

CITY OF AUBURN WATER TEST RESULTS FOR 2022

REGULATED PARAMETERS AT CITY OF MIDLAND WATER TREATMENT PLANT

Substance	Amount Detected					Likely Source	Violation
	Unit	Range	Average	MCL	MCLG		
Fluoride	ppm	0.51-0.86	0.70	4	4	Erosion of natural deposits; Water treatment additive which promotes strong teeth.	NO
Turbidity ^a	ntu	0.02-0.17	n/a	TT ^a	n/a	Soil runoff; suspended matter in surface water.	NO
Barium ^b	ppm	0.01	0.01	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits. Discharge from petroleum refineries; erosion of natural deposits; discharge from mines.	NO

a. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system. The treatment technique for turbidity requires that all samples be below 1 ntu, and at least 95% of the samples each month be lower than 0.3 ntu. 100% of our samples were below 0.3 ntu.

b. Testing for this substance conducted every nine years. Test date 2022.

REGULATED PARAMETERS IN THE DISTRIBUTION SYSTEM

Substance	Amount Detected				Likely Source	Violation	
	Unit	Range	Highest RAA ^c	MCL			
Total Trihalomethanes	ppb	23-65	44	80	By-products of drinking water disinfection.	NO	
Total Haloacetic Acids	ppb	12-26	18	60	By-products of drinking water disinfection.	NO	
				MRDL	MRDLG		
Chlorine	ppm	0.65-1.06	0.89	4	4	Water treatment additive for control of microbial contaminants.	NO

c. Highest Running Annual Average (RAA) calculated quarterly.

REGULATED PARAMETERS AT THE CUSTOMER'S TAP (CITY OF AUBURN)

Substance	Amount Detected					Likely Source	Violation
	Unit	90th Percentile	Range (# exceeding AL)	MCL	MCLG		
Copper ^{d,f}	ppm	0.4	0.1-0.4 (0)	AL=1.3	1.3	Corrosion of household plumbing systems.	NO
Lead ^{e,f}	ppb	2	ND-3 (0)	AL=15	0	Corrosion of household plumbing systems.	NO

d. No testing site exceeded the Copper Action Level of 1.300 ppm.

e. No testing site that exceeded the Lead Action Level of 15 ppb.

f. Tested in 2022. Annual testing started in 2019 to meet latest requirement of Lead and Copper.

UNREGULATED PARAMETERS

Substance	Unit	Amount Detected	Likely Source	Violation
Sodium	ppm	4.5	Erosion of natural deposits.	NO

UNREGULATED CONTAMINANTS MONITORING RULE 4TH ROUND (UCMR4 2019-20)

HALO ACETIC ACIDS (3)	Amount Detected		Likely Source	Violation
	Average	Range		
Bromochloroacetic acid (ppb)	2.78	0.9-4.2	By-products of drinking water disinfection.	NO
Bromodichloroacetic acid (ppb)	3.59	1.7-5.7	By-products of drinking water disinfection.	NO
Chlorodibromoacetic acid (ppb)	0.68	0.4-1.4	By-products of drinking water disinfection.	NO
METALS: Manganese (ppb)	0.52	One Occurrence	Naturally occurring	NO

CITY OF AUBURN WATER TEST RESULTS FOR 2022

IMPORTANT DEFINITIONS

The previous table contains scientific terms and measures, some of which may require an explanation.

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

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 Contaminant Level Goal (MCLG): The level of 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 (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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

