

Annual Drinking Water Quality Report for 2011
East Aurora Water Dept
571 Main St. East Aurora, NY 14052
(Public Water Supply ID# 1400433)

INTRODUCTION

To comply with State regulations, East Aurora Water Dept 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 State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality 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 about this report or concerning your drinking water, please contact Jeremy Ling., Water Dept Foreman at 652-6057. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled village board meetings on the 1st and 3rd Monday of the month. The meetings are held at the Village Hall Board room at 7:00pm.

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.

Our water is purchased from Erie County Water Authority. The Water is stored in two 1 million gallon tanks, one is located on Center Street and the other is located on Castle Hill. During 2011, our system did not experience any restriction of our water source.

FACTS AND FIGURES

Our water system serves 6610 people through 2700 connections. The total water purchased in 2011 was 241 million gallons. The amount of water delivered to customers was 190 million gallons. This leaves an unaccounted for total of 51 million gallons. This water was used to flush mains, fight fires and lost due leakage. In 2011, water customers were charged on average \$ 3.34 per 100 cubic feet of water.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes. The attached report from The Erie County Water Authority depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. It should be noted that all drinking water, including bottled drinking water, may be reasonably 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 EPA's Safe Drinking Water Hotline (800-426-4791) or the Erie County Health Department at 716-961-6800

Violation	Contaminant	Sample Date	Level Detected (90th percentile/range)	Unit Measure	MCLG	Regulatory Limit	Likely Source of Contamination
NO	Copper	9/2009	0.066 (1) 0 – 0.17	mg/l	1.3	AL=1.3	Corrosion of household plumbing systems; Erosion of natural deposits
NO	Lead	9/2009	0.005 (2) 0 – 0.012	mg/l	0	AL=.015	Corrosion of household plumbing systems; Erosion of natural deposits
Violation	Contaminant	Sample Date	Level Detected (avg/ range)	Unit Measure	MCLG	Regulatory Limit	Likely Source of Contamination
NO	Chlorine Residual	2011	0.71 0.02–1.35	mg/l	MRDLG=4.0	MRDL=4.0	Added for disinfection

1. The level presented represents the 90th percentile of the 20 sites tested. The action level for copper was not exceeded at any of the 20 sites tested.

2. The level presented represents the 90th percentile of the 20 sites tested. A percentile is a value on a scale of 100 that indicates the percentage of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead values detected in your water system. The action level for lead was not exceeded at any of the sites tested.

Definitions:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): 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 contamination.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Miligrams per liter(mg/l): corresponds to one part of liquid in one million parts of liquid (parts per million – ppm).

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

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.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2011, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ◆ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ◆ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ◆ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ◆ Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- ◆ Turn off the tap when brushing your teeth.
- ◆ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.
- ◆ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- ◆ Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes, if it moved, you have a leak.

SYSTEM IMPROVEMENTS

There were no major improvements made to our system during the past year.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions. (East Aurora Water Dept 652-6057)



ERIE COUNTY WATER AUTHORITY

2011 WATER QUALITY MONITORING REPORT - ANNUAL WATER QUALITY REPORT SUPPLEMENT



DETECTED CONTAMINANTS						
Metals, Inorganics, Physical Tests	Violation Yes/No	Sample Date (or date of highest detected)	MCL	MCLG	Level Detected	Sources in Drinking Water
Barium	No	11/11	2 mg/liter	NE	0.021 - 0.023 mg/liter ; Average = 0.022	Erosion of natural deposits; drilling and metal wastes
Chloride	No	8/11	250 mg/liter	NE	16 - 49 mg/liter ; Average = 20	Naturally occurring in source water
Chlorine	No	8/11	MRDL = 4.0 mg/liter	MRDLG = 4 mg/liter	<0.20 to 1.88 mg/liter; Average = 0.75	Added for disinfection
Copper	No	8/10	1.3 mg/liter (AL)	0 mg/liter (AL)	0.0005 - 0.04 mg/liter, 90th percentile 0.03 mg/liter, 0 of 79 above AL	Home plumbing corrosion; natural erosion
Fluoride ¹	No	1/11	2.2 mg/liter	2.2 mg/liter	0.67 - 1.25 mg/liter; Average = 0.97; 99 % in optimum range 0.8 - 1.2	Added to water to prevent tooth decay
Lead ²	No	8/10	15 ug/liter (AL)	0 ug/liter (AL)	ND - 8 ug/liter, 90th percentile 3 ug/liter, 0 of 79 above AL	Home plumbing corrosion; natural erosion
Nitrate	No	11/11	10 mg/liter	10 mg/liter	0.17 to 0.19 mg/liter; Average = 0.18	Runoff from fertilizer use
pH	No	4/11	NR	NE	7.32 to 8.14; Average 7.82 SU	Naturally occurring; adjusted for corrosion control
Turbidity ³	No	7/11	TT	NE	0.41 NTU highest detected; 99.4% was lowest monthly % < 0.30 NTU	Soil runoff
Turbidity, Distribution System	No	4/11	5 NTU	NE	0.04-0.98 NTU, Average = 0.25	Soil runoff

