



ERIE COUNTY WATER AUTHORITY

2019 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
Antimony	No	7/19	6.0 ug/L	6.0 ug/L	0.0 - 0.7 ug/L; Average = .35	Discharge from petroleum refineries; fire retardent; ceramics; electronics; solder
Arsenic	No	7/19	10 ug/L	NA	0.0 - 0.52 ug/L; Average = 0.26	Erosion of natural deposits; drilling and metal wastes
Barium	No	7/19	2 mg/liter	2 mg/liter	0.0184 - 0.0195 mg/liter ; Average = 0.019	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Chloride	No	7/19	250 mg/liter	NE	15.3 - 29.6 mg/liter ; Average = 20.1	Naturally occurring in source water
Chlorine	No	6/19	MRDL = 4.0 mg/liter	NA	1.0 - 2.0 mg/liter; Average = 1.47	Added for disinfection
Copper	No	6/19	1300 ug/liter (AL)	1300 ug/liter (AL)	ND - 84 ug/liter, 90th percentile = 36 ug/liter, 0 of 50 above AL	Home plumbing corrosion; natural erosion
Fluoride ¹	No	2/19	2.2 mg/liter	NA	0.12 - 1.07 mg/liter; Average = 0.69	Added to water to prevent tooth decay
Lead ²	No	6/19	15 ug/liter (AL)	0 ug/liter (AL)	ND - 284 ug/liter, 90th percentile = 12.6 ug/liter, 4 of 50 above AL	Home plumbing corrosion; natural erosion
Nickel	No	7/19	NR	NE	0.0 - 0.87 ug/L; Average = 0.25	Nickel enters groundwater and surface water by dissolution of rocks and soils, from atmospheric fallout, from biological decays and from waste disposal.
Manganese	No	8/18	NR	NE	0.89-6.2 ug/liter; Average = 2.1	Naturally occurring; Indicative of landfill contamination
pH	No	2/19	NR	NE	7.45 - 8.39; Average 8.00 SU	Naturally occurring; adjusted for corrosion control
Distribution System Turbidity ³	No	1/19	TT- 5 NTU	NE	0.02 - 0.97; Average = 0.21 NTU	Soil runoff
Entry Point Turbidity ³	No	2/19	TT - 0.3	NE	0.167 NTU highest detected; 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 2019, fluoride was added to the drinking water from January to December at the Sturgeon Point facility and January to June 23 and July 16 to December at the Van de Water facility. The fluoride was not added during this two week period due to a supply issue. During these periods, monitoring showed fluoride levels in your water were within 0.2 mg/L of the target level of 0.7 mg/L 95% of the time.

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 50 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, 50 samples were collected in the water system and the 90th percentile value for lead was the sixth highest value (12.6 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	8/19	LRAA = 80	NE	14 - 91 ug/liter; LRAA = 64	By-product of water disinfection (chlorination)
Total Haloacetic Acids ^{5,6}	No	2/19	LRAA = 60	NE	8 - 34 ug/liter; LRAA = 31	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 (64 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 (31 ug/L).

⁶ A reporting and monitoring violation was issued in 2019. Due to an outside laboratory failure, the ECWA did not provide results for 6 HAA samples taken and submitted second quarter. First and third quarters' results were below the MCL, providing enough evidence to show the public water supply posed no risk to public health.

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 228	No	7/19	NE	NE	ND	Erosion of Natural Deposits
Combined Radium 226/228	No	7/19	5.0	0	ND	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 ⁷	12/19	5% of samples positive	0	One positive sample	Naturally present in the environment
<i>E. coli</i>	No	12/19	Any positive sample ⁸	0	One positive sample	Human and animal fecal waste

⁷ A violation occurs when more than 5% of the total coliform samples collected per month are positive. No MCL violation occurred.

⁸ A violation occurs when a total coliform positive sample is positive for *E. coli* and a repeat total coliform sample is positive or when a total coliform positive sample is negative for *E. coli* but a repeat total coliform sample is positive and the sample is also positive for *E. coli*. No MCL violation occurred.

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	1/17	2	0	6

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*.

Giardia is a microbial pathogen present in varying concentrations in many surface waters. In our treatment process *Giardia* is removed/inactivated through a combination of filtration and disinfection or by disinfection alone.

DETECTED UNREGULATED CONTAMINANTS					TYPES OF CONTAMINANTS
Parameter	MCL	MCLG	Average Level Detected	Range	<p>Contaminants that may be present in source water before we treat it include:</p> <p><i>*Microbial Contaminants</i>, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.</p> <p><i>*Inorganic Contaminants</i>, 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.</p> <p><i>*Pesticides and Herbicides</i>, which may come from a variety of sources such as urban storm water runoff, agricultural and residential uses.</p> <p><i>*Organic Chemical Contaminants</i>, 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.</p> <p><i>*Radioactive Contaminants</i>, which can be naturally-occurring or be the result of oil and gas production and mining activities.</p>
Calcium Hardness (mg/l CaCO ₃)	NR	NE	90.1	74 - 112	
Conductivity (uS/cm)	NR	NE	298	232 -423	
Alkalinity (mg/l CaCO ₃)	NR	NE	93.5	75 - 108	

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 = Locational 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

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 disinfectants to control microbial contamination

ND = Not Detected: absent or present at less than testing method detection limit.
NE = Not Established
NR = Not Regulated NA=Not applicable
NTU = Nephelometric Turbidity Units
pCi/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.

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IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER MONITORING REQUIREMENTS NOT MET FOR ECWA

Our water system violated drinking water requirements over the past year. Even though this was not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation. We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the 2019 2cd quarter period, the analytical laboratory did not complete tests by the required reporting date. Therefore we could not be sure of the quality of your drinking water during that time.
What should I do? There is nothing you need to do at this time. The table below lists the contaminants that were not reported last year, how often we were supposed to sample, how many samples we were supposed to take, and number of samples taken, and the date on which the following samples were redone by another laboratory. For more information, please contact Sabrina Figler, Director of Water Quality @ 716-685-8574.

Contaminant	Required Sampling Frequency	Number of Samples Taken	Number of Results Received and Reported	No. and Date Samples Retaken
Haloacetic acids	21/quarter	21	15	Twenty one of August 2019