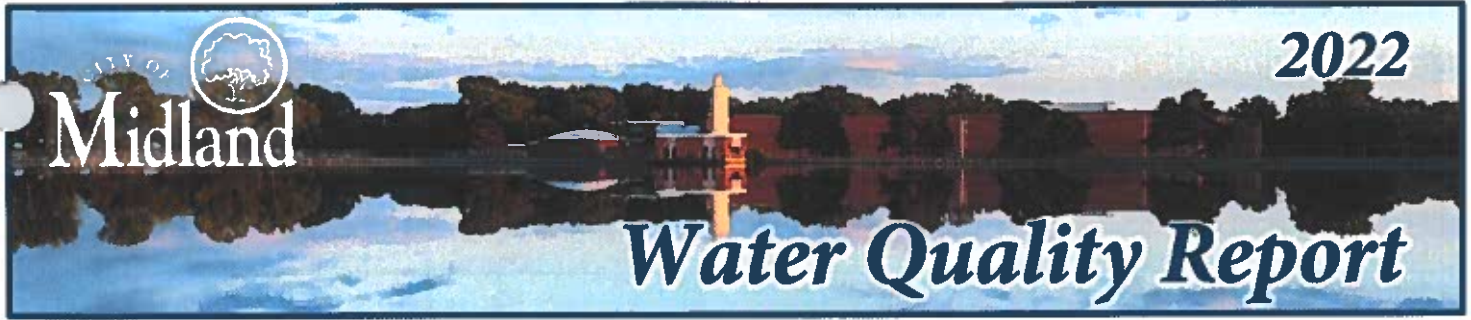
Nephelometric Turbidity Units (ntu): A measure of the clarity of water. The lower the numbers, the clearer the water.

Not Applicable: n/a

Part per million (ppm); Part per billion (ppb): These units describe the level of detected contaminants. One part per million is about 1/2 of an aspirin tablet (162.5 mg) in a full bathtub of water (about 50 gallons). One part per billion is about one aspirin tablet (325 mg) in a 25-meter swimming pool (about 100,000 gallons).

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

Unregulated Contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. City of Midland monitored for these contaminants and complete results of monitoring are available on request.



The City of Midland Water Treatment Plant is dedicated to providing the highest quality drinking water while meeting or exceeding all state and federal water quality standards. Midland’s annual Water Quality Report is intended to provide you with the most recent water quality testing data. Your concerns and opinions are important to us and we encourage you to contact us with any questions or comments. You can reach us by calling the Water Treatment Plant at (989) 837-3515, leaving a message on our 24-hour citizen comment line at (989) 837-3400, sending an email to water@midland-mi.org, or writing to 333 W. Ellsworth Street, Midland, MI 48640.

ABOUT DRINKING WATER CONTAMINANTS

Drinking Water

Between claims made by people selling water treatment devices and news reports about environmental issues, it is easy to forget that the water delivered by the Midland Water Treatment Plant undergoes a multi-stage treatment process and is rigorously tested to ensure it meets strict government standards. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Additionally, 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 from the Environmental Protection Agency (EPA) Safe Drinking Water Hotline at (800) 426-4791.

Source Water

The sources of drinking water (both tap 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. In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; (B) 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; (C) Pesticides and herbicides, which may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses; (D) 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; and (E) Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

PFAS

Known to scientists as per- and poly- fluoroalkyl substances, PFAS are a group of potentially harmful contaminants used in thousands of applications globally including firefighting foam, food packaging, and many other consumer products. These compounds are also used by industries such as tanneries, metal platers, and clothing manufacturers. PFAS have been found all over the world, including Michigan.

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) recently coordinated a statewide initiative to test public water supplies in Michigan. No PFAS were detected in Midland’s finished water during this preliminary testing. Midland began annual testing for these compounds in 2021 and **no PFAS were detected**.

To learn more about PFAS, visit the Michigan PFAS Action Response Team (MPART) website at www.michigan.gov/PFASresponse or contact the Midland Water Treatment Plant at (989) 837-3515.



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2022 City of Midland Water Quality Data

REGULATED PARAMETERS AT CITY OF MIDLAND WATER TREATMENT PLANT

SUBSTANCE (unit of measure) Likely Source	MCL	MCLG	AMOUNT DETECTED		VIOLATION
			RANGE	AVERAGE	
Fluoride (ppm) Erosion of natural deposits; water additive to promote strong teeth	4	4	0.51-0.86	0.70	NO
Turbidity^a (ntu) Soil runoff; suspended matter in surface water	TT ^a	n/a	0.02-0.17	n/a	NO
Barium^b (ppm) Discharge of drilling waste and metal refineries; erosion of natural deposits	2	2	0.01	0.01	NO

