

# ITEM K-5



## INTEROFFICE MEMORANDUM

TO: Dale Kerbyson, City Manager  
FROM: Pam Reid, Director of Public Works  
DATE: June 7, 2013  
RE: 2012 Consumers Confidence Report

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Attached is a copy of 2012 Consumers Confidence Report. This document is required to be published each year in order to provide information to consumers on water quality. The report includes information on our water system, and information on what is safe drinking water. The report also includes a snap shot of Detroit's process to produce potable drinking water. Much of the data provided in this report is mandated by the Department of Environmental Quality (DEQ).

Each year, changes in the drinking water regulations impact how and what we report in the CCR. The new sampling regulation for 2012 is Disinfection By-Products – Stage 2 sampling. Results from this new sampling regulation have been reported within this report. The City of Lapeer has no violations to report; we met all regulatory requirements.

Additional information was added to this report on water conservation and cross-connection to provide our customers with a better understanding of these two topics and how they affect all water users.

A summary of what you will find in the CCR is as follows:

- Disinfection By-Product – Stage 2 Sampling, 2012
- Lead and Copper Testing, 2011
- Chlorine Residual
- Source Water Assessment, Lake Huron
- Arsenic
- Sodium
- Health effects language
- Test results
- Cross-connection
- Water conservation

This report is scheduled to be published in the County Press on June 23, 2013; it will be posted on the City web page and hand delivered to public places, private and public schools, and the Lapeer County Health Department. If you have any questions or concerns, please feel free to contact me.



## The City of Lapeer Water Department 2012 Consumers Annual Report of Water Quality

June 7, 2013

***Attention: This is an Important Report on Water Quality and Safety***

This information is an overview of the quality of water that the City of Lapeer provided to you in 2012. This report will show you the source of our water; list water test results; and it also contains important information about water and health.

### **About Our System**

The City of Lapeer water system consists of approximately 360,303 linear feet of water main (68.2 miles), 1,302 gate valves, 753 fire hydrants and four (4) back-up wells. Water main size varies from 2" to 20". The wells provide a back-up water supply in the event the Detroit Water System fails. Our wells are capable of producing 4 million gallons a day, and on an average the City uses 1.2 million gallons per day. In the Water Division, we have a wide range of duties that are necessary for providing continuous service and safe drinking water. Our goal is to ensure safe drinking water and provide the highest quality of service to our customers. The City of Lapeer Water Department consists of a determined group of individuals who are vigilant in improving methods and procedures to meet new challenges in maintaining a safe drinking water system.

The water we receive is surface water from Lake Huron. Detroit's water plant is located five miles north of Port Huron. Water for treatment at the Lake Huron plant arrives via a deep tunnel with an intake located 5 miles out in Lake Huron – at a depth of 45'.

In the event that concern over water quality develops, the city will notify you immediately through cable, radio, television, and newspapers.

### **Detroit - How Do We Know the Water is Safe to Drink?**

Detroit treatment facilities operate 24 hours a day, seven days a week. 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 and decay. The water then flows through fine sand filters called beds. These filters remove even more particles and certain microorganisms that are resistant to chlorine. Finally, a small amount of phosphoric acid and chlorine are added to the treated water just before it leaves the treatment plant. 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 water mains to reach your home.

Detroit Water not only meets safety and health standards, but also ranks among the top 10 in the country for water quality and value.

### **Required language source water protection Lake Huron intake; for communities receiving water from the Lake Huron Plant:**

Your source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of potential contamination. The susceptibility rating is a seven-tiered scale ranging from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

If you would like to know more information regarding this source water or a complete copy of this report, please contact Detroit Water and Sewer at (313)-926-8136.

## **Additional Information**

*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.*

*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.*

*Drinking water, including bottle water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the 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.*

### **Required 2010 Unregulated contaminant monitoring language for all the water plants:**

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 2009 – April 2010, the Detroit Water and Sewerage Department (DWSD) began monitoring quarterly for unregulated contaminants under the Unregulated Contaminant Monitoring Rule 2 (UCMR2.) All the UCMR2 contaminants monitored on List 1 and List 2 in 2008 - 2009 were undetected.

