



## *2018 Annual Drinking Water Quality Report* *Seneca Nation*



### **INTRODUCTION**

To comply with Federal regulations, the Seneca Nation (SN), annually issues 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 federal 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 Federal standards.

The Environmental Health and Engineering division of the SN Health System, with cooperation from the Utility Departments on the Cattaraugus and Allegany Territories, is tasked with sampling, testing and monitoring drinking water quality.

If you have any questions about this report or concerning your drinking water, please contact Joel Merrill, PE, Civil Engineer or Shannon Seneca, Sanitarian, both at (716) 945-5894.

### **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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water sources are:

- 1.) Cattaraugus Territory:
  - a. Groundwater Wells: drawn from two drilled wells which are located on Richardson Road. Richardson Road is one of the many systems that adds a low level of fluoride to drinking water in order to provide 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 levels that range from 0.8 mg/l (parts per million). Our fluoride addition facility is designed and operated to meet this optimal range. This source is also disinfected prior to being pumped to two storage tanks and distribution. This source was not operational in 2018.
  - b. Intercommunity Water main: Water is purchased in bulk from Erie County Water Authority (ECWA). The connection is located at Routes 5/20 in Irving. This water is fluoridated and disinfected by ECWA. ECWA's water quality report is attached.

- 2.) Allegany Territory:
- a. Groundwater Wells: drawn from two drilled wells which are located on Hiller Rd in Jimersontown. This water is disinfected and pumped to an elevated storage tank prior to distribution.
  - b. Groundwater Wells: drawn from two drilled wells which are located on North Authority Road in Sullivan Hollow, Killbuck. This water is disinfected and filtered prior to usage.
  - c. Groundwater Wells: drawn from two drilled wells which are located on South Loop Road in Steamburg. This water is disinfected and pumped to an elevated storage tank prior to distribution.
  - d. City of Salamanca: Groundwater wells: Salamanca Board of Public Utilities (BPU) report is available at: <http://www.salamancabpu.com>

During 2018, the Richardson Road wells have been offline undergoing repairs.

Each source has undergone a risk analysis to determine the source water's susceptibility to contamination. Except for farming on the Cattaraugus territory, all sources have a low risk of contamination. Source water assessments are available from SN Health. Efforts are underway to further protect SN water sources.

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

As the Federal regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, and radiological compounds. A full list of the contaminants tested follows. The tables 1 through 5 presented below depict which compounds were detected in your drinking water. The regulations allow 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. See also Erie County Water Authority's water quality monitoring report supplement attached for their detected contaminants

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 SN Health System at (716) 945-5894.

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

As you can see by the tables, 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 EPA.

## **DO I NEED TO TAKE SPECIAL PRECAUTIONS?**

Although our drinking water met or exceeded federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than 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 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**

The Cattaraugus system is one of the many drinking water systems that provide 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 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 0.8 mg/l. During 2018 monitoring showed that fluoride levels in your water were within 0.2 mg/l of the target level for 100% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l NY State Department of Health MCL for fluoride. EPA's Fluoride MCL is 4 mg/l and EPA's secondary standard for fluoride is 2 mg/l.

## **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 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.

## **SYSTEM IMPROVEMENTS**

In 2018, a capital project was started to add additional water storage to the Cattaraugus Water System. Various watermain projects are planned for 2019. These improvements are funded by SN, EPA, IHS drinking water grants and will provide secure storage and delivery of treated water in compliance with federal regulations. In addition, other projects are planned to protect aging infrastructure and provide treated water to areas not currently served.

## **CLOSING**

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our consumers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.

