

City of River Rouge

2018 Annual Water Quality Report

City of River Rouge, 10600 West Jefferson Avenue, River Rouge, Michigan 48218

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 all the violations in the past year.

The City of River Rouge receives its drinking water from the Great Lakes Water Authority (GLWA), Southwest Treatment Plant, located in Allen Park and the Springwells Plant located in Dearborn Heights. Water treated at the plants 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 also is 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 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 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.
- Organic chemicals, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also can come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants, which are naturally occurring or can be the result of oil and gas production and mining activities.
- Pesticides and herbicides, which may come from a variety of sources, such as agriculture, urban storm water runoff and residential uses.

Drinking water quality is important to our community and the region. The City of River Rouge and the Great Lakes Water Authority (GLWA) 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. River Rouge operates the system of water mains that carry this water to your

We invite public participation in decisions that affect drinking water quality. The City of River Rouge Council Meetings are held on the first and third Tuesdays of each month at River Rouge City Hall located at 10600 W. Jefferson Avenue, River Rouge, MI 48218. For more information about your water or the contents of this report, contact the River Rouge Water Department at 313-842-4803. For more information about safe drinking water, visit the US Environmental Protection Agency at www.epa.gov/safewater.

home service line. This year's Water Quality Report highlights the performance of GLWA and River Rouge 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.

In order to ensure that tap water is safe, the US Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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 the water poses a health risk. More information about the contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. These include immune-compromised persons, such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, or those with HIV/AIDS or other immune system disorders. Also, some elderly residents and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. The EPA/CDC guidelines on appropriate means to lessen the risk of the infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

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, in the U.S. and parts of the Thames River, Littler River, Turkey Creek, and Sydenham watersheds in Canada. The Michigan Department of Environmental Quality, in partnership with the Detroit Water & Sewerage Department and several other governmental agencies performed a source water assessment in 2004 to determine the susceptibility or relative potential of contamination.

The susceptibility rating is on a seven-tiered scale from Sources "very low" to "very high", based primarily on geologic sensitivity, water chemistry and contamination.

However, all four Detroit water treatment plants that use source water from the Detroit River have historically provided satisfactory treatment of this source water to 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 a National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. In 2015, GLWA received a grant from the Michigan Department of Environmental Quality to develop a source water protection program for the Detroit River intakes. The programs include seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. If you would like more information about the Source Water Assessment or SWIPP, contact your City of River Rouge Water Department at 313-842-4803.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Cryptosporidium was detected once, during a twelve-month period at our Detroit River intake plants. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions

KEY TO DETECTED CONTAMINANTS TABLES

Symbol	Abbreviation for	Definition/Explanation
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
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.
MRDLG	Maximum Residual Disinfectant Level Goal	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 microbials.
MRDL	Maximum Residual Disinfectant Level	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.
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.
LRAA	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters
RAA	Running Annual Average	The average of analytical results for all samples during the previous four quarters.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
ND	Not Detected	
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.
HAA5	Haloacetic acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, 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 the water system.
Level 2	Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total.
pCi/L	Picocuries per liter	A measure of radioactivity
n/a	Not applicable	
Mmhos	Micromhos	Measure of electrical conductance of water
C	Celsius	A scale of temperature in which water freezes at 0 degrees and boils at 100 degrees under standard conditions
>	Greater than	

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. Beginning in July of 2008, the Detroit Water and Sewerage Department (DWSD) began monitoring quarterly for unregulated contaminants under the Unregulated Contaminant Monitoring Rule 2 (UCMR2).

Infants and young children are typically more vulnerable to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Water Quality Data

Your drinking water is continuously monitored above and beyond Federal and State laws. Monitoring frequencies vary by parameter, so some of the test dates for the results are a few years old because it is the most recent information. In addition, monitoring must be performed by the individual community. The community-specific information is presented in a separate table above. The following tables show all the contaminants that were detected in your water.

Your drinking water met all the State and EPA monitoring and reporting requirements for 2018. Not listed are the hundreds of other contaminants tested for, but not found in your water.

Infants and young children are typically more vulnerable to lead in drinking water than the general population.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

The City of River Rouge Water Department 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 two (2) minutes before using the tap water for drinking or cooking.

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 River Rouge performs required lead and copper sampling and testing in our community. Water consumers also have a responsibility to maintain the plumbing in their homes and businesses and can take steps to limit their exposure to lead.

If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to two (2) minutes before using tap water for drinking or cooking. 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>.at 1-800-426-4791

Public Participation

Each and every month the Great Lakes Water Authority 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.

The City of River Rouge and the Great Lakes Water Authority are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. Please contact us with any questions or concerns about your water.