REGULATED PARAMETERS IN THE DISTRIBUTION SYSTEM

SUBSTANCE (unit of measure) Likely Source	MRDL	MRDLG	AMOUNT DETECTED		VIOLATION
			RANGE	HIGHEST RAA	
Chlorine (ppm) Water treatment additive for control of microbial contaminants	4	4	0.00-1.12	0.68	NO
TTHMs Total Trihalomethanes (ppb) By-products of drinking water disinfection	LOCATION	MCL	RANGE	HIGHEST RAA	VIOLATION
	City of Midland	80	18-54	39	NO
	Homer Township	80	28-58	49	NO
	Larkin Township	80	24-64	50	NO
	Midland Township	80	27-55	47	NO
HAAS Total Haloacetic Acids (ppb) By-products of drinking water disinfection	City of Midland	60	12-29	22	NO
	Homer Township	60	15-27	26	NO
	Larkin Township	60	14-25	19	NO
	Midland Township	60	14-24	20	NO
	Mills Township	60	13-19	17	NO

REGULATED PARAMETERS AT THE CUSTOMER'S TAP

SUBSTANCE (unit of measure) Likely Source	AL	MCLG	90 TH	RANGE	ACTION LEVEL EXCEEDANCE	
			PERCENTILE			
Copper^c (ppm) Corrosion of household plumbing systems; Erosion of natural deposits	City of Midland	1.3	1.3	0.36	0.03-0.39	NO
	Homer Township	1.3	1.3	0.25	0.02-0.26	NO
	Larkin Township	1.3	1.3	0.37	0.15-0.45	NO
	Midland Township	1.3	1.3	0.31	0.13-0.34	NO
	Mills Township	1.3	1.3	0.47 (January-June)	0.06-0.49 (January-June)	NO
				0.48 (July-December)	0-0.50 (July-December)	NO
Lead (ppb) Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits	City of Midland	15	0	2.7	0.2-7.1	NO
	Homer Township	15	0	0.6	0-1.1	NO
	Larkin Township	15	0	3.3	0.3-6.6	NO
	Midland Township	15	0	2.2	0.3-2.7	NO
	Mills Township	15	0	4.7 (January-June)	0.2-6.1 (January-June)	NO
				3.8 (July-December)	0-32.7 (July-December)	NO

SERVICE LINE MATERIAL	LEAD SERVICE LINES (LSL)	SERVICE LINES WITH UNKNOWN MATERIAL	TOTAL SERVICE LINES
City of Midland	0	4,799	16,592

Townships have no Lead Service Lines (LSL) or service lines with unknown material.

UNREGULATED PARAMETERS

SUBSTANCE (unit of measure) Likely Source	AMOUNT DETECTED	VIOLATION
Sodium (ppm) Erosion of natural deposits	4.5	NO

UNREGULATED CONTAMINANTS^d MONITORING RULE 4TH ROUND (UCMR4)

SUBSTANCE (unit of measure)	AMOUNT DETECTED		VIOLATION	LIKELY SOURCE
	AVERAGE	RANGE		
Bromochloroacetic acid (ppb)	2.78	0.9-4.2	NO	By-products of drinking water disinfection
Bromodichloroacetic acid (ppb)	3.59	1.7-5.7	NO	
Chlorodibromoacetic acid (ppb)	0.68	0.4-1.4	NO	
METALS: Manganese (ppb)	0.52	One Occurrence	NO	Naturally occurring

- a. Turbidity is monitored as it is a good indicator of the effectiveness of the filtration system. The treatment technique for turbidity requires that all samples are not above 1 ntu, and at least 95% of the samples each month do not exceed 0.3 ntu. 100% of our samples were below 0.3 ntu.
- b. Testing for this substance conducted every nine years. Test date 2022.
- c. No testing sites exceeded the Copper Action Level of 1.300 ppm.
- d. Unregulated contaminants are those for which the EPA has not established drinking water standards. Monitoring helps the EPA determine where certain contaminants occur and whether it needs to regulate those contaminants. We monitor for these contaminants and the results of monitoring are available on request.

Note: Testing for Radionuclides (Gross Alpha, Radium 226, Radium 228) was conducted in 2016. Results were non-detect.