**TABLE 1**  
**2018 Water Quality Monitoring Report-Annual Water Quality Report Supplement-CATTARAUGUS SYSTEM**

DETECTED CONTAMINANTS						
Metals, Inorganics, Physical Tests	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Barium	See Erie County Water Authority Supplement for these test results as ECWA was the sole water source in 2018					
Chloride						
Nitrate						
Chromium						
Fluoride						
Lead <sup>3</sup>	No	Various (2016)	0.003 mg/l	0	AL=15	Household plumbing, corrosion, natural sources, wood preservatives
Copper <sup>3</sup>	No	Various (2016)	0.05 mg/l	0	AL=1,300	Home plumbing corrosion, natural erosion
Organic Compounds	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Trihalomethanes	No	quarterly	LRAA=0.029 mg/l	NE	MCL=0.08	Disinfection By-Product
Haloacetic Acids	No	quarterly	LRAA=0.039 mg/l	NE	MCL=0.06	Disinfection By-Product
Radiological Parameters	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Gross Alpha	See Erie County Water Authority Supplement for these test results as ECWA was the sole water source in 2018					
Radium 228						
Radium 226						
Microbiological Parameters <sup>2</sup>	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Total coliform bacteria	No	Various	None	NE	5% of samples positive	Naturally present in the environment

<sup>1</sup> 90<sup>th</sup> percentile

<sup>2</sup> Coliform bacteria is an indicator for possible bacteriological contamination. No coliform bacteria were detected in any samples in 2018.

<sup>3</sup>There were 20 lead and copper samples collected and analyzed in 2016. The minimum number of samples was 20 samples. Lead & Copper sampling will be conducted again in 2019.

**TABLE 2**  
**2018 Water Quality Monitoring Report-Annual Water Quality Report Supplement-JIMERTONTOWN SYSTEM**

DETECTED CONTAMINANTS						
Metals, Inorganics, Physical Tests	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Barium	No	9/29/15	229 ug/l	2,000	MCL = 2,000	Erosion of natural deposits, drilling and metal wastes
Chloride	No	9/29/15	115 mg/l	NE	250 mg/l	Naturally occurring in source water
Nitrate	No	2018	1.7 mg/l	10	MCL = 10	Agricultural runoff; natural sources
Copper	No	12/1/16	0.07 mg/l <sup>1</sup>	AL=1.30	AL=1.30	Home plumbing corrosion, natural erosion
Lead	No	12/1/16	0.005 mg/l <sup>1</sup>	AL = 0.015	AL = 0.015	Household plumbing, corrosion, natural sources, wood preservatives
Chromium	No	9/29/15	<0.010 mg/l	0.1 mg/l	0.1 mg/l	Erosion of natural deposits
Fluoride	No	9/29/15	<0.1	NA	2.2 mg/l	Erosion of natural deposits

Organic Compounds	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Trihalomethanes	No	2018	0.002 mg/l	NE	MCL=0.08	Disinfection By-Product
Haloacetic Acids	No	2018	0.003 mg/l	NE	MCL=0.06	Disinfection By-Product

Radiological Parameters	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Gross Alpha	No	9/29/15	3.37 ±1.8 pCi/l	0	MCL=15	Natural sources
Gross Beta	No	9/29/15	1.79 ±0.922 pCi/l	0	MCL=15	Natural sources
Radium 228	No	9/29/15	0.248 +0.331pCi/l	NE	NE	Natural sources
Radium 226	No	9/29/15	0.297 +0.513pCi/l	NE	NE	Natural sources
Microbiological Parameters <sup>2</sup>	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Total coliform bacteria	No	Various	None	NE	5% of samples positive	Naturally present in the environment

<sup>1</sup> Maximum result

<sup>2</sup>Coliform bacteria is an indicator for possible bacteriological contamination. No coliform bacteria were detected in any samples in 2018.

