

# **Annual Drinking Water Quality Report For 2009**

**City of Lockport Department of Public Utilities  
Division of Water  
One Locks Plaza  
Lockport, NY 14094  
Public Water Supply ID# NY3100564**

## **INTRODUCTION**

To comply with State and Federal regulations, the City of Lockport Water Department will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all New York State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water standard. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions concerning this report or your water utility, please contact Paula Sattelberg, Director of Utilities, 433-1646 ext 302 or Peter Degnan, Chief Water Treatment Plant Operator, 433-1645 ext 303. Attending the City Common Council Meetings scheduled for the first and third Wednesday of each month afford opportunities for public participation in decisions that may affect the quality of your water.

## **WHERE DOES OUR WATER COME FROM?**

In general, 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 activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The primary source of water for the City of Lockport is the East Branch of the Niagara River. The quantity and quality of your source of raw water is considered excellent by Niagara County Health Department standards. During 2009, our system did not experience any restriction of our water source. At the Raw Water Pumping Station (1968), chlorination is utilized for disinfection and zebra mussel control. The raw water is then pumped 13 miles through a 30-inch forced main to the Lockport Water Treatment Plant (1930) located at 220 Summit St.

The water treatment plant employs conventional treatment processes of coagulation, sedimentation, filtration, chlorination and fluoridation. Coagulation and sedimentation are used to settle out particles (dirt) before filtration. Filtration removes or filters out fine organic and inorganic particles that did not settle out of the water during the sedimentation process. Chlorine is used to disinfect the water and provide a residual disinfectant that ensures the sanitary quality of the water as it is pumped from the water treatment plant to your home. Fluoride is added to the water to help prevent dental cavities.

## **CITY OF LOCKPORT SWAP SUMMARY**

The New York State Department of Health recently completed a draft Source Water Assessment of the supply's raw water source under the States Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public water supply (PWS) sources. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety or quality of treated finished potable tap water. The Great Lakes' watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for public water supplies which use these sources include: storm generated turbidity, wastewater, toxic sediments, shipping related spills, and problems associated with exotic species (e.g. zebra mussels - intake clogging and taste and odor problems). The SWAP is based on the analysis of the contaminant inventory compiled for the drainage area deemed most likely to impact drinking water quality at this public water supply raw water intake. This assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of residential land in the assessment area results in elevated potential for microbials, disinfection byproduct precursors, turbidity and pesticides contamination. There is also a high density of sanitary wastewater discharges, which results in

elevated susceptibility for numerous contaminant categories. Non-sanitary wastewater could also impact source water quality. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: Chemical Bulk Storage facilities, Inactive Hazardous Waste Sites, Landfills, Toxic Release Inventory data, Municipally Operated Sewage Facilities and Resources Conservation and Recovery Act (RCRA) facilities. Limited copies of the SWAP report may be obtained at the Water Office in City Hall.

**FACTS AND FIGURES**

The City of Lockport Water Treatment Plant is a 12 million gallon a day plant (designed capacity of 16 million gallons) owned by and servicing the City of Lockport. Our water system serves a population of 22,500 residents through 8,000 service connections. The total water produced in 2009 was 1.82 billion gallons of water. The average daily water treated and pumped into the distribution system was 4,976,034 gallons per day. Our highest single day was 6,413,151 gallons. The amount of water delivered to customers was 0.98 billion gallons. This leaves an unaccounted for total of 840,528,134 million gallons (46% of the total amount produced). This water was used to flush mains, fight fires but the majority was lost through leakage within the City’s aging water mains. The average family of four used 78,000 gallons a year (10,400 cubic feet) at a cost of \$410 (less than 1¢ per gallon). The City of Lockport and the Niagara County Water District are interconnected via a 20-inch water main. Both water systems benefit from the ability to deliver water to one another if the need arises.

**ARE THERE CONTAMINANTS IN OUR DRINKING WATER?**

The City of Lockport Water Department routinely monitors for contaminants in your drinking water according to Federal and State laws. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. The contaminants detected in your drinking water are included in the following table. It is important to remember that the presence of these contaminants does not necessarily pose a health risk. Your drinking water meets or exceeds all Federal and State requirements. More information about contaminants and potential health effects can be obtained by calling the EPA’s Safe Drinking Water Hotline (800-426-4791) or the Niagara County Health Department at (716) 439-7444.

