



2020 Annual Water Quality Report for the City of Ecorse

Water Supply Serial Number: 02050

The purpose of this report is to provide you with information about your drinking water. The report explains to you where your water comes from and the treatment it receives before it reaches your tap. The report also lists all the contaminants detected in your water and an explanation of any violations in the past year.

Drinking water quality is important to our community and the region. The City of Ecorse and the Great Lakes Water Authority are committed to meeting state and federal water quality standards including the Lead and Copper Rule. With the Great Lakes as our water source and proven treatment technologies, the GLWA consistently delivers safe drinking water to our community. The City of Ecorse operates the system of water mains that carry this water to your home's service line. This year's Water Quality Report highlights the performance of GLWA and Ecorse water professionals in delivering some of the nation's best drinking water. Together, we remain committed to protecting public health and maintaining open communication with the public about our drinking water.

This report covers the drinking water quality for the City of Ecorse for the 2020 calendar year. This information is a snapshot of the quality of the water that we provided to you in 2019. Included are details about where your water comes from, what it contains, and how it compares to United States Environmental Protection Agency (U.S. EPA) and state standards.

The City of Ecorse receives its drinking water from the Great Lakes Water Authority (GLWA), Southwest Treatment Plant, located in Allen Park. Water treated at the plant is drawn from the Detroit River. The water flows to the plants by gravity through a large water tunnel.

The treatment process begins with disinfecting the source water with chlorine to kill harmful microorganisms that can cause illness. Next, a chemical called Alum is mixed with the water to remove the fine particles that make the water cloudy or turbid. Alum causes the particles to clump together and settle to the bottom. Fluoride is also added to protect our teeth from cavities.

The water then flows through several sand filters to remove even more particles and certain

microorganisms that are resistant to chlorine. Finally, a small amount of phosphoric acid and chlorine are added. The phosphoric acid helps control the lead that may dissolve in the water from household plumbing systems. The chlorine keeps the water disinfected as it travels through the mains to your home.

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 from the presences of animals or from human activity.

Contaminants and their presence in water:

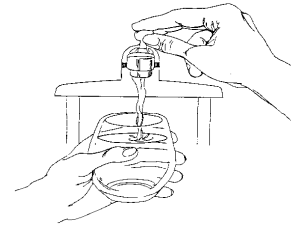
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling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

Vulnerability of sub-populations: 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 systems 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. U.S. EPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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 stormwater 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 agriculture and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **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 stormwater runoff, and septic systems.



In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the levels of certain contaminants in water provided by public water systems. Federal Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

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Water Quality Data

The table below lists all the drinking water contaminants that we detected during the 2020 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2020. The State allows 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. All the data is representative of the water quality, but some are more than one year old.

Terms and abbreviations used below:

Symbol	Abbreviation	Definition/Explanation
AL	Action Level	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
>	Greater than	
HAA5	Haloacetic Acids	HAA5 is the total of bromoacetic, chloroacetic, di-bromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
Level 1	Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our system.
LRAA	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters.
MCL	Maximum Contaminant Level	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.
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow a margin of safety.
MRDL	Maximum Residual Disinfectant Level	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.
MRDLG	Maximum Residual Disinfectant Level Goal	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.
n/a	Not applicable	
ND	Not Detected	
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
pCi/L	Picocuries Per Liter	A measure of radioactivity
ppb	Parts Per Billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	Parts Per Million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
RAA	Running Annual Average	The average of all analytical results for all samples during the previous four quarters.
SMCL	Secondary Maximum Contaminant Level	
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total.
µohms	Microohms	Measure of electrical conductance of water