¹ 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, the addition of fluoride is very effective means of preventing cavities. To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health (NYSDOH) requires that the Erie County Water Authority monitor fluoride levels on a daily basis. The NYSDOH recommends an optimal range of 0.8 to 1.2 mg/l (parts per million). During the addition of fluoride in 2011, monitoring showed fluoride levels in your water were in the optimal range 99% of the time. None of the monitoring results during fluoride addition showed fluoride at levels that approached the 2.2 mg/l MCL for fluoride.

² Lead is not present in the drinking water that is treated and delivered to your home. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. The Erie County Water Authority 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 (800-426-4791) or at www.epa.gov/safewater/lead.

The level presented represents the 90th percentile of the 79 sites tested. A percentile is a value on a scale of 100 that indicates a percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead or copper values detected in the water system. In this case, 79 samples were collected in the water system and the 90th percentile value for lead was the eighth highest value (3 ug/L). The action level for lead was not exceeded in any of the samples tested.

³ Turbidity is a measure of the cloudiness of water. ECWA monitors turbidity because it is a good indicator of the effectiveness of our filtration system. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for bacterial growth. State regulations require that the delivered water turbidity must always be below 1 NTU in the combined filter effluent. The regulations also require that 95% of the turbidity samples collected have measurements below 0.3 NTU. On 3/09/11 a check valve malfunctioned at the Sturgeon Point WTP causing turbidity excursions in 3 filters. Repairs and adjustments were made and turbidities returned below 0.3 ntu. The combined filter effluent at the plant remained in compliance at all times during this treatment issue. On 11/16/11 a coagulant aid pump malfunctioned at the Sturgeon Point WTP causing turbidity excursions in 7 filters. Repairs and treatment adjustments were made and turbidities returned below 0.3 ntu. The combined filter turbidity was recorded at 0.41 NTU at the 8AM reading during that day. Additional sampling and bacteriological testing was performed in the plant and monitored in the water system during this event and all bacteriological test results were negative at all times.

Organic Compounds	Violation Yes/No	Sample Date (or date of highest detected)	MCL (ug/liter)	MCLG (ug/liter)	Level Detected (ug/liter)	Sources in Drinking Water
Total Trihalomethanes ⁴	No	8/11	RAA < 80	NE	15 - 87 ug/liter; RAA = 39	By-product of water disinfection (chlorination)
Total Haloacetic Acids ⁵	No	3/11	RAA < 60	NE	9 - 29 ug/liter; RAA = 17	By-product of water disinfection (chlorination)

⁴ Trihalomethanes are byproducts of the water disinfection process that occur when natural organic compounds react with the chlorine required to kill harmful organisms in the water. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. The level detected represents the highest running annual average of quarterly results. This result (39 ug/L) is below the MCL.

⁵ Haloacetic acids are byproducts of the water disinfection process required to kill harmful organisms. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. The level detected represents the highest running annual average of quarterly results. This result (17 ug/L) is below the MCL.

Microbiological Parameters	Violation Yes/No	Sample Date (or date of highest detected)	MCL	MCLG	Level Detected	Sources in Drinking Water
Total Coliform Bacteria	No ⁶	7/11 ⁷	>5% of samples positive	NE	0.42% = highest percentage of monthly positives	Naturally present in environment

⁶ A violation occurs when more than 5% of the total coliform samples collected per month are positive. No MCL violation occurred.