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. As water travels over the surface of the land or through the ground, it dissolves many substances. Some occur naturally and some result from the presence of animals and humans. Contaminants that may be present in our source water include: microbes (ex. bacteria, viruses), inorganic compounds (ex. lead, copper), organic compounds (ex. pesticides, herbicides) and radioactive compounds (ex. alpha radiation). In order to ensure our drinking water is safe, the State and Federal Governments have prescribe regulations that limit the amount of certain contaminants in our tap water.

The table presented below lists compounds that were detected in your drinking water. The State allows us to test for some contaminants less than once a year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. Unless otherwise noted test results were from the period of January 1st to December 31st, 2009. Limited copies of this report may be obtained at the Water Office in City Hall or viewed on the Internet site “www.elockport.com”. Click on City, Water and Sewer.

**Table of Detected Contaminants**

Contaminate	Violation Y/N	Date of Sample	Unit Measurement	Level Detected (Avg/Max) (Range)	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source Of Contamination
<b>Microbiological Contaminants</b>							
Turbidity <sup>1</sup>	N	2/26/09	NTU	0.38	N/A	TT= $\leq$ 1 NTU	Soil Runoff
Turbidity <sup>1</sup>	N	2/09	NTU	99.4% $\leq$ 0.3	N/A	TT= 95% samples $\leq$ 0.3 NTU	Soil Runoff
<b>Radioactive Contaminants</b>							
Gross Alpha	N	2/6/08	pCi/l	1.23 $\pm$ 0.58	0	15	Erosion of natural deposits
Radium 226	N	2/6/08	pCi/l	0.12 $\pm$ 0.06	0	5	Erosion of natural deposits

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Contaminant	Violation Y/N	Date of Sample	Unit Measurement	Level Detected (Avg/Max) (Range)	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source Of Contamination
Radium 228	N	4/10/08	pCi/l	0.97 0.40 – 2.28	0	5	Erosion of natural deposits
<b>Inorganics</b>							
Arsenic	N	3/4/09	µg/l	0.5	N/A	10	Erosion of natural deposits; runoff from orchards; Runoff from glass and electronics production wastes.
Barium	N	3/4/09	µg/l	20.4	2000	2000	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Copper	N	6/2008	µg/l	64.5 <sup>2</sup> 4.4 – 380	1300	AL = 1300	Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives
Fluoride	N	1-12/09	mg/l	1.0 0.8 – 1.3	N/A	MCL=2.2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	N	6/2008	µg/l	5.9 <sup>3</sup> ND – 39.3	0	AL = 15	Corrosion of household plumbing systems, erosion of natural deposits
Mercury	N	3/4/09	µg/l	0.2	2	MCL=2	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland.
Nickel	N	3/4/09	µg/l	1.6			
Nitrate as Nitrogen	N	5/6/09	mg/l	0.14	10	MCL=10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium	N	3/4/09	mg/l	10.9	N/A	AL=20.0	Naturally occurring; road salt; water softeners; animal waste
<b>Disinfection Byproducts</b>							
Total Trihalomethanes	N	10/09	µg/l	27.5 16.5 – 47.9	N/A	MCL=80	Byproduct of drinking water chlorination

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Contaminant	Violation Y/N	Date of Sample	Unit Measurement	Level Detected (Avg/Max) (Range)	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source Of Contamination
Haloacetic Acids	N	7/09	µg/l	16.4 6.8 – 27.0	N/A	MCL=60	Byproduct of drinking water chlorination
<b>Disinfectants</b>							
Chlorine Residual	N	1-12/09	mg/l	0.79 0.57-1.62	N/A	MRDL= 4 <sup>4</sup>	Byproduct of drinking water chlorination
<b>Other Principle Organic Contaminants</b>							
Bromomethane (Methyl Bromide)	N	3/4/09	µg/l	1.5*	N/A	MCL=5	Used to kill a variety of pests; used to make other chemicals or as a solvent to get oil out of nuts, seeds, and wool.

\*Found in method blank

- 1- Turbidity is a measure of the cloudiness of the water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement (0.38) for the year occurred on 2/26/2009. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95% of the filtered water turbidity samples have measurements below 0.3 NTU. The turbidity values of all samples collected were below 0.3 NTU 99.95 % of the time.
- 2- The level presented represents the 90th percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected in the distribution system. In this case, 30 samples were collected from the distribution system and the 90th percentile value was the third highest value. The action level (AL) for copper was not exceeded at any of the sites tested.
- 3- The level presented represents the 90th percentile of the 30 samples collected. The action level for lead was exceeded at one of the 30 sites tested.
- 4- The value represents the Maximum Residual Disinfection Level (MRDL), which is a level of disinfectant added for water treatment that may not be exceeded at the consumer’s tap without an unacceptable possibility of adverse health effects.

