

2014 water QUALITY report

CHARTER TOWNSHIP OF PLYMOUTH
DEPARTMENT OF PUBLIC WORKS



Why are we sending this report?

The purpose of this report is to inform you about the source and quality of your drinking water. It is required as part of the annual Consumer Confidence Report (CCR) on water quality and illustrates that we are providing you with a safe and dependable water supply.

How do you know our water is safe?

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 Detroit River have historically provided satisfactory treatment of this source water to meet drinking water standards.

DWSD has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. DWSD participates in a National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. If you would like to know more information about this report or a complete copy of this report please contact DWSD at (313) 964 - 9477.

The Safe Drinking Water Act - What's in it for you?

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 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.

Important information about lead in drinking water

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. Detroit Water and Sewerage Department (DWSD) 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>.

What precautions should you consider?

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 (800-426-4791).

2014 Key to the Detected Contaminant Tables		
Symbol	Abbreviation	Definition/Explanation
>	Greater than	
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers 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 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.
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 total.

Springwells Water Treatment Plant

2014 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
Inorganic Chemicals – Monitoring at Plant Finished Water Tap								
Fluoride	5/13/14	ppm	4	4	0.61	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	5/13/14	ppm	10	10	0.39	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Volatile Organic Contaminants – Monitoring at Plant Finished Water Tap								
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
Xylene	11/12/13	ppm	10	10	0.0009	n/a	no	Discharge from petroleum factories; Discharge from chemical factories
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)	2014	ppb	n/a	80	25.3	14.0-32.0	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2014	ppb	n/a	60	11.8	8.2-13.0	no	By-product of drinking water disinfection
Disinfectant Residuals – Monitoring in Distribution System								
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	2014	ppm	4	4	0.70	0.64-0.74	no	Water additive used to control microbes

2014 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
0.24 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.			

2014 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	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.	0	no	Human waste and animal fecal waste.

2014 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	2014	ppb	0	15	0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2014	ppm	1.3	1.3	0.102	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 TOC removal requirement.	Erosion of natural deposits

2014 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	5.15	Erosion of natural deposits

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

Important Notice Regarding Monitoring Requirements

We are required to monitor your drinking water for specific contaminants on a quarterly basis. Results of such monitoring are an indicator of whether or not our drinking water meets health standards. Earlier this year, one quarterly test Disinfectants and Disinfection Byproducts (DDBP's) that was scheduled to occur in February of 2015 actually occurred on January 29, 2015. Because this test was not performed in February of 2015, we are required to notify you.

What happened? What is being done? Water samples taken on 01/29/2015, should have been taken during the calendar month of February, 2015. Even though the samples were taken a few days early, the samples taken on 01/29/2015 and since then show that all results met acceptable limits. Because of this procedural violation, we are required to notify you. We are making every effort to ensure that this does not happen again.

What should I do? There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time. Even though this is not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation.

The table to the left lists the contaminants we tested for, how often we sample for these contaminants, the sample requirements and the date we collected follow-up samples.

Contaminant	Required sampling frequency	Number of samples taken	Date all samples were taken	When all samples should have been taken	Date additional samples were (or will be) taken	
TTHM ¹	1 sample per quarter (Feb, May, Aug, Nov)	0	01/29/2015	02/01/2015 to 02/28/2015	05/08/2015	<p>1 TTHM, also known as total trihalomethanes, are tested by collecting one sample and testing that sample for chloroform, bromodichloromethane, dibromochloromethane, and bromoform.</p> <p>2 HAA5, also known as haloacetic acids, are tested by collecting one sample and testing that sample for monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.</p>
HAA5 ²	1 sample per quarter (Feb, May, Aug, Nov)	0	01/29/2015	02/01/2015 to 02/28/2015	05/08/2015	

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

For more information, please contact Department of Public Works at (734) 354-3270 Ext. 3 or the Michigan Department of Environmental Quality at 586-753-3755.

This notice is being sent to you by Plymouth Township, Department of Public Works.

Future of Drinking Water Regulations

Currently Plymouth Township is participating in water quality studies as part of the third Unregulated Contaminant Monitoring Rule (UCMR 3). Unregulated contaminants are those for which USEPA has not established drinking water standards. Monitoring helps USEPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. We monitored for these contaminants and results of monitoring are available on request. The results will be used by the EPA to help shape future drinking water regulations.

The results of our water tests are located in the table at right. Information about UCMR 3 or other drinking water regulations is available at the EPA website, www.water.epa.gov/drink.

UCMR 3 CONTAMINANTS THAT WERE DETECTED

Detected Contaminants	Units	Your Water Results		Likely Source
		Average level detected	Range	
Chromium	ppb	0.25	0.23-0.28	Industrial activities; naturally occurring sources
Hexavalent Chromium	ppb	0.09	0.06-0.12	Industrial activities; naturally occurring sources
Strontium	ppb	100.38	96-110	Industrial activities; naturally occurring sources
Vanadium	ppb	0.26	0.21-0.33	Industrial activities; naturally occurring sources

PLYMOUTH TOWNSHIP SENDS OUT WATER QUALITY REPORT

The Plymouth Township Water and Sewer Department has sent out its annual drinking water quality report to consumers.

Among other things, the report discloses the amount of various materials in the water, including microbial and inorganic contaminants, and pesticides and herbicides.

The annual report has been required by law since the U.S. Congress passed the 1996 Safe Drinking Act Amendments.

Most of the Detroit metro area, including Plymouth Township, gets its drinking water from the Detroit River. The Detroit Water and Sewerage Department operates the water treatment facilities and pumping stations that supply water to the township, which operates the pipeline infrastructure and acts as the retailer to area businesses and residents.

Residents or business owners who have not received the report or have further questions can contact the Plymouth Township Water and Sewer Department at (734) 354-3270.

Delivered to Plymouth Observer for Publication 6/29/2015.

2014 Water Quality Report Posting

Front Counter	10
Supervisor's Office	10
Clerk's Office	10
Plymouth Community Library	10
Plymouth-Canton School Board Building	10
Independence Village	10
Visteon, Helm Street	10
Herriman & Associates	10
Johnson Controls	10
Unisys	10

Delivered on 6/30/2015