GLOSSARY OF TERMS

- Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers the need for additional treatment or other requirements that a water system must meet.
- Department of Environment, Great Lakes, and Energy (EGLE)** – Water testing results are submitted to this State of Michigan department, whose mission is to protect Michigan's environment and public health by managing air, water, land, and energy resources.
- Locational Running Annual Average (LRAA)** – The average of sample analytical results for samples at a particular monitoring location during the previous four calendar quarters.
- 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 Contaminant Level Goal (MCLG)** - The level of 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 (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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.
- Nephelometric Turbidity Units (ntu)** - A measure of the clarity of water. The lower the numbers, the clearer the water.
- Non-Detect (ND)** - An analytical sample where the concentration is deemed to be lower than could be detected using the method employed by the laboratory.
- Part per million (ppm)** - These units describe the level of detected contaminants. One part per million is about 1/2 of an aspirin tablet (162.5 mg) in a full bathtub of water (about 50 gallons) or one second in 11 days.
- Part per billion (ppb)** - These units describe the level of detected contaminants. One part per billion is about one aspirin tablet (325 mg) in a 25-meter swimming pool (about 100,000 gallons) or one second in 31 years.
- Part per trillion (ppt)** - These units describe the level of detected contaminants. One part per trillion is the equivalent of about one second in 31,000 years.
- Running Annual Average (RAA)** – Running Annual Average.
- Treatment Technique (TT)** - A required process intended to reduce the level of a contaminant in drinking water.

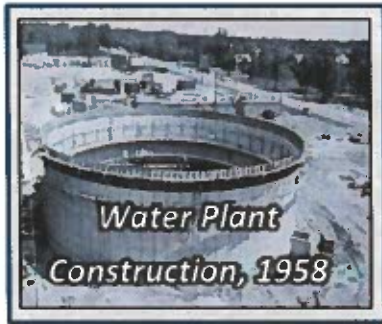
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What if I have Special Health Needs?

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 individuals should seek advice about drinking water from their health care providers. Environmental Protection Agency and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA Safe Drinking Water Hotline at **(800) 426-4791**.

MIDLAND'S SOURCE WATER

Midland has received its source water from Lake Huron since 1948. The source water pumping system is jointly owned and operated by the cities of Midland and Saginaw and is called the Saginaw-Midland Municipal Water Supply Corporation. Water is drawn into the system through two intake structures located in Lake Huron off the shores of Whitestone Point. The water is chlorinated at the lake intake structures to kill harmful bacteria and zebra mussels and is then pumped through 65 miles of pipeline to Midland. The Midland Water Treatment Plant is able to provide 48 million gallons per day of treated water to our community. The Midland Water Treatment Plant is staffed by professional water treatment operators, water analysts, and maintenance personnel that monitor, test, maintain, and adjust the treatment process to provide high quality and reliable water service. Water distribution personnel are on duty to ensure water quality and safety as the water is delivered to the Midland area through approximately 410 miles of water main pipes.



In 2004, the Michigan Department of Environmental Quality (now EGLE) released a Source Water Assessment Report for our community's source of raw water. Included in the Source Water Assessment is a susceptibility analysis of our raw water. Susceptibility is a measure of the factors within the source water area that may pose a risk to the water supply. The Source Water

Assessment Report concluded that potential contaminate sources present a negligible risk due to the physical location of the intakes. Based on our intake's infrequent experience with abnormal current flows, the Saginaw-Midland source water is defined as moderately low for susceptibility to potential contamination. Midland effectively treats this source to meet drinking water standards.

Protecting the source of our drinking water is an investment in our community's future and one of our main priorities. A copy of the Source Water Assessment is available for review at the Water Office, located in City Hall.

LEAD AND COPPER

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with service lines and home plumbing. 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. The City of Midland is responsible for providing high-quality drinking water, but it 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 have a lead service line it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. 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 EPA Safe Drinking Water Hotline at **(800) 426-4791** or at www.epa.gov/safewater/lead.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should contact their physician. If you are concerned about elevated copper levels in your water, you may wish to have the water tested and flush your tap for 30 seconds to 2 minutes before using the water. Contact the Midland Water Treatment Plant at **(989) 837-3515** for further information.

2022 Water Quality Report

Water Department | 333 W. Ellsworth Street, Midland, MI 48640
(989) 837-3515 | www.cityofmidlandmi.gov/water

Find this report in print at Midland City Hall or the Grace A. Dow Memorial Library or online at www.cityofmidlandmi.gov/waterreport. To receive a copy in the mail, call (989) 837-3341.

Midland City Council meetings are held twice a month on Monday evenings at 7 pm.

