

# VILLAGE OF SOUTH ROCKWOOD 2016 ANNUAL WATER QUALITY REPORT

The purpose of this report is to provide you with information about your drinking water. The report explains 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 Village of South Rockwood gets its drinking water from the Detroit Water & Sewage Department, Southwest Treatment Plant. Water treated at the plant is drawn from the Detroit River.

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 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.

Contaminates that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, livestock 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 organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be 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.

In order to ensure that tap water is safe, the U.S. 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

We invite public participation in decisions that affect drinking water quality. The South Rockwood Village Council Meetings are held on the 1<sup>st</sup> and 3<sup>rd</sup> Mondays of each month. For more information about your water, or the contents of this report, contact Village Administrator Willene Harold at 734 379-3683. For more information about safe drinking water, visit the U.S. Environmental Protection Agency at [www.epa.gov/safewater](http://www.epa.gov/safewater)

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 people should seek advice about drinking water from their health care providers. 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 800-426-4791.

Drinking water quality is important to our community and the region. The Village of South Rockwood 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. The Village of South Rockwood 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 the Village of South Rockwood water professionals in delivering some of the nation's best drinking water

The Village of South Rockwood 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.

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 the 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 your home or business. The Village of South Rockwood 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.

Infants, young children and pregnant women are typically more vulnerable to lead in drinking water than the general population. It is possible that the 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. 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 Village of South Rockwood is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If you are concerned about the elevated lead levels in your home's water, you may wish to have your water tested. 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 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 at (800 426-4791).

The Great Lakes Water Authority monitored for Cryptosporidium in our source water (Detroit River) from our Southwest Water Treatment Plant during 2016. Cryptosporidium was detected twice in our source water samples. A follow-up water sample was collected from the treated water and Cryptosporidium was not found to be present. 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. 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 immunocompromised 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 to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may spread through means other than drinking water.

### Key to Detected Contaminants Tables

Symbol	Abbreviation for	Definition/Explanation
MCLG	<b>Maximum Contaminant Level Goal</b>	The level of contaminant in drinking water below which there is no known or expected risk to health.
MCL	<b>Maximum Contaminant Level</b>	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	<b>Maximum Residual Disinfectant Level Goal</b>	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 contaminants.
MRDL	<b>Maximum Residual Disinfectant Level</b>	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	<b>Parts per billion (one in one billion)</b>	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	<b>Parts per million (one in one million)</b>	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
NTU	<b>Nephelometric Turbidity Units</b>	Measures the cloudiness of water.
pCi/L	<b>Picocuries Per Liter</b>	A measure of radioactivity. Picocurie (pCi) means the quantity of radioactive material producing 2.22 nuclear transformations per minute.
TT	<b>Treatment Technique</b>	A required process intended to reduce the level of a contaminant in drinking water.
AL	<b>Action Level</b>	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	<b>Haloacetic</b>	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
TTHM	<b>Total Trihalomethanes</b>	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total
RAA	<b>Running Annual Average</b>	The average of analytical results for all samples during the previous four quarters
n/a	<b>Not applicable</b>	
ND	<b>Not Detected</b>	
LRAA	<b>Locational Running Annual Average</b>	The average of analytical results for samples at a particular monitoring Location during the previous four quarters.
>	<b>Greater than</b>	
µmhos	<b>Micromhos</b>	Measure of electrical conductance of water
° C	<b>Celsius</b>	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions

*Village of South Rockwood  
2016 Regulated Detected Contaminants Tables*

Regulated Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
<b>Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap</b>								
Fluoride	5-10-2016	ppm	4	4	0.55	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	5-10-2016	ppm	10	10	0.53	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products								
Regulated Contaminants	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2016	ppb	n/a	80	35	.0051-.036	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2016	ppb	n/a	60	0.8	.001-.009	no	By-product of drinking water disinfection

Disinfection By-Products – Monitoring in Distribution System								
Regulated Contaminant	Test Date	Units	Health Goal	Allowed Level	Highest RAA	Range of Detection	Violation	Major Sources in Drinking Water
Disinfectant Total Chlorine Residual	Jan.-Dec. 2016	ppm	MRDGL 4	MRDL 4	0.65	0.53-0.76	no	Water additive used to control microbes

2016 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
0.29 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.

January – March 2016 Microbiological Contaminants – Monthly Monitoring in Distribution System								
Regulated Contaminant	MCLG	MCL	Highest Number Detected	Violation Yes/no	Major Sources in Drinking Water			
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	<b>in one month</b> 0	no	Naturally present in the environment.			
<i>E.coli</i> or fecal coliform bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or <i>E.coli</i> positive.	<b>entire year</b> 0	no	Human waste and animal fecal waste.			
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Level Detected	Violation Y/N	Source of Contamination	
Combined Radium Radium 226 and 228	5/13/2014	pCi/L	0	5	0.65+ or -0.54	no	Erosion of Natural Deposits	

**2014 Lead and Copper Monitoring at Customers' Tap**

Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90 <sup>th</sup> Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2014	ppb	0	15	0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2014	ppb	1.3	1.3	0.219	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.

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	5.41	Erosion of natural deposits

Contaminant	Treatment Technique	Running Annual Average	Monthly Ratio Range	Violation Yes/No	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 month and because the level was low, there is no requirement for TOC removal.				Erosion of natural products

**Detroit River Intakes**

Your source water comes from the Detroit River, situated within the Lake St. Clair, and several watersheds within the US and Canada. The Michigan Department of Environmental Quality in partnership with Detroit Water and Sewerage Department and several other governmental agencies performed a source water assessment in 2004 to determine the susceptibility of potential contamination. The susceptibility rating is on a seven-tiered scale from “very low” to “very high” based primarily on geologic sensitivity, water chemistry and contaminant sources. The susceptibility of our Detroit River source water intakes were determined to be highly susceptible to potential 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 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. GLWA voluntarily developed and received approval in 2016 for a source water protection program (SWIPP) for the Detroit River intakes. The programs includes 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 new sources and public participation and education. If you would like to know more information about the Source Water Assessment or SWIPP, please contact your water department at (734) 379-3683.