2020 Inorganic Chemicals – Monitoring at the Plant Finished Water Tap							
Regulated Contaminant	Allowed Level MCL	Health Goal MCLG	Highest Level Detected	Range of Detection	Test Date	Violation Yes/No	Typical Source of Contaminant
Barium (ppm)	2	2	.01	n/a	5-16-2017	no	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10	.61	n/a	3-10-2020	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Fluoride (ppm)	4	4	.71	n/a	3-10-2020	no	Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
2020 Disinfection By-Products – Monitoring in Distribution System, Stage 2 Disinfection By-Products							
Regulated Contaminant	Allowed Level MCL	Health Goal MCLG	Highest LRAA	Range of Quarterly Results	Year Sampled	Violation Yes/No	Typical Source of Contaminant
TTHM Total Trihalomethanes (ppb)	80	N/A	19	<0.50 - 26	2020	no	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A	14	<1.0. - 18	2020	no	Byproduct of drinking water disinfection
2020 Disinfectant Residuals – Monitoring in Distribution System by Treatment Plant							
Regulated Contaminant	Allowed Level MCL	Health Goal MRDLG	Highest Level RAA	Quarterly Range of Detection	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Total Chlorine Residual (ppm)	4	4	0.62	0.49-0.72	Jan-Dec 2020	no	Water additive used to control microbes
2020 Turbidity – Monitored every 4 hours at Plant Finished Water Tap							
Highest Single Measurement Cannot Exceed 1NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)				Violation Yes/No		Typical Source of Contaminant
0.13 NTU	100%				no		Soil Runoff

Turbidity is the measure of the cloudiness of water. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. We monitor it because it is a good indicator of the effectiveness of our filtration system.

2019 Lead and Copper Monitoring at Customers' Tap

Regulated Contaminant	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples over AL	Year Sampled	Range of Individual Sample Results	Violation Yes/No	Typical Source of Contaminant
Lead (ppb)	0	15	13	0	2020	0 - 15 ppb	no	Lead services lines, corrosion of household, plumbing including fittings and fixtures; erosion of natural deposits
Copper (ppm)	1.3	1.3	0.1	0	2020	0.0 – 0.2 ppm	no	Corrosion of household plumbing system; Erosion of natural deposits; leaching from wood preservatives.

* The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.

Regulated Contaminant	Treatment Technique 2019	Typical Source of Contaminant
Total organic Carbon (ppm)	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each quarter and because the level was low, there is no TOC removal requirement	Erosion of natural deposits

Radionuclides 2014

Regulated Contaminant	MCLG	Allowed Level	Level Detected	Test Date	Violation Yes/No	Typical Source of Contaminant
Combined Radium 226 and 228 (pCi/L)	0	5	0.65 + or – 0.54	5-13-14	no	Erosion of natural deposits

2020 Special Monitoring

Contaminant	MCLG	MCL	Highest Level Detected	Test Date	Typical Source of Contaminant
Sodium (ppm)	n/a	n/a	6.81	3-10-2020	Erosion of natural deposits

2020 Southwest Mineral Analysis

Mineral analysis is completed by the GLWA, Southwest Treatment Plant, located in Allen Park on the finished water they provide to consumers.

Parameter	Units	Max.	Min.	Avg.
Turbidity	NTU	0.50	0.04	0.17
Total Solids	ppm	167	46	142
Total Dissolved Solids	ppm	162	89	127
Aluminum	ppm	0.172	0.022	0.072
Iron	ppm	0.183	ND	0.114
Copper	ppm	ND	ND	ND
Magnesium	ppm	8.36	6.88	7.54
Calcium	ppm	34.8	24.6	28.4
Sodium	ppm	7.78	4.51	5.35
Potassium	ppm	1.31	0.93	1.04
Manganese	ppm	ND	ND	ND
Lead	ppm	ND	ND	ND
Zinc	ppm	ND	ND	ND
Silica	ppm	2.7	1.6	2.0
Sulfate	ppm	37.5	19.7	26.1