CITY OF RIVER ROUGE AND GREAT LAKES WATER AUTHORITY (GLWA) FACTS

The City of River Rouge is the oldest community water system that receives their water from the Great Lakes Water Authority. River Rouge has been a customer of DWSD/GLWA since 1900. The City of Hamtramck and the City of Ecorse rank as the second and third oldest customers of the Great Lakes Water Authority/DWSD. The City of Ecorse became a customer of the City of Detroit in 1904, four years after the City of River Rouge.

**Southwest Water Treatment Plant
2018 Regulated Detected Contaminants Tables**

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
2018 Inorganic Chemicals – Monitoring at Plant Finished Water Tap								
Fluoride	6-12-2018	ppm	4	4	0.66	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	6-12-2018	ppm	10	10	0.41	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	5-16-2017	ppm	2	2	0.01	n/a	n/a	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

2018 Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	8/24/2018	ppb	n/a	80	26	0.5-80	no	By-product of drinking water chlorination.
Haloacetic Acids (HAA5)	8/24/2018	ppb	n/a	60	8.9	1.0-60	no	By-product of drinking water disinfection.

2018 Disinfection – Monitoring in Distribution System by Treatment Plant								
Regulated Contaminant	Test Date	Unit	Health Goal MRDGL	Allowed Level MRDL	Highest RAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan.–Dec. 2018	ppm	4	4	0.58	0.48-0.61	no	Water additive used to control microbes.

2018 Turbidity – Monitored every 4 hours at Plant Finished Water Tap								
Highest Single Measurement Cannot exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)						Violation yes/no	Major Sources in Drinking Water
0.19 NTU	100%						no	Soil Runoff
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.								

2017 Lead and Copper Monitoring at Customers' Tap								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2017	ppb	0	15	0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2017	ppm	1.3	1.3	0.1	0	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 2018							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 requirement for TOC removal requirement..							Erosion of natural deposits

Radionuclides 2014								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Level Detected	Violation yes/no	Major Sources in Drinking Water	
Combined Radium 226 and 228	5/13/2014	pCi/L	0	5	0.65 + or - 0.54	no	Erosion of natural deposits	

Contaminant	MCLG	MCL	Level Detected 2018				Source of Contamination
Sodium (ppm)	n/a	n/a	6.36				Erosion of natural deposits

Springwells Water Treatment Plant 2018 Regulated Detected Contaminants Tables

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
2018 Inorganic Chemicals – Monitoring at Plant Finished Water Tap								
Fluoride	6-12-2018	ppm	4	4	0.67	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	6-12-2018	ppm	10	10	0.34	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	5-16-2017	ppm	2	2	0.01	n/a	n/a	Discharges of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
2018 Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	8/30/2016	ppb	n/a	80	26	0.50-80	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	8/30/2016	ppb	n/a	60	8.9	1.0-60	no	By-product of drinking water disinfection
2018 Disinfectant Residuals – Monitoring in Distribution System by Treatment Plant								
Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan.-Dec. 2018	ppm	4	4	0.68	0.63-0.69	no	Water additive used to control microbes
2018 Turbidity – Monitored every 4 hours at Plant Finished Water Tap								
Highest Single Measurement Cannot exceed 1 NTU		Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)				Violation yes/no	Major Sources in Drinking Water	
0.25 NTU		99.7 %				no	Soil Runoff	
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.								
2017 Lead and Copper Monitoring at Customers' Tap								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2017	ppb	0	15	0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2017	ppm	1.3	1.3	0.1	0	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 2018							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
Contaminant	MCLG	MCL	Level Detected 2018				Source of Contamination	
Sodium (ppm)	n/a	n/a	6.00				Erosion of natural deposits	

Great Lakes Water Authority voluntarily monitors for Cryptosporidium and Giardia in our untreated source water monthly. The untreated water samples collected from the Southwest Plant indicated the presence of one Giardia cyst in March. In addition monitoring indicated the presence of one Giardia cyst and one Cryptosporidium oocyst in the untreated water from the Southwest Plant in July. Additional testing was performed on the treated water at the Southwest Plant and Cryptosporidium was absent. All other samples collected in the year 2018 were absent for the presence of Cryptosporidium and Giardia.

The March 2018 untreated water samples collected from the Belle Isle intake indicated the presence of one Giardia cyst. All other samples collected from the Belle Isle intake in the year 2018 were absent for the presence of Cryptosporidium and Giardia.

Systems using surface water like GLWA must provide treatment so that 99.9 percent of Giardia lamblia is removed or inactivated.

You can save hundreds even thousands of gallons of water each day by making adjustments in your daily routines. Install a faucet aerator to save 1 to 3 gallons of water per minute of use. A low flow shower head can save you 10 gallons of water per minute which is an average of about 20,000 gallons per year. Watch for any drips in faucets. A running toilet can waste up to 74,000 gallons of water in just 3 months.

If you see any suspicious activity around the water system or fire hydrants you should contact the City of River Rouge Water Department during normal business hours or the River Rouge Police Department 24 hours a day and 7 days a week.

This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.