### **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 (800)426-4791.*

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 homes plumbing. If you are concerned about elevated levels of lead 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 at (800) 426-4791 or at <http://www.epa.gov/safewater/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 Lapeer* is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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 homes plumbing. 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 at (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

The table on this page is a key to the terms used in the tables.

<i>Key to Detected Contaminants Tables</i>		
<i>Symbol</i>	<i>Abbreviation for</i>	<i>Definition/Explanation</i>
<i>MCLG</i>	<i>Maximum Contaminant Level Goal</i>	<i>The level of contaminant in drinking water below which there is no known or expected risk to health.</i>
<i>MCL</i>	<i>Maximum Contaminant Level</i>	<i>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.</i>
<i>MRDLG</i>	<i>Maximum Residual Disinfectant Level Goal</i>	<i>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.</i>
<i>MRDL</i>	<i>Maximum Residual Disinfectant Level</i>	<i>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.</i>
<i>ppb</i>	<i>Parts per billion (one in one billion)</i>	<i>The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.</i>
<i>ppm</i>	<i>Parts per million (one in one million)</i>	<i>The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.</i>
<i>NTU</i>	<i>Nephelometric Turbidity Units</i>	<i>Measures the cloudiness of water.</i>
<i>ND</i>	<i>Not Detected</i>	
<i>TT</i>	<i>Treatment Technique</i>	<i>A required process intended to reduce the level of a contaminant in drinking water.</i>
<i>AL</i>	<i>Action Level</i>	<i>The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.</i>
<i>HAA5</i>	<i>Haloacetic acids</i>	<i>HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.</i>
<i>TTHM</i>	<i>Total Trihalomethanes</i>	<i>Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total.</i>
<i>pCi/l</i>	<i>Picocuries per liter</i>	<i>A measure of radioactivity</i>
<i>n/a</i>	<i>Not applicable</i>	
<i>&gt;</i>	<i>Greater than</i>	

<b>Regulated Contaminant</b>	<b>Treatment Technique</b>	<b>Running annual average</b>	<b>Monthly Ratio Range</b>	<b>Violation Yes/No</b>	<b>Typical Source of Contaminant</b>
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

Lake Huron Water Treatment Plant  
2012 Regulated Detected Contaminants Tables

Contaminant	Test Date	Units	Health Goal <b>MCLG</b>	Allowed Level <b>MCL</b>	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	8/14/2012	ppm	4	4	0.71	n/a	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	8/14/2012	ppm	10	10	0.32	n/a	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium	6/9/2008	ppm	2	2	0.01	n/a	No	Discharge of drilling waste; Discharge from natural refineries; Erosion of natural deposits.

Contaminant	Test Date	Units	Health Goal <b>MCLG</b>	Allowed Level <b>MCL</b>	Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
<b>Disinfection By-Products – Stage 1, 1<sup>st</sup> Quarter Monitoring in Distribution System –City of Detroit</b>								
Total Trihalomethanes (TTHM)	Feb 2012	ppb	n/a	80	18.3	15.0	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Feb 2012	ppb	n/a	60	11.9	9.8	no	By-product of drinking water disinfection
<b>Disinfection By-Products – Stage 2, 2<sup>nd</sup> - 4<sup>th</sup> Quarters Monitoring in Distribution System – City of Detroit</b>								
Total Trihalomethanes (TTHM)	2012	ppb	n/a	80	n/a		no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2012	ppb	n/a	60	n/a		no	By-product of drinking water disinfection
<b>Disinfectant Residuals Monitoring in Distribution System- City of Detroit</b>								
Disinfectant (Total Chlorine residual)	Jan-Dec 2012	ppm	<b>MRDL</b> 4	<b>MRDL</b> 4	0.76	0.71-0.80	no	Water additive used to control microbes

<b>2012 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
0.13 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.			

2012 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.74	Erosion of natural deposits

Information and tables provided by Detroit Water and Sewerage Department (DWSD) ML S

City of Lapeer, 2012 Regulated Contaminants Tables

<b>2012 Microbiological Contaminants – Monthly Monitoring in Distribution System – City of Lapeer</b>					
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 or fecal coliform 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.

