



## The City of Lapeer Water Department 2007 Consumers Annual Report of Water Quality

May 21, 2008

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

This information is a overview of the quality of the water that we provided to you in 2007. This will show you the source of our water, list the results of our tests, 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 continues service and safe drinking water. The City of Lapeer has a goal 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.

### **Mandatory Language for Lake Huron Plant Source Water Assessment**

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 to determine the susceptibility of potential contamination. The susceptibility rating is a seven-tiered scale ranging from moderately 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, [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.

### 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.

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

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

Lake Huron Water Treatment Plant  
2007 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	8/8/2007	ppm	4	4	1.23	n/a	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	8/8/2007	ppm	10	10	0.28	n/a	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System</b>								
Total Trihalomethanes (TTHM)	Feb-Nov 2007	ppb	n/a	80	17.4	9.3-40.3	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Feb-Nov 2007	ppb	n/a	60	11.0	2.6-15.2	No	By-product of drinking water disinfection
Disinfectant (Total Chlorine residual)	Jan-Dec 2007	ppm	MRDLG 4	MRDL 4	0.70	0.56-0.83	No	Water additive used to control microbes

<b>2007 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.			

<b>2007 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>2005 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	2005	ppb	0	15	0 ppb	0	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2005	ppm	1.3	1.3	0.12 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.								

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

## 2007 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.01	Erosion of natural deposits

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.

### 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.”*

Treatment Technique							
Regulated Contaminant	MCL	Treatment Technique (TT) Standard	Treatment Technique (TT) Violation yes/no	Reason for violation	Action Taken	Major Sources in Drinking Water	Health Effects
Lead	TT	No more than (9) days in a six (6) month period below the established minimum.	Yes	During a 14-day period in January and February, phosphate pump malfunctions resulted in below optimal dosages. Phosphate was added to the water, but at a dosage below the state designated minimum. Despite this lower than acceptable dosage, phosphate residual concentrations in water leaving the plant and entering the distribution system were maintained above the established minimum.	The chemical feed pumps have all been repaired.	Corrosion of household plumbing system; Erosion of natural deposits.	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Copper	TT	No more than (9) days in a six (6) month period below the established minimum	Yes	During a 14-day period in January and February, phosphate pump malfunctions resulted in below optimal dosages. Phosphate was added to the water, but at a dosage below the state designated minimum. Despite this lower than acceptable dosage, phosphate residual concentrations in water leaving the plant and entering the distribution system were maintained above the established minimum.	The chemical feed pumps have all been repaired.	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson’s disease should consult their personal doctor.

**Educational information about lead if more than 5% and up to and including 10% of homes sampled exceed 15 ppb AL. <sup>1</sup>[If your system samples fewer than 20 sites and has even one sample above the AL , you’ll need to include the standard explanation for an AL exceedance]**

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. 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>

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.

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

*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.*

**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 these tables do not meet these 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.**

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