Parameter	Units	Max.	Min.	Avg.
Chloride	ppm	13.9	8.3	9.6
Phosphorus	ppm	1.24	0.12	0.48
Free Carbon Dioxide	ppm	16.7	6.0	8.6
Total Hardness	ppm	118	95	104
Total Alkalinity	ppm	78	66	73
Carbonate Alkalinity	ppm	ND	ND	ND
Bi-Carbonate Alkalinity	ppm	78	66	73
Non-Carbonate Hardness	ppm	40	25	31
Chemical Oxygen Demand	ppm	6.0	ND	2.7
Dissolved Oxygen	ppm	12.6	7.8	10.3
Nitrite Nitrogen	ppm	ND	ND	ND
Fluoride	ppm	0.76	0.56	0.68
pH		7.39	6.97	7.25
Specific Conductance @ 25 °C.	µohms	274	213	231
Temperature	°C	24.1	1.8	12.6

Detroit River Intakes

Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, watersheds in the U.S. and parts of the Thames River, Little River, Turkey Creek and Sydenham watersheds in Canada. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of GLWA's Detroit River source water for potential contamination.

The susceptibility rating is based on a seven-tiered scale and ranges from very low to very high determined primarily using geologic sensitivity, water chemistry, and potential contaminant sources. The report described GLWA's Detroit river intakes as highly susceptible to potential contamination. However, all four GLWA water treatment plants that service the city of Detroit and draw water from the Detroit River have historically provided satisfactory treatment and meet drinking water standards.

GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in the National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. In 2016, the Michigan Department of Environmental, Great Lakes and Energy approved GLWA's Fighting Island Surface Water Intake Protection plan. The plan has seven elements that include: roles and duties of government units and water supply agencies, delineation of a source water protection areas, identification of potential sources of contamination, management approaches for protection, contingency plans, siting of new water sources, public participation and public education activities. GLWA is in the process of updating the plans which should be completed by September 2021. If you would like to know more information about the Source Water Assessment report please, contact GLWA at (313 926-8102).

Information About Lead

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 Ecorse 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 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 Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Safe drinking water is a shared responsibility. The water that GLWA delivers to our community does not contain lead. Lead can leach into drinking water through home plumbing fixtures, and in some cases, customer service lines. Corrosion control reduces the risk of lead and copper from leaching into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in service pipes throughout the system, including in your home or business. The City of Ecorse performs required lead and copper sampling and testing in our community, Water customers also have a responsibility to maintain the plumbing in their homes and businesses, and can take steps to limit their exposure to 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.

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 consult their personal doctor.

City of Ecorse Lead Service Lines

Our water supply has 916 lead service lines and 211 service lines of unknown material out of a total of 4,616 service lines. These numbers fluctuate throughout the year as field verified data is made available through water meter replacements, water service replacements, or water main breaks.

Monitoring and Reporting to the Department of Environment, Great Lakes, and Energy (EGLE) Requirements: The State of Michigan and the U.S. EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2020.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at Ecorse City Hall, 3869 W. Jefferson Ave., Ecorse, Michigan 48229. **This report will not be sent to you.**

Public Participation

We invite public participation in decisions that affect drinking water quality. Each and every month the GLWA Board meet at the Water Board Building at 735 Randolph Street, Detroit, Michigan 48226. These meetings as well as public hearings are open to the public. To confirm dates and times of the GLWA meetings residents are encouraged to visit the GLWA website at www.glwater.org.

For more information about your water, or the contents of this report, contact Kevin Lawrence, DPW Director, klawrence@ecorsemi.gov. For more information about safe drinking water, visit the U.S. EPA at <http://www.epa.gov/safewater>.

City of Ecorse and GLWA Fun Facts

- The City of Ecorse is the third oldest community water system that receives their water from the City of Detroit/GLWA. Ecorse has been a customer since 1904. Only the communities of River Rouge and Hamtramck have been customers longer than the City of Ecorse.
- The largest user of water in the City of Ecorse is that of U.S. Steel Great Lakes Works located at West Jefferson and Quality Drive.
- GLWA uses the Great Lakes, the worlds largest concentration of fresh water as their water source.
- GLWA is the largest water system in Michigan.
- GLWA supplies water to four million people.
- GLWA is the 3rd largest provider of high-quality drinking water in the United States.
- GLWA rates have consistently been among the lowest in the nation's twenty largest municipalities.