



## The City of Lapeer Water Department 2008 Consumers Annual Report of Water Quality

May 29, 2009

***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 2008. 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 329,472 linear feet of water main (62.4 miles), 1,245 gate valves, 671 fire hydrants and three (3) back-up wells. Water main size varies from 2" to 18". The wells provide a back-up water supply in the event the Detroit Water System fails. Our wells are capable of producing 2 million gallons a day, and on an average the City uses 1.3 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 is proud of the job it does maintaining the 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 about the Detroit Water System, or a copy of the Lake Huron Source Water Assessment Report, please visit the Detroit Water and Sewerage Department's website at [www.dwsd.org](http://www.dwsd.org) or contact Laura Thome at 313-926-8136 or [lthome@dwsd.org](mailto:lthome@dwsd.org)

## **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.*

***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.***

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

### **Required 2008 Cryptosporidium language for one or more of the following water plants; Water Works Park, Northeast, Springwells, and Southwest.**

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. Cryptosporidium was detected once, during a twelve-month period at our Detroit River intake plants. 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, immuno-compromised 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.

### **Required 2008 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 2008, 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 were undetected. For additional information visit Detroit Water and Sewer Department web site at [www.dwsd.org](http://www.dwsd.org) or contact Lauren Thome at 313-926-8136.

**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.”

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>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>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  
2008 Regulated Detected Contaminants Tables

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	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	9/9/2008	ppm	4	4	1.15	n/a	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	9/9/2008	ppm	10	10	0.33	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.
<b>Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System – City of Detroit</b>								
Total Trihalomethanes (TTHM)	Feb-Nov 2008	ppb	n/a	80	16.2	6.6-31.9	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Feb-Nov 2008	ppb	n/a	60	8.5	4.3-12.7	No	By-product of drinking water disinfection
Disinfectant (Total Chlorine residual)	Jan-Dec 2008	ppm	MRDGL 4	MRDL 4	0.72	0.54-0.86	No	Water additive used to control microbes

<b>2008 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
0.11 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.			

City of Lapeer, 2008 Regulated Contaminants Tables

<b>2008 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.

<b>2008 Lead and Copper Monitoring at Customers' Tap – City of Lapeer</b>								
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	2008	ppb	0	15	3.0 ppb	0	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2008	ppm	1.3	1.3	0.043 ppm	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.								

## Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System – City of Lapeer 2008

Contaminate	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Level Detected (average)	Range of Detection	Violation Yes/No	Major Sources in Drinking Water
Total Trihalomethane (TTHM)	Nov-Aug 2008	ppm	n/a	80 ppm	0.0195 ppm	0.0074-0.0410	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Nov-Aug 2008	ppm	n/a	60 ppm	.0085 ppm	0.001-0.018	no	By-product of drinking water disinfection
Disinfectant (Total Chlorine Residual)	Jan-Dec 2008	ppm	MRDGL 4	MRDL 4	.60 ppm	0.17- 0.92	no	Water additive used to control microbes

### 2008 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.38	Erosion of natural deposits

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.

#### 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 2007.

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.**