**TABLE 3**  
**2018 Water Quality Monitoring Report-Annual Water Quality Report Supplement-STEAMBURG SYSTEM**

DETECTED CONTAMINANTS						
Metals, Inorganics, Physical Tests	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Barium	No	9/29/15	216 ug/l	2,000	MCL = 2,000	Erosion of natural deposits, drilling and metal wastes
Chloride	No	9/29/15	21.7 mg/l	NE	250 mg/l	Naturally occurring in source water
Nitrate	No	2018	2.24 mg/l	10	MCL = 10	Agricultural runoff; natural sources
Copper	No	9/28/16	0.09 mg/l <sup>1</sup>	AL=1.30	AL=1.30	Home plumbing corrosion, natural erosion
Lead	No	9/28/16	0.002 mg/l <sup>1</sup>	AL = 0.015	AL = 0.015	Household plumbing, corrosion, natural sources, wood preservatives
Chromium	No	9/29/15	0.01 mg/l	0.1 mg/l	0.1 mg/l	Erosion of natural deposits
Fluoride	No	9/29/15	<0.1 mg/l	2.2 mg/l	202 mg/l	Erosion of natural deposits

Organic Compounds	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Trihalomethanes	No	2018	0.004 mg/l	NE	MCL=0.08	Disinfection By-Product
Haloacetic Acids	No	2018	0.001 mg/l	NE	MCL=0.06	Disinfection By-Product

Radiological Parameters	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Gross Alpha	No	9/29/15	-0.433 ±0.759 pCi/l	0	MCL=15	Natural sources
Gross Beta	No	9/29/15	1.81±1.34 pCi/l	0	MCL=15	Natural sources
Radium 228	No	9/29/15	-0.00276 ±0.335pCi/l	NE	NE	Natural sources
Radium 226	No	9/29/15	0.266 ±0.522pCi/l	NE	NE	Natural sources

Microbiological Parameters <sup>2</sup>	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Total coliform bacteria	No	Various	None	NE	5% of samples positive	Naturally present in the environment

<sup>1</sup> Maximum result

<sup>2</sup> Coliform bacteria is an indicator for possible bacteriological contamination. No coliform bacteria were detected in any samples in 2018.

**TABLE 4: 2018 Water Quality Monitoring Report Supplement-SULLIVAN HOLLOW SYSTEM**

DETECTED CONTAMINANTS						
Metals, Inorganics, Physical Tests	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Barium	No	9/29/15	127 ug/l	2,000	MCL = 2,000	Erosion of natural deposits, drilling and metal wastes
Chloride	No	9/29/15	3.32 mg/l	NE	250 mg/l	Naturally occurring in source water
Nitrate	No	2018	<0.2 mg/l	10	MCL = 10	Agricultural runoff; natural sources
Copper	No	8/18/15, 8/20/15	<0.01-0.103 mg/l, 0.0665 mg/l <sup>1</sup> , 0 of 5 above AL	AL=1.30	AL=1.30	Home plumbing corrosion, natural erosion
Lead	No	8/18/15, 8/20/15	<0.001-0.0013 mg/l, 0.0012 mg/l <sup>1</sup> , 0 of 5 above AL	AL = 0.015	AL = 0.015	Household plumbing, corrosion, natural sources, wood preservatives
Chromium	No	9/29/15	<0.01 mg/l	0.1 mg/l	0.1 mg/l	Erosion of natural deposits
Fluoride	No	9/29/15	<0.1 mg/l	2.2 mg/l	202 mg/l	Erosion of natural deposits

Organic Compounds	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Trihalomethanes	No	2018	<0.01 mg/l	NE	MCL=0.08	Disinfection By-Product
Haloacetic Acids	No	2018	<0.01 mg/l	NE	MCL=0.06	Disinfection By-Product

Radiological Parameters	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Gross Alpha	No	9/29/15	0.948 $\pm$ 1.21 pCi/l	0	MCL=15	Natural sources
Gross Beta	No	9/29/15	0.302 $\pm$ 0.95 pCi/l	0	MCL=15	Natural sources
Radium 228	No	9/29/15	0.0938 $\pm$ 0.339 pCi/l	NE	NE	Natural sources
Radium 226	No	9/29/15	0.00 $\pm$ 0.325 pCi/l	NE	NE	Natural sources

Microbiological Parameters <sup>2</sup>	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Total coliform bacteria	N	Various	None	NE	5% of samples positive	Naturally present in the environment

<sup>1</sup> 90<sup>th</sup> percentile

<sup>2</sup> Coliform bacteria is an indicator for possible bacteriological contamination. No coliform bacteria were detected in any samples in 2018.

