

Annual Drinking Water Quality Report for 2016
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 Jeff Stoll, 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 Departments 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 where it undergoes disinfection, pH adjustment and fluoridation. 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 2016, 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 2016 was 277 million gallons. The amount of water delivered to customers was 175 million gallons. This leaves an unaccounted for total of 102 million gallons or 37% of the total. This water was used to flush mains, fight fires and lost due leakage. In 2016, water customers were charged on average \$ 4.82 per 1000 gallons 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, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. The table that follows and 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

Table of Detected Contaminants							
Violation	Contaminant	Date of Sample	Level Detected (Ave/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit	Likely Source of Contamination
Inorganic Contaminants							
NO	Copper	8/2016 - 9/2016	0.066 ¹ ND - 0.120	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits.
NO	Lead	8/2016 - 9/2016	4.3 ² ND - 7.9	ug/l	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits
Disinfection By Products							
NO	Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid)	11/2016	21.2 ³	ug/l	N/A	60	By-product of drinking water disinfection needed to kill harmful organisms.
NO	Total Trihalomethanes (TTHMs - chloroform, bromodichloromethane, dibromochloromethane, and bromoform)	11/2016	61.5 ³	ug/l	N/A	80	By-product of drinking water disinfection needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
Disinfectant							
NO	Chlorine Residual	2016	1.19 0.58 - 1.85	mg/l	N/A	MRDL = 4	Water additive used to control microbes.

Notes:

1 – 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 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 at your water system. In this case, 20 samples were collected at your water system and the 90th percentile value was the third highest value (0.066 mg/l). The action level for copper was not exceeded at any of the sites tested.

2 – The level presented represents the 90th percentile of the 20 sites samples collected. The action level for lead was not exceeded at any of the sites tested.

3 – This level represents the highest locational running annual average calculated from data collected.

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.

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

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

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.

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 Village of East Aurora 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>.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

In 2016 we were late in submitting our Annual Water Quality Report certification and received a reporting violation from the Erie County Department of Health.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immune-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 from their health care provider about their 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 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. Fluoride is added to your water by the Erie County Water Authority (ECWA) before it is delivered to us. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at a properly controlled level. To ensure that the fluoride supplement in your water provides optimal dental protection, ECWA monitors fluoride levels on a daily basis to make sure fluoride is maintained at a target level of 1.0 mg/l. During 2016 monitoring showed that fluoride levels in your water were within 0.2 mg/l of the target level for 99% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

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 firefighting 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

During 2016 the Village completed the project for upgrading all of the water meters.

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

2016 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	8/16	2 mg/liter	2 mg/liter	0.021 - 0.022 mg/liter; Average = 0.0215	Erosion of natural deposits; drilling and metal wastes
Chloride	No	1/16	250 mg/liter	NE	17 - 28 mg/liter; Average = 21	Naturally occurring in source water
Chlorine	No	2/16	MRD = 4.0 mg/liter	NA	<0.2 - 2.0 mg/liter; Average = 0.8	Added for disinfection
Copper	No	8/16	1300 ug/liter (AL)	1300 ug/liter (AL)	ND - 68 ug/liter, 90th percentile 40 ug/liter, 0 of 52 above AL	Home plumbing corrosion; natural erosion
Fluoride ¹	No	8/16	2.2 mg/liter	NA	<0.2 - 1.01 mg/liter; Average = 0.67	Added to water to prevent tooth decay
Lead ²	No	8/16	15 ug/liter (AL)	0 ug/liter (AL)	ND - 28 ug/liter, 90th percentile = 7.8 ug/liter, 2 of 52 above AL	Home plumbing corrosion; natural erosion
Nitrate	No	11/16	10 mg/liter	10 mg/liter	0.13 - 0.17 mg/liter; Average = 0.15	Runoff from fertilizer use
pH	No	5/16	NR	NE	7.62 - 8.17; Average 7.94 SU	Naturally occurring; adjusted for corrosion control
Distribution System Turbidity ³	No	7/16	TT- 5 NTU	NE	0.01 - 2.62; Average = 0.19 NTU	Soil runoff
Entry Point Turbidity ³	No	9/16	TT - 0.3	NE	0.19 NTU highest detect; Lowest monthly % < 0.30 NTU = 100%	Soil runoff

¹ Our system is one of the many 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 a very effective in preventing cavities when present in drinking water at a properly controlled level. To ensure that the fluoride supplement in your water provides optimal dental protection, we monitor fluoride levels on a daily basis to make sure fluoride is maintained at a target level of 0.7 mg/l. During 2016, monitoring showed fluoride levels in your water were within 0.2 mg/l of the target level 99% of the time. None of the monitoring results showed fluoride at levels above 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 52 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, 52 samples were collected in the water system and the 90th percentile value for lead was the eighth highest value (7.8 ug/l).

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 from that point have measurements below 0.3 NTU. The maximum allowed in the distribution system is 5 NTU.

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	8/16	LRAA = 80	NE	13 - 108 ug/liter; LRAA = 65	By-product of water disinfection (chlorination)
Total Haloacetic Acids ⁵	No	8/16	LRAA = 60	NE	7 - 69 ug/liter; LRAA = 49	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 levels detected represent the highest single location's running annual average (86 ug/L).

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 single location's running annual average (49 ug/L).

