

CITY OF CASEVILLE DISCOLORED WATER FAQ

Why are some customers experiencing discolored water?

The source and reasons for the colored water are being investigated. It is critical to have a clear understanding of the problem before improvements can be made. Possible sources of the color are naturally occurring organics and minerals in Lake Huron source water, influence from the Pigeon River, and accumulated sediments, iron and manganese in the water mains. In addition, water main breaks, high system demand and firefighting activities can increase the velocity at which water travels through water mains. These events can dislodge sediment, iron and manganese in the mains, resulting in temporary episodes of discolored water.

Can I drink the water?

The City routinely tests the drinking water for all regulated contaminants. Ongoing monitoring and testing of the City's drinking water shows it complies with the stringent health standards of the Safe Drinking Water Act. In addition, the City's water filtration plant is operating in accordance with required treatment techniques. Based on the testing results and consultation with the State of Michigan Department of Environment, Great Lakes, and Energy (EGLE), residents may continue normal water consumption and use. If water testing ever shows the water does not meet health standards, customers will be notified immediately. Residents interested in reviewing the water sample results may request a copy of the monthly operating reports and/or lab results.

Discoloration itself is often caused by minerals like iron and manganese, or by sediment stirred up during water main activity. These minerals may not pose a health risk to all residents, but discoloration is both aesthetically displeasing and may make some residents hesitant to use the water as they normally would.

To better understand the impacts of the discoloration, the Michigan Department of Health & Human Services (MDHHS) is conducting additional sampling at selected households in the area. If you have questions about this sampling effort or your health, please contact MDHHS at 800-648-6942.

How will the discoloration issue be corrected?

The source of the discoloration problem is being investigated through a comprehensive engineering study funded by the U.S. Environmental Protection Agency (EPA). The study is underway and will continue through the summer to gather information, diagnose the problem and propose solutions.

There is evidence that the City's raw water is being influenced by changes in Lake Huron's conditions during warm summer periods, aggregate materials making up the buried intake, Pigeon River water, or a combination thereof. EGLE has been in frequent contact with City staff to help understand and respond to the discoloration issue. EGLE also met with City officials,

consultants and residents on August 29, 2024, to inspect the water system and gather information. As a result of consultation with EGLE and consultants, the City has increased monitoring efforts and data collection to better zero in on the problem. We continue to monitor and respond to customer complaints to better understand the nature of the problem.

When will the discoloration issue be corrected?

The City's water treatment plant was not designed to remove the color causing compounds and it is possible major capital improvements will be necessary. Implementing a permanent solution for the discoloration issue will require investigation, design/permitting and construction. It's possible a solution could be implemented by 2026 or 2027, depending on the results of the investigation. The City and EGLE are also working with the EPA engineering study contractor to identify temporary solutions that could be safely implemented in the near future.

What if I have health concerns?

If you have health-related questions, you can call the MDHHS Environmental Health Hotline at 800-648-6942.

What are the drinking water standards?

EPA has established National Primary Drinking Water Regulations that set mandatory water quality standards for drinking water contaminants. These are enforceable standards called maximum contaminant levels (MCLs) which are established to protect the public against consumption of drinking water contaminants that present a risk to human health. A MCL is the maximum allowable amount of a contaminant in drinking water which is delivered to the consumer.

Additional information on EPA's primary drinking water standards can be found at:

<https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>

In addition, EPA has established National Secondary Drinking Water Standards that set non-mandatory water quality standards. EPA does not enforce these secondary maximum contaminant levels (SMCLs). They are established as guidelines to assist public water systems in managing aesthetic considerations like taste, odor and appearance.

Additional information on EPA's secondary drinking water standards can be found at:

<https://www.epa.gov/sdwa/secondary-drinking-water-standards-guidance-nuisance-chemicals>

How is my drinking water treated?

The City of Caseville water plant utilizes membrane filtration and disinfection to treat raw source water from Lake Huron. Membrane filtration removes particulates from drinking water by forcing water through a semi-permeable membrane. Disinfection is accomplished by using chlorine to control disease causing pathogens. There are several communities pumping Lake Huron water using similar treatment technology.

The City's intake is located approximately 1,200 feet offshore on the bottom of the bay. The water plant serves 700 residents year-round along with a summer population that nearly triples. The City also supplies water to parts of Caseville Township and the Village of Pigeon.

When and why are hydrants flushed?

All hydrants are flushed in the spring and fall to ensure that water lines are working properly and to remove sediment. During flushing, it is normal to notice a temporary fluctuation in water pressure and some water discoloration. This can be cleared up by running faucets and appliances at the same time for a few minutes to clear the lines.

What is water hardness?

Water hardness refers to the concentration of dissolved calcium and magnesium ions in water. Water becomes hard as it passes over river beds or through certain geological formations that contain calcium or magnesium. High water hardness, while not a health hazard, can be a nuisance due to its impact on appliances, plumbing, and the effectiveness of soaps and detergents.

Water hardness is typically measured in parts per million (ppm) or milligrams per liter (mg/L) as calcium carbonate (CaCO₃). Hardness levels greater than 150 mg/L are considered hard water. In 2024, the average raw water hardness for the City of Caseville was 245 mg/L, which is very hard water.

Why does the City have high water hardness?

There is evidence the City's raw water hardness is being influenced by aggregate materials making up the buried intake in Lake Huron and possibly another source such as the Pigeon River. This is being investigated in the EPA engineering study.

How will water hardness impact me at my home?

Hard water can result in spots on dishes and scale on showerheads, sinks and appliances. It's important that you follow the manufacturer's instructions for hard water used in appliances. You could also consider using de-scaling products.

Should I purchase a water softener?

Part of the City's investigation and goal is to identify the source of the hardness and make improvements to deliver water that does not require home treatment. Water hardness can be reduced through water softening to remove calcium and magnesium ions. A water softener can improve the aesthetic qualities of your household water and reduce scaling on sinks and appliances and spots on dishes. A water softener does not improve the quality of water as it relates to health. Most water softeners also increase the sodium content of the water. The cost of softening water is another factor to take into consideration. Therefore, the decision to purchase a home water softener is one of personal preference that can be discussed with a sales representative.

My laundry has been stained by discolored water. What can I do to remove the stains?

You may use commonly available stain removal products that can be purchased at any supermarket. You may choose to reschedule laundry, especially whites or other work that may be impacted by discoloration. If you have a load that was washed during any discoloration, do not put it in the dryer. You should rewash the items as soon as possible.

Where can I get my water tested?

If you would like your water tested, you can call the MDHHS Environmental Health Hotline at 800-648-6942.

What can I do to help?

Please help us better understand the issue by reporting any water quality concerns using the information below. You can also help by sharing this FAQ information with other water customers.

Who can I contact with questions?

You can report a drinking water concern at the link below:

<https://www.michigan.gov/egle/about/organization/clean-water-public-advocate/report>

If you have health-related questions, you can call the MDHHS Environmental Health Hotline at 800-648-6942.