In the above table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

**Non-Detects (ND)** - laboratory analysis indicates that the constituent is not present.

**Parts per million (ppm) or Milligrams per liter (mg/l)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter (µg/l)** - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per trillion (ppt) or Nanograms per liter (ng/l)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**Parts per quadrillion (ppq) or Picograms per liter (pg/l)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

**Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

**Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**Maximum Contaminant Level (MCL)** - The “Maximum Allowed” is 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.

**Maximum Contaminant Level Goal (MCLG)** - The “Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level (MRDL)** – 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.

N/A – Not applicable

**Million Fibers per Liter (MFL)** - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

### **WHAT DOES THIS INFORMATION MEAN?**

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State. It should be noted that the action level for lead was exceeded in one of the samples collected. We are required to present the following information on lead in drinking water:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. 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 home’s plumbing. The City of Lockport Water 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791). Information on Cryptosporidiosis and Giardiasis is also available by contacting the NCDOH, 5467 Upper Mountain Rd, Lockport, NY. 14094 or phone (716) 439-7444.

### **Information on Fluoride Addition**

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis. During 2009, monitoring showed fluoride levels in your water were in the optimal range 99% of the time. None of the monitoring results showed fluoride levels that approach the 2.2 mg/L MCL for fluoride.

### **Water Conservation**

Unlike many areas of the country, the City of Lockport has access to more than enough water to meet its current and future needs. In many areas of the country, local or regional water shortages exist, at least for parts of the year. Although our water supply source is adequate, we need to use it wisely. In an effort to promote the wise use of water, to avoid waste and reduce our energy demands, we offer the following conservation tips:

1. Fix leaking faucets. A drop a minute can amount to 2,400 gallons over the course of a year.
2. Check your toilet(s) for leaks. Leaking toilets not only waste water but also are the leading cause of high water bills. Leaking toilets can waste up to 500 gallons of water per day. To check your toilet for leaks, place a few drops of food coloring in the back of your toilet. Let it sit for approximately an hour or so without using the toilet. If the food coloring is present in the bowl, the toilet is leaking.
3. Use water saving devices such as flow restricting showerheads, low flow faucets (aerators) and low flow flush toilets.
4. Do full loads when washing clothes and dishes. Use a garbage disposal sparingly. They waste water.
5. Water your lawn only when necessary. The most effective time to water is before 10:00 am. After that time you will lose

water through evaporation.

6. If you have a swimming pool, fill it during the night when demands on power and production systems are less.
7. When washing your car, use a bucket for washing and turn on the hose only for rinsing.

### **Revenues and Expenditures**

During 2009, the City of Lockport Water Department spent \$3,419,472 and received revenues of \$3,637,535. A major portion of the Department's expenditures are the principal and interest payments associated with the replacement of approximately 10 miles of the 30 inch raw water transmission main between North Tonawanda and Lockport during the years 1990 - 1993.

### **System Improvements**

In 2008, we initiated a program to replace water and sewer lines in a city wide cooperative effort. In the Fall of 2008 and Spring of 2009, two blocks of Massachusetts Avenue had its water and sewer lines replaced by city crews. Also water and sewer lines were replaced on Church St. during Summer/Fall 2009, again by city crews. We also are continuing an aggressive leak detection program. This has resulted in less water being dispensed to the City. We are continuing to replace meters with remote read meter heads. These meter heads allow us to read meters simply by driving by the residence. In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The City's water system consists of approximately 100 miles of pipe, ranging in size from 4 to 30 inches in diameter. The majority of this pipe (60%) is 6-inch cast iron, installed in the late 19th century and early 20th century. These same pipes that deliver drinking water to your home are at or very near their life expectancy and will need to be replaced within the next 30 years. The cost of replacement will be reflected in the water rate structure. The City of Lockport Water Department faces the difficult challenge of replacing its aging infrastructure and at the same time keeping water affordable for all its residents.

### **Closing**

Thank you for allowing us to continue to provide your family with quality drinking water. We at the City of Lockport Water Department work around the clock to provide top quality water to every tap. Your Water Department is staffed by a competent group of professional people dedicated to this task. We ask that all our customers help us protect our water sources, which are the heart of our community and our way of life. Please call our office if you have questions.