Radiological Parameters	Violation Yes/No	Sample Date (or date of highest detected)	MCL (pCi/liter)	MCLG (pCi/liter)	Level Detected (pCi/liter)	Sources in Drinking Water
Radium 226	No	4/13	NE	NE	0.99 - 1.10 pCi/liter, Average = 1.05	Erosion of Natural Deposits
Combined Radium 226/228	No	4/13	5.0	0	1.15 - 1.25 pCi/liter, Average = 1.2	Erosion of Natural Deposits

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	10/16 ⁷	5% of samples positive	0	0.44% = highest percentage of monthly positives	Naturally present in the 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 October 2016, one sample in the distribution system tested positive for total coliform but negative for E.coli. Follow-up sampling, testing and reporting was performed as required by regulation, and results were negative for both total coliform and E.coli.

CRYPTOSPORIDIUM AND GIARDIA	Violation Year/No	Sample Date (or date of highest detected)	Number of Samples Testing Positive		Number of Samples Tested
			Giardia	Cryptosporidium	
Source Water	No	ND	0	0	24

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 2016.

Giardia is a microbial pathogen present in varying concentrations in many surface waters. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection alone. No Giardia was detected in any samples taken in 2016.

DETECTED UNREGULATED CONTAMINANTS				
Parameter	MCL	MCLG	Average Level Detected	Range
Calcium Hardness (mg/l CaCO ₃)	NR	NE	93	88 - 99
Conductivity (uS/cm)	NR	NE	294	282 - 318
Alkalinity (mg/l CaCO ₃)	NR	NE	91	88 - 95

ABBREVIATIONS AND TERMS

AL = Action Level: the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

LRAA = Location Running Annual Average

MCL = Maximum Contaminant Level: the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible.

MCLG = Maximum Contaminant Level Goal: the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

MFL = Million fibers/liter (Asbestos)

mg/liter = milligrams per liter or parts per million

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.

MRDLG = Maximum Residual Disinfectant Level Goal: the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

ND = Not Detected: absent or present at less than testing method detection limit.

NE = Not Established

NR = Not Regulated

NTU = Nephelometric Turbidity Units

pcu/liter = picocuries per liter

SU = Standard Units (pH measurement)

TT = Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.

ug/liter (ug/L) = micrograms per liter = parts per billion

uS/cm = Microsiemens per centimeter (a measure of conductivity)

Variances and Exemptions = State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

< = Less Than

≤ = Less Than or Equal To

TYPES OF CONTAMINANTS

Contaminants that may be present in source water before we treat it 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 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.

The presence of contaminants does not necessarily indicate that the water poses a health risk. Water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

Results presented here are from 2016 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) 885-8580 or on the Internet at www.ecwa.org.

COMPOUNDS TESTED FOR BUT NOT DETECTED

4-Androstene-3,17-dione	1,3,5-Trimethylbenzene	Di(2-ethylhexyl) adipate	Metribuzin
2-Chlorotoluene	Alachlor	Di(2-ethylhexyl) phthalate	Nickel
4-Chlorotoluene	Aldicarb	Dibromochloropropane	Oxamyl (Vydate)
17beta-Estradiol	Aldicarb Sulfone	Dibromomethane	PCB 1016
17alpha-Ethynyl estradiol	Aldicarb Sulfoxide	Dicamba	PCB 1221
2,4-D	Aldrin	Dichlorodifluoromethane	PCB 1232
1,3 Butadiene	Antimony	Dieldrin	PCB 1242
1,2-Dichlorobenzene	Arsenic	Dinoseb	PCB 1248
1,3-Dichlorobenzene	Asbestos	Diquat	PCB 1254
1,4-Dichlorobenzene	Atrazine	Endothall	PCB 1260
1,1-Dichloroethane	Benzene	Endrin	Pentachlorophenol
1,2-Dichloroethane	Benzo(a)pyrene	Equillin	Perfluorobutanesulfonic acid
1,1-Dichloroethylene	Beryllium	Estriol	Perfluoroheptanoic acid
cis-1,2-Dichloroethylene	Bromobenzene	Estrone	Perfluorohexanesulfonic acid
trans-1,2-Dichloroethylene	Bromochloromethane	Ethylbenzene	Perfluoronanoic acid
1,2-Dichloropropane	Bromomethane	Ethylene Dibromide (EDB)	Perfluorooctane sulfonate
1,3-Dichloropropane	Butachlor	Glyphosate	Perfluorooctanoic acid
2,2-Dichloropropane	n-Butylbenzene	Gross Alpha Particles	Pichloram
1,1-Dichloropropene	sec-Butylbenzene	Gross Beta Particles	Propachlor
cis-1,3-Dichloropropene	t-Butylbenzene	Heptachlor	n-Propylbenzene
trans-1,3-Dichloropropene	Cadmium	Heptachlor Epoxide	Radium 226
1,4-Dioxane	Carbaryl	Hexachlorobenzene	Selenium
3-Hydroxycarbofuran	Carbofuran	Hexachlorobutadiene	Simazine
2,3,7,8-TCDD (Dioxin)	Carbon Tetrachloride	Hexachlorocyclopentadiene	Styrene
2,4,5-TP (Silvex)	Chlordane	Isopropylbenzene	Tetrachloroethylene
1,1,1,2-Tetrachloroethane	Chlorobenzene	p-Isopropyltoluene	Thallium
1,1,2,2-Tetrachloroethane	Chlorodifluoromethane	Lindane	Toluene
1,2,3-Trichlorobenzene	Chloroethane	Mercury	Toxaphene
1,2,4-Trichlorobenzene	Chloromethane	Methomyl	Trichloroethylene
1,1,1-Trichloroethane	Chromium, Total	Methoxychlor	Trichlorofluoromethane
1,1,2-Trichloroethane	Cobalt	Methyl t-butyl ether (MTBE)	Vinyl Chloride
1,2,3-Trichloropropane	Cyanide	Methylene Chloride	Xylenes (o,m and p)
1,2,4-Trimethylbenzene	Dalapon	Metolachlor	