**TABLE 5: 2018 Water Quality Monitoring Report-Report Supplement-SHELTON PARK SYSTEM**

DETECTED CONTAMINANTS						
Metals, Inorganics, Physical Tests	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Barium	No	4/1/15	139 ug/l	2,000	MCL = 2,000	Erosion of natural deposits, drilling and metal wastes
Chloride	No	4/1/15	78.8 mg/l	NE	250 mg/l	Naturally occurring in source water
Nitrate	No	2018	1.0 mg/l	10	MCL = 10	Agricultural runoff; natural sources
Copper	No	12/21/18	0.04 mg/l, 0 of 5 above AL	AL=1.30	AL=1.30	Home plumbing corrosion, natural erosion
Lead	No	12/21/18	0.003 mg/l, 0 of 5 above AL	AL = 0.015	AL = 0.015	Household plumbing, corrosion, natural sources, wood preservatives
Chromium	No	4/1/15	<0.001 mg/l	0.1 mg/l	0.1 mg/l	Erosion of natural deposits
Fluoride	No	4/1/15	<0.1 mg/l	2.2 mg/l	202 mg/l	Erosion of natural deposits

Organic Compounds	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Trihalomethanes	No	2018	<0.01 mg/l	NE	MCL=0.08	Disinfection By-Product
Haloacetic Acids	No	2018	<0.01 mg/l	NE	MCL=0.06	Disinfection By-Product

Radiological Parameters	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Gross Alpha	No	4/1/15	2.23 pCi/l	0	MCL=15	Natural sources
Gross Beta	No	4/1/15	1.85 pCi/l	0	MCL=15	Natural sources
Radium 228	No	4/1/15	-0.34 pCi/l	NE	NE	Natural sources
Radium 226	No	4/1/15	0.1 pCi/l	NE	NE	Natural sources

Microbiological Parameters <sup>2</sup>	Violation Yes/No	Sample Date	Level Detected	MCLG	MCL	Sources in Drinking Water
Total coliform bacteria	N	Various	None	NE	5% of samples positive	Naturally present in the environment

<sup>1</sup> 90<sup>th</sup> percentile

<sup>2</sup> Coliform bacteria is an indicator for possible bacteriological contamination. No coliform bacteria were detected in any samples in 2018.

#### 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.

**CFU/100 ml** = Colony Forming Units per 100 milliliters

**MCL**=Maximum Contaminant Level: the highest level of a contaminant allowed in a drinking water

**MCLG**= Maximum contaminant level goal: the level of contaminant in a drinking water below which there is no known or expected risk

**MFL** = Million fibers/liter (Asbestos)

**Mg/liter** = milligrams per liter (parts per million)

**MRDL** = Maximum Residential Disinfectant Level: the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of 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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination

**Mrem/yr** = millirems per year

**uS/cm**= Microseimens per centimeter (a unit of conductivity measurement)

**ND**= Not detected: absent or present at less than testing method detection limit

**Ng/liter**= nanograms per liter = parts per trillion

**NE**= Not Established

**NR**= not regulated

**NTU**= Nephelometric turbidity Units

**pCi/L**= Picocuries per liter

**LRAA**= Location Running Annual Average

**SU** = Standard Units (ph measurement)

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

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

**Variances and Exemption** = State or EPA permission not to meet an MCL or treatment techniques under certain conditions.

< = less than

>= less than or equal to

#### TYPES OF CONTAMINANTS

\**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 the 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

**Annual Drinking Water Quality Report for 2018**  
Salamanca Board of Public Utilities  
225 Wildwood Avenue, Salamanca, New York 14779

City of Salamanca, Public Water Supply ID#NY0400349  
Town of Great Valley WD #1, Public Water Supply ID#NY0412218 (Killbuck)  
Town of Great Valley WD #4, Public Water Supply ID#NY0430052 (Highland Ave.)

