

# WATER QUALITY REPORT

2015

## The Water We Drink

In 1998, a new Federal rule was passed to ensure that consumers of community water supplies receive annual documentation of drinking water quality. At the Village of Romeo, our goal is to provide you with safe and dependable drinking water. Therefore, we are pleased to have this opportunity to inform you about the quality of the water that was provided to you.

In 2004, the State performed an assessment of our source water in order to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a seven-tiered scale from “very-low” to “high” based primarily on geologic sensitivity, water chemistry and contaminant sources. The Village of Romeo gets its water from several ground water wells. Water supplied to the Industrial Park comes from Detroit Water and Sewer, which is the Lake Huron Water Treatment Plant. Based on the seven-tiered scale, the susceptibility of Romeo’s source is “moderately-low” and “moderate” for our wells. The susceptibility of the Detroit River source water intake was 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. If you would like to know more about these reports, you can contact the Village Office or you can visit the Detroit Water and Sewerage Department’s website at [www.dwsd.org](http://www.dwsd.org) or contact [semegen@dwsd.org](mailto:semegen@dwsd.org).

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 Environmental Protection Agency’s (EPA) Safe Drinking Water Hotline (800) 426-4791.

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.

**Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

**Organic chemical contaminants**, 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 be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, 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.

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. EPA/CDC 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.

In accordance with Federal and State laws, the Village of Romeo routinely monitors for contaminants in your drinking water. The following tables on this report show the results of our monitoring for the period of January 1<sup>st</sup> through December 31<sup>st</sup>, 2014, unless otherwise noted.

*The Results: At this time, we are able to report that according to the test results, your drinking water meets all Federal and State requirements for quality and safety and that all monitoring and reporting requirements were met for 2015.*

## **Additional Testing**

### **Arsenic Testing**

On January 22, 2001, the new Arsenic Regulation was published in the Federal Register. The new rule changes the Maximum Contaminant Level (MCL) for arsenic from 0.05 milligrams per liter (mg/L) to 0.010 mg/L or 10 parts per billion (ppb). The rule applies to all Type 1 water systems and became effective January 23, 2006.

Arsenic is a naturally occurring mineral and its presence in water is caused from erosion of natural deposits. During 2011, the Village of Romeo's systems wells were sampled and were found to be in compliance with the new maximum contaminant level.

### **Lead and Copper Testing**

The Village of Romeo has been working in conjunction with the Michigan Department of Environmental Quality to test the homes for Lead and Copper contaminants in our water supply system. *All tests indicate the water supply bas tested far below the action level.*

Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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. 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 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

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 Romeo 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 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 <http://www.epa.gov/safewater/lead>.

## Key to Detected Contaminants Tables

Symbol	Abbreviation for	Definition / Explanation
>	Greater than	
AL	Action Level	The concentration of a contaminant, which, if exceeded, trigger treatment or other requirements which 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.
LRAA	Locational Running Annual Average	
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.
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.
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 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	
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.
µmhos	Micromhos	Measure of electrical conductance of water
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.

## VILLAGE OF ROMEO TABLE

For 2015

### Regulated Detected Contaminants Tables

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Level Detected	Range of Detection		Violation Major Sources in Drinking Water
						Low	High	
Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap								
Fluoride (Wells #3 & 5)	9/2/15	ppm	4	4	.13	n/a	n/a	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
Fluoride (Well #2)	9/2/15	ppm	4	4	.20	n/a	n/a	
Arsenic (Wells #3 & 5)	8/15/11	ppm	10	10	ND	n/a	n/a	
Arsenic (Well #2)	8/15/11	ppm	10	10	ND	n/a	n/a	
Nitrate	9/2/15	ppm	10	10	ND	n/a	n/a	

### Disinfectant Residuals and Disinfection By-Products – Monitoring in distribution System

Total Trihalomethanes (TTHM)	8/20/15	ppb	n/a	80	31	7	31	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	8/20/15	ppb	n/a	60	10	2	10	By-product of drinking water disinfection
Chlorine Residual	Jan-Dec 2015	ppm	MRDGL 4	MRDL 4	.514	.373	.800	Water additive used to control microbes

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 of the data is representative of the water quality, however some are more than one year old.

### Microbiological Contaminants – Monthly Monitoring in Distribution System

Contaminant	MCLG	MCL	Highest Number of Samples Detected	Major Sources in Drinking Water
Total Coliform Bacteria *	0	Presence of Coliform bacteria >5% of monthly samples	0	Coliform are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.
<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.	0	Human waste and animal fecal waste.

### 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	Major Sources in Drinking Water
Lead	Sept 2014	ppb	0	15	2	0	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	Sept 2014	ppm	1.3	1.3	.22	0	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.

### Unregulated Detected Contaminants Tables

Contaminant	Test Date	Units	MCLG	MCL	Level Detected	Range	
						Low	High
Sodium (Well #3 & 5)	9/2/15	ppm	none	none	115	n/a	n/a
Sodium (Well #2)	9/2/15	ppm	none	none	10	n/a	n/a

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

**Lake Huron Water Treatment Plant  
2015 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
<b>Inorganic Chemicals – Monitoring at the Plant Finished Water Tap</b>								
Fluoride	5/11/15	ppm	4	4	0.43	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	5/11/15	ppm	10	10	0.30	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
<b>Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products</b>								
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)	2015	ppb	n/a	80	31	7 - 31	No	By-product of drinking water chlorination
Haloacetic Acids Five (HAA5)	2015	ppb	n/a	60	10	2 - 10	No	By-product of drinking water disinfection
<b>Disinfectant Residuals Monitoring in DWSD Distribution System by Treatment Plant</b>								
Regulated Contaminant	Test Date	Unit	Health Goal MRDGL	Allowed Level MRDL	Highest RAA	Quarterly Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan-Dec 2015	ppm	4	4	0.82	0.71-0.91	no	Water additive used to control microbes
Regulated Contaminant	Treatment Technique							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 deposits

<b>2015 Turbidity – Monitored every 4 hours at Plant Finished Water Tap</b>			
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
0.2 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.			

<b>2015 Microbiological Contaminants – Monthly Monitoring in Distribution System</b>					
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	0	No	Naturally present in the environment.
<i>E.coli</i> Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or <i>E. coli</i> positive.	0	No	Human waste and animal fecal waste.

<b>2014 Lead and Copper Monitoring at Customers' Tap</b>								
Regulated Contaminant	Test Date	Unit	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	2	0	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2014	ppm	1.3	1.3	.22	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	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.	Erosion of natural deposits

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Level Detected	Violation yes/no	Major Sources in Drinking Water
Combined Radium Radium 226 and 228	5/13/2014	pCi/L	0	5	0.86 + or - 0.55	no	Erosion of natural deposits

**2015 Special Monitoring**

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.00	Erosion of natural deposits

Collection, sampling result information and table provided by GLWA Water Quality Division, ML Semegen