## 2011 Lead and Copper Monitoring at Customers' Tap – City of Lapeer

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	2011	ppb	0	15	0	-0-	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2011	ppm	1.3	1.3	0.14	-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	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Average Range of Detection	Violation yes/no	Major Sources in Drinking Water
<b>Disinfection By-Products – Stage 2 Sampling - Distribution System – City of Lapeer</b>								
Total Trihalomethanes (TTHM)	May 2012- February 2013	ppb	n/a	80	56	32	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	May 2012- February 2013	ppb	n/a	60	17	9.55	No	By-product of drinking water disinfection
<b>Disinfectant Residuals Monitoring in Distribution System –City of Lapeer</b>								
Disinfectant (Total Chlorine residual)	Jan-Dec 2012	ppm	MRDGL 4	MRDL 4	1.10	.17 - 1.10	No	Water additive used to control microbes

The State allows us to monitor for certain contaminants less than once per year because of 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, but some are more than one year old.

### Water Conservation:

Everyone can play a role in water conservation. Water conservation not only protects the environment, but may help reduce your utility bill. Water Conservation is being aware of how you are using water and adding measures to reduce your water usage. Listed below are a few tips:

- Toilets are the most common cause for high water bills. It is an unseen and often unheard leak that goes down the sewer. To check a toilet for leaks add food dye to the tank, wait 15 to 20 minutes without flushing. If the food coloring appears in the bowl, there is a leak. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak.
- Turn off your water when brushing your teeth. You lose between 4 to 6 gallons of water when you leave the water on while you brush.
- On the average 5% of your water consumption is used in the kitchen. There are several things you can do to reduce this water usage such as; scrape dishes without using water and don't rinse them before putting them in a dishwasher; clean vegetables in a pan of water rather than under running tap water, then use that water to give your plants a drink; run the dishwasher only when it is full; and use the garbage disposal sparingly.
- Fix dripping faucets. A faucet that drips 60 times per minute can waste up to 3 gallons per day or 1,225 gallons each year.

### Cross Connections:

What are cross connections? A cross connection is a connection where non-drinking water or contaminants can enter the drinking water system through backflow or a back siphon. A back siphon can occur when pressure is reduced causing suction that pulls contaminants into the drinking water system. A main break is an example of what can cause a back siphon. Back pressure can take place when pressure inside a building becomes greater than the public water system pressure. Back pressure can be created by a fire suppression pump or other pressure creating equipment used in manufacturing. Back flow devices are required at specific locations as a safety precaution to assist in preventing back flow that is created by a back siphon or back pressure.

A cross connection can pose a serious health issue and are prohibited within a drinking water system. Cross-connection inspections are performed throughout the year to ensure a cross connection does not exist within a business or a residential sprinkler system and backflow devices are tested annually.

Outside water taps and garden hoses are the most common sources of cross-connection contaminations at home. A garden hose can create a hazard when left submerged in a bucket of dirty water or if laying on the ground it may be contaminated by fertilizers, cesspools, or garden chemicals.

#### **Monitoring and Reporting Requirements:**

The State and EPA requires us to test our water on a regular basis to ensure its safety. We have met all the monitoring and reporting requirements for 2011.

The EPA recommends reporting results from any voluntary monitoring that is above a proposed MCL or above a level of concern. The detected unregulated contaminants in the tables shown do not meet this criteria.

**We are committed to providing you safe, reliable, and healthy water. We are pleased to provide you with this information to keep you fully informed about your water. We will be updating this report annually, and will also keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at City Hall, the Department of Public Works and the County Health Department. This report will not be sent to you.**

*We welcome your comments and opinions about this report and will be happy to answer any questions you may have. Please direct your comments or questions to Pam Reid - City of Lapeer, Water Department at (810) 664-4711.*

**Agradecemos sus comentarios y opiniones acerca de este informe y estaremos encantados de responder a cualquier pregunta que usted pueda tener. Por favor, dirija sus comentarios o preguntas a Pam Reid - Ciudad de Lapeer, en el Departamento de Aguas (810) 664-4711.**