

2016 Water Quality Report

Drinking water quality is important to our community and the region. The City of Taylor 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.

Taylor 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 Taylor 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.

Safe drinking water is a shared responsibility. The water that the 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 leach into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in the service pipes throughout the system, including your home or business.

The City of Taylor 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 exposure to lead.

Where does my water come from?

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, 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 (DWSD), and the Michigan Public Health Institute 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 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.

Important health information

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 Safe Drinking Water Hotline at (800) 426-4791.



The sources of drinking water (both tap water 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 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.

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 Taylor Water and Sewer 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 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>.

People with special health concerns

Some people may be more vulnerable to contaminants in drinking water than is 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 infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Taylor and the GLWA 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.



If you would like to know more about this report, need additional copies or have other water-related issues, please contact the Taylor Water and Sewer Department: (734) 374-1373, www.cityoftaylor.com

Southwest Water Treatment Plant 2016 Regulated Detected Contaminants Tables

Regulated Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detected	Violation Yes/No	Major Sources in Drinking Water
Inorganic Chemicals - Monitoring at Plant Finished Water Tap								
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								
Total Trihalomethanes (TTHM)	2016	ppb	n/a	80	27.5	8.4-38	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2016	ppb	n/a	60	14.7	4.1-22	no	By-product of drinking water disinfection
Disinfectant Residuals - Monitoring in Distribution System by Treatment Plant								
Total Chlorine Residual	Jan-Dec 2016	ppm	MRDLG 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 (min. 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	<u>2016</u> 0	no	Naturally present in the environment
E. coli Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or E. coli positive.	<u>2016</u> 0	no	Human waste and animal fecal waste

2014 Lead and Copper Monitoring at Customers' Tap								
Regulated Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level AL	90th Percentile Value*	Number of Samples Over AL	Violation Yes/No	Major Sources in Drinking Water
Lead	2014	ppb	0	15	3.4 ppb	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2014	ppm	1.3	1300	97.6 ppb	0	no	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.

*The 90th percentile value means 90% 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	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 deposits

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

2014 Special Monitoring				
Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	5.41	Erosion of natural deposits

Collection and sampling result information in the table provided by Detroit Water and Sewerage Department (DWSD) Water Quality Division, ML Semegen.

What do these tables mean?

These tables show the results of our water quality analyses. Every regulated and unregulated detected contaminant in the water is listed here. The tables contain contaminant names, the highest detected levels, health goals, the sources in drinking water and if a violation has occurred. Key definitions and/or explanations for each symbol used are listed to the right of the tables.

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 be spread through means other than drinking water.

Definitions

Maximum Contaminant Level Goal (MCLG): level of contaminant in drinking water below which there is no known or expected risk to health.

Maximum Contaminant Level (MCL): highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level Goal (MRDLG): 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.

Maximum Residual Disinfectant Level (MRDL): 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.

Parts per billion (ppb): equivalent to micrograms per liter. A microgram = 1/1000 milligram.

Parts per million (ppm): equivalent to milligrams per liter. A milligram = 1/1000 gram.

Nephelometric Turbidity Units (NTU): Measures the cloudiness of water.

Not Detected (ND)

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

Action Level (AL): concentration of a contaminant which, if exceeded, triggers treatment or other requirements the water system must follow.

Haloacetic Acids (HAA5): total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.

Total Trihalomethanes (TTHM): Sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total.

pCi/l: Picouries per liter is a measure of radioactivity.

Location running annual average (LRAA)

Microhmhos (µmhos): Measure of electrical conductance of water.

Celsius (°C): A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.

n/a = not applicable

> = greater than