone wells) determined that the wells have "moderately low" to "moderate" susceptibility to contamination. Copies of the susceptibility study may be obtained by contacting Alex Chimpouras at the number listed below.

MHOG operators monitor your drinking water daily according to federal and state laws. The tables on the next page show the results of monitoring for the period from January 1 to December 31, 2019, unless otherwise noted. The test results show that your water meets or surpasses all federal and state requirements. For more information about your water call Alex Chimpouras at the MHOG WTP at 517.545.5098.

Ground water (also called well water) is protected from many of the sources of contamination described later, such as microbes like cryptosporidium. In general, the sources of drinking water (both tap and bottled water) may 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. Source water can also be contaminated by substances resulting from animal or human activity. Contaminants include anything found in water. They are generally not harmful at low levels. Removing all contaminants would be extremely expensive and in nearly all cases would not provide greater protection of health. Examples of contaminants that may be present in source water in general include: 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 which can also come from runoff and septic systems; 5) radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production or the mining process. In order to ensure 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. 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 MHOG Sewer & Water Authority 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 800.426.4791 or at <http://water.epa.gov/drink/info/lead>. Infants and children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.



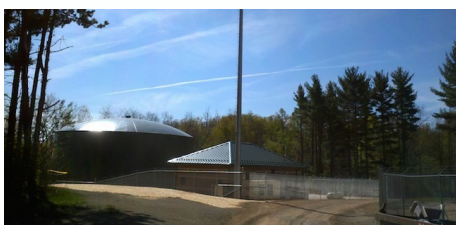
For information on our Wellhead Protection Program and delineated Wellhead Protection Area please visit our website at www.mhog.org, click on the Customer Information link and scroll to the bottom.

Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health. Drinking water (bottled or tap) may reasonably be expected to contain at least small amounts of some contaminants. The contaminants in our drinking water are primarily geological materials that dissolved while still in the aquifer. 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 EPA's Safe Drinking Water Hotline (800.426.4791).

Contaminants may be found in drinking water that cause taste, color, or odor problems. These types of problems do not necessarily cause health concerns. For more information on taste, color, or odor of drinking water, please contact the MHOG WTP at 517.545.5098.

Este reporte incluye informacion importante sobre el agua para tomar. Si tiene preguntas o discusiones sobre este reporte en espanol, favor del llamar al tel. 281.579.4507 par hablar con una persona biligue en espanol.

Public input concerning the MHOG Water System may be made at regularly scheduled Board Meetings, held the third Wednesday of each month at the Oceola Township Hall, located at 1577 N. Latson Rd. Please call the Oceola Township Hall at 517.546.3259 for more information.



2019 Drinking Water Quality Report

The latest available information for the contaminants detected in our water during the sampling cycle ending in 2019 is given in the following table. The Environmental Protection Agency (EPA) does not require some contaminants to be monitored annually because their concentrations are not expected to vary. The Michigan Department of Environment, Great Lakes and Energy (MDEGLE) obtains and analyzes the samples in accordance with sampling cycles which vary according to EPA schedules. The definitions and abbreviations used in the table are listed below the results.

Definitions & Abbreviations:

- Maximum Contaminant Level Goal (MCLG):** The level of contaminants 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 MCLGs as feasible using the best available treatment technology.
- 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):** 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.

Substance (units)	Sample Date	MCL	Level Detected	Range	MCLG	In Compliance	Typical Sources
<u>Inorganic Contaminants</u>							
Chlorine Residual RAA (ppm)	2019	4 MRDL	0.70	0.20-1.07	4 MRDLG	Yes	Water chlorination
Chloride (ppm)	2019	N/A	42	42	N/A	Yes	Natural deposits
Hardness (ppm)	2019	N/A	100	82-124	N/A	Yes	Natural deposits
Sodium (ppm)	2019	N/A	37	37	N/A	Yes	Natural Erosion
Turbidity (NTU)	2019	N/A	0.12	0.09-0.24	N/A	Yes	Soil runoff
Iron (ppm)	2019	N/A	0.01	ND-0.09	N/A	Yes	Natural Deposits
Fluoride (ppm) (Fluoride monitoring occurs daily)	2019	4	0.59	0.59	4	Yes	Natural deposits: additive to prevent tooth decay
Barium (ppm)	2013	2	0.02	0.02	2	Yes	Discharge of drilling wastes & metal refineries; natural erosion
<u>Disinfectant By-Products</u>							
Total Trihalomethanes (ppb)	2019	80	51	43-51	0	Yes	By-product of drinking water chlorination. Compliance is based on a locational running annual average (LRAA).
Total Haloacetic Acids (five) (ppb)	2019	60	6	ND-6	0	Yes	By-product of drinking water chlorination. Compliance is based on a locational running annual average (LRAA).

Substance (units)	Sample Date	90th Percentile Value	EPA Action Level	Above Action Level	MCLG	Range	In Compliance	Typical Source
<u>Lead & Copper</u>								
Lead (ppb)	2018	1	15	1	0	ND-26	Yes	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits. ***
Copper (ppm)	2018	0.200	1.3	0	1.3	ND-0.450	Yes	Corrosion of household plumbing systems; Erosion of natural deposits.

Substance (units)	Sample Date	MCL	Average Detected	Range	MCLG	Typical Sources
<u>Unregulated Contaminants</u> —Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Before EPA regulates a contaminant, it considers adverse health, the occurrence of the contaminant in drinking water, and whether the regulation would reduce health risk.						
Haloacetic Acids 5 (ppb)	2019	N/A	4	3-7	N/A	By-product of drinking water chlorination.
Haloacetic Acids 6Br (ppb)	2019	N/A	8	5-11	N/A	By-product of drinking water chlorination.
Haloacetic Acids 9 (ppb)	2019	N/A	9	6-13	N/A	By-product of drinking water chlorination.

No MCLs were exceeded.

***** The single lead sample above the action level was due to a customer sampling from an unapproved sampling location and reporting it to the utility as an approved location. The home was resampled from the approved location and was below the action level.**

For more information please visit our website. www.mhog.org

- Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.
- 90th Percentile:** 9 out of 10 homes tested must show a concentration equal to or lower than the action level.
- Parts per million (ppm):** The equivalent of milligrams per liter (mg/L) is analogous to 1 minute in 2 years.
- Parts per billion (ppb):** The equivalent of micrograms per liter (µg/L) is analogous to 1 second in 32 years.
- Picocuries per liter (pCi/L):** A measure of radioactivity. **RAA:** Running Annual Average **N/A:** Not Applicable **ND:** Not Detected
- TT:** Treatment Technique