⁷ During May, one distribution system sample tested positive for total coliform and in March and July one entry point sample at the Sturgeon Point Water Treatment Plant tested positive for total coliform. In all cases, follow-up sampling, testing and reporting were performed as required by regulation, and the results were negative for both total coliform and *E. coli*.

CRYPTOSPORIDIUM AND GIARDIA	Violation Yes/No	Sample Date (or date of highest detected)	Number of Samples Testing Positive		Number of Samples Tested
			Giardia	Cryptosporidium	
Source Water	No	3/11	5	0	23
Treated Drinking Water	No	ND	0	0	23

Cryptosporidium is a microscopic pathogen found in surface waters throughout the United States, as a result of animal waste runoff. It can cause abdominal infection, diarrhea, nausea, and abdominal cramps if ingested. Our filtration process effectively removes *Cryptosporidium*. No *Cryptosporidium* was detected in any samples taken in 2011.

Giardia is a microbial pathogen present in varying concentrations in many surface waters. In 2011, *Giardia* was detected in 5 of 23 raw source water samples but was not detected in any treated drinking water samples. *Giardia* is removed/inactivated through a combination of filtration and disinfection or by disinfection alone.

UNREGULATED SUBSTANCES				
Parameter	MCL	MCLG	Average Level Detected (mg/liter)	Range (mg/liter)
Alkalinity	NR	NE	91	61 - 97
Calcium Hardness	NR	NE	91	64 - 107
Conductivity	NR	NE	301 uS/cm	200 - 346 uS/cm
Magnesium	NR	NE	8.6	8.3 - 8.8
Manganese	NR	NE	0.002	0.001 - 0.003
MIB and Geosmin	NR	NE	ND	ND - 2.7 ng/liter
Potassium	NR	NE	1.65	1.6 - 1.7
Sodium	NR	NE	14.1	13.9 - 14.3
Sulfate	NR	NE	21.3	21.0 - 21.5
Total Dissolved Solids	NR	NE	156	149-166
Total Organic Carbon	NR	NE	2.0	1.4 - 4.7

ABBREVIATIONS AND TERMS	
<p>AL = Action Level: the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.</p> <p>CFU/100 ml = Colony Forming Units per 100 milliliters</p> <p>MCL = Maximum Contaminant Level: The highest level of a contaminant in drinking water. MCLs are set as close to MCLGs as feasible</p> <p>MCLG = Maximum Contaminant Level Goal: 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</p> <p>MFL = Million fibers/liter (Asbestos)</p> <p>mg/liter = milligrams per liter (parts per million)</p> <p>MRDL = Maximum Residual Disinfectant Level : 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.</p> <p>MRDLG = Maximum Residual Disinfectant Level Goal: 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</p>	<p>mrem/yr = millirems per year.</p> <p>uS/cm = Microsiemens per centimeter (a unit of conductivity measurement).</p> <p>ND = Not Detected: absent or present at less than testing method detection limit.</p> <p>ng/liter = nanograms per liter = parts per trillion</p> <p>NE = Not Established</p> <p>NR = Not Regulated</p> <p>NTU = Nephelometric Turbidity Units</p> <p>pCi/liter = picocuries per liter</p> <p>RAA = Running Annual Average</p> <p>SU = Standard Units (pH measurement)</p> <p>TT = Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.</p> <p>ug/liter (ug/L) = micrograms per liter (parts per billion)</p> <p>Variances and Exemptions = State or EPA permission not to meet an MCL or a treatment technique under certain conditions.</p> <p>< = Less Than</p> <p>< = Less Than or Equal To</p>

TYPES OF CONTAMINANTS

Contaminants that may be present in source water before we treat include:

**Microbial Contaminants*, such as virus 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 discharge, oil and gas production, mining or farming.

**Pesticides and Herbicides*, which may come from a variety of sources such as a urban storm water runoff, agricultural and residential uses.

**Organic Chemical Contaminants*, including synthetic and volatile organic chemicals, 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

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 the water poses a health risk.

Results presented here are from 2011 analyses or from the most recent year that tests were conducted in accordance with regulatory requirements. Some tests are not required to be performed on an annual basis. Information can be obtained upon request from the ECWA Water Quality Laboratory (716) 685-8570 or on the Internet at www.ecwa.org.