**Introduction**

To comply with State and Federal regulations, the Salamanca Board of Public Utilities 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 calendar 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 Dennis Hensel at (716) 945-3130. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Salamanca Board of Public Utilities' Monthly Commission Meetings.

**What are the sources of our water?**

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, 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 originates from fourteen wells, ranging in depth from 50 feet to more than 80 feet. Thirteen wells (WF) are located near Water Street in the center of the City of Salamanca. Another well (GV) is located at the extreme eastern boundary of the City near Great Valley Creek. Since natural filtration of the ground water through an extensive sand and gravel aquifer occurs, only chlorination is required prior to distribution to our customers. The storage tanks, which are located on Newton Run in the City of Salamanca, usually contain between 3.5 and 4 million gallons, which equates to 3.5 to 4 days reserve capacity. During 2018, our system did not experience any water use restrictions.

In 2003, the NYS DOH completed a source water assessment for our water system, based on available information. Possible and actual threats to the drinking waters sources were evaluated. The source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. The susceptibility rating is an estimate of the potential contamination of the source water. It does not mean that the water delivered to consumers is, or will become contaminated. See section "Are contaminants in our drinking water?" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

As was mentioned before, our water is derived from fourteen wells. The source water assessment has rated the combined susceptibility to contamination for these wells as high from cations/anions (salts, sulfate), enteric viruses, halogenated solvents, herbicides/pesticides, nitrates, other industrial organics and petroleum products; and medium high from enteric bacteria, metals and protozoa. These ratings for the wells are due to their proximity to industrial activities. While the assessment rates our source as being susceptible to enteric bacteria, please note that our water is disinfected to ensure that the finished water delivered into your home meets New York State's drinking water standards.

A copy of this assessment, including a map of the assessment area, can be obtained by contacting us as noted above.

**Facts and Figures**

The Salamanca Board of Public Utilities is the supplier of potable water to Customers in the City of Salamanca and in portions of the Townships of Salamanca and Great Valley. There are presently 2,687 service connections, representing an estimated 6,150 potable water users.

The total water produced in 2018 was 468 million gallons. The daily average of water treated and pumped into the distribution system is 1,283,518 gallons per day. Our highest single day was 1,959,000 gallons. The amount of water delivered to customers was nearly 53% of the actual production. The additional quantity of water was used to flush mains, fight fires, for fire training, and leakage. In 2018, water customers were charged \$3.06 per 1,000 gallons of water. Average monthly potable water charges for a family of three should be about \$24.16, or about 81 cents per day. Charges for customers residing in the Townships of Salamanca and Great Valley are presently 175% of those of the City of Salamanca.

**Are contaminants in our drinking water?**

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include coliform bacteria, inorganic compounds, nitrate, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. The table presented below 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. All of this data, though representative, may be more than one year old. Also available at the Salamanca Board of Public Utilities’ business office, is a list of analytical results for parameters where there were no detections.

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 Cattaraugus County Health Department at (716) 701-3386. Much information is also available directly from the EPA website: <https://www.epa.gov/dwstandardsregulations>.

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
<b>Disinfectants</b>							
Chlorine Residual							
- City	No	2018	Avg. = .28 (.1 - .57)	mg/l	N/A	MRDL = 4	Water additive used to control microbes.
- G.V. Dist. #1	No	2018	Avg. = .35 (.3 - .43)				
- G.V. Dist. #4	No	2018	Avg. = .28 (.15 - .35)				
<b>Inorganic Contaminants</b>							
Copper <sup>1</sup> - City of Salamanca & Town Districts	No	8/8/17	149 (14 - 414)	ug/l	1,300	AL = 1,300	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead <sup>2</sup> - City of Salamanca & Town Districts	No	8/8/17	2 (ND - 4)	ug/l	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits.
Nitrate	No	12/10/18	High = 1.47 (<1 - 1.47)		10	MCL = 10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
<b>Disinfection By-Products</b>							
Total Trihalomethanes							
- City	No	8/7/18	12.7	ug/l	N/A	MCL = 80	By-product of drinking water disinfection needed to kill harmful organisms. TTHms are formed when source water contains large amounts of organic matter.
- G.V. Dist. #1	No	8/9/17	1.3				
- G.V. Dist. #4	No	8/7/18	3.53				

**Notes:**

- 1 - The levels presented represent the 90<sup>th</sup> 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 90<sup>th</sup> percentile is equal to or greater than 90% of the copper or lead values detected at your water system. In this case, 20 samples were collected within the City and Town districts and the 90<sup>th</sup> percentile value for copper was the third highest value, 149 ug/l. The action level for copper was not exceeded at any of the sites tested.
- 2 - The 90<sup>th</sup> percentile values for lead in the City System and the Town Districts combined was 2 ug/l. None of the samples exceeded the action level of 15 ug/l for lead.

**Definitions:**

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

**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.

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

**Milligrams per liter (mg/l):** Corresponds to one part of liquid in one million parts of liquid (parts per million – ppm).

**N/A:** Not applicable.

**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 at values well below the level allowed by the State. Regardless, we are required to provide 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 Salamanca 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>.

### **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. 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 some infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/DCD 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.

### **Why saving water is a good idea.**

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 costs 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 and helps 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 those 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**

The Board of Public Utilities is committed to serving the community by revamping and modernizing the water production and treatment process to take advantage of the most effective and economical technology available. Improvements have recently taken place and more will be undertaken in the near future in response to the changing environment and stricter government regulations.

## **Water System Security**

The Board of Public Utilities would like to remind residents to remain vigilant of any suspicious activity regarding the water distribution system. Please report any suspicious activity to the Board of Public Utilities or the Salamanca Police Department.

## **Closing**

Thank you for allowing us to continue to provide you and 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 the community and our way of life. Please call our office if you have questions.

# ERIE COUNTY WATER AUTHORITY 2018 Annual Water Quality Report

## DETECTED CONTAMINANTS

Metals, Inorganics, Physical Tests	Violation Yes/No	Sample Date (or date of highest detection)	MCL	MCLG	Level Detected	Sources in Drinking Water
Barium	No	8/18	2 mg/liter	2 mg/liter	0.0174 - 0.0200 mg/liter; Average = 0.0374	Erosion of natural deposits; drilling and metal wastes
Chloride	No	1/18	250 mg/liter	NE	16 - 33 mg/liter; Average = 21	Naturally occurring in source water
Chlorine	No	2/18	MRDL = 4.0 mg/liter	NE	0.0 - 2.13 mg/liter; Average = 1.0	Added for disinfection
Copper	No	8/16	1300 ug/liter (AL)	1300 ug/liter (AL)	ND - 88 ug/liter, 90th percentile = 40 ug/liter, 0 of 52 above AL	Home plumbing corrosion; natural erosion
Fluoride <sup>1</sup>	No	10/18	2.2 mg/liter	NE	0.61 - 0.78 mg/liter; Average = 0.70	Added to water to prevent tooth decay
Lead <sup>2</sup>	No	8/16	15 ug/liter (AL)	0 ug/liter (AL)	ND - 29 ug/liter, 90th percentile = 7.8 ug/liter, 2 of 52 above AL	Home plumbing corrosion; natural erosion
Nitrate	No	3/18	10 mg/liter	10 mg/liter	0.17 - 0.24 mg/liter; Average = 0.21	Runoff from fertilizer use
Manganese	No	8/18	NR	NE	0.89 - 6.2 ug/L; Average = 2.1	Naturally occurring, indicative of landfill contamination
pH	No	11/18	NR	NE	6.75 - 8.49; Average = 8.18 SU	Naturally occurring, adjusted for corrosion control
Distribution Turbidity <sup>3</sup>	No	5/18	TT - 5 NTU	NE	0.02 - 0.92; Average = 0.25 NTU	Soil runoff
Entry Point Turbidity <sup>3</sup>	No	2/18	TT - 0.3 NTU	NE	0.184 NTU highest detected; Lowest monthly % < 0.30 NTU = 100%	Soil runoff

<sup>1</sup> 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 means of 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 value of 0.7 mg/L. During 2018, fluoride was only added to the drinking water in January to mid-February & in August to December at the Sturgeon Point WTP and in January to Mid-March and August to December at the Van de Water WTP due to the addition of new storage tanks at each of the treatment facilities. During those periods monitoring showed fluoride levels in your water were within 0.2 mg/L of the target level 95% of the time.

<sup>2</sup> 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. If your home contains lead pipes and 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](http://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 0 to 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).

<sup>3</sup> 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 turbidity allowed in the distribution system is 5 NTU.

Organic Compounds	Violation Yes/No	Sample Date (or date of highest detection)	MCL (ug/liter)	MCLG (ug/liter)	Level Detected (ug/liter)	Sources in Drinking Water
Total Trihalomethanes <sup>4,6</sup>	No	8/18	LRAA = 80	NE	16 - 103 ug/liter; LRAA = 64	By-product of water disinfection (chlorination)
Total Haloacetic Acids <sup>4,6</sup>	No	8/18	LRAA = 60	NE	7 - 45 ug/liter; LRAA = 36	By-product of water disinfection (chlorination)

<sup>4</sup> 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 is the highest single location's running annual average (64 ug/L).

<sup>6</sup> 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 system's highest single location's running annual average (36 ug/L).

Radiological Parameters	Violation Yes/No	Sample Date (or date of highest detection)	MCL (pCi/liter)	MCLG (pCi/liter)	Level Detected (pCi/liter)	Sources in Drinking Water
Radium 228	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 detection)	MCL	MCLG	Level Detected	Sources in Drinking Water
Total Coliform Bacteria	No <sup>7</sup>	None	5% of samples positive	0	0% = highest percentage of monthly positives (None Detected)	Naturally present in the environment

<sup>7</sup> A violation occurs when more than 5% of the total coliform samples collected per month are positive. No MCL violation occurred. **New York State Department of Health Source Water Assessment**

Cryptosporidium and Giardia	Violation Yes/No	Sample Date (or date of highest detection)	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*. No *Cryptosporidium* was detected in any samples taken in 2017.

*Giardia* is a microbial pathogen present in varying concentrations in many surface waters. *Giardia* was detected in 2 source water samples taken in 2017. In our treatment process *Giardia* is removed/inactivated through a combination of filtration and disinfection or by disinfection alone.

DETECTED UNREGULATED CONTAMINANTS				
Parameter	MCL	MCLG	Average Level Detected (mg/liter or as noted)	Range
Calcium Hardness (as mg/l CaCO <sub>3</sub> )	NR	NE	90	74 - 109
Conductivity (uS/cm)	NR	NE	290	236 - 392
Alkalinity (as mg/l CaCO <sub>3</sub> )	NR	NE	94	79 - 100

We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the levels allowed by the state.

## 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. MCLs are set as close to the MCLGs 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. MCLGs allow for a margin of safety

**MFL** = Million Fibers per Liter (Asbestos)

**mg/liter** = milligrams per liter (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. 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.

**NR** = Not Regulated

**NE** = Not Established

**NTU** = Nephelometric Turbidity Units

**pCi/liter** = Picouries 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.

**<** = Denotes Less Than

**≤** = Denotes 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 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.

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.

## COMPOUNDS TESTED FOR BUT NOT DETECTED

4-Androstene-3,17-dione	Aldrin	Dicamba	PCB 1242
2-Chlorotoluene	alpha-BHC	Dichlorodifluoromethane	PCB 1248
4-Chlorotoluene	Anatoxin-a	Dieldrin	PCB 1254
17-beta-Estradiol	Antimony	Dimethipin	PCB 1260
17-alpha-Ethinyl estradiol	Arsenic	Dinoseb	Pentachlorophenol
2,4-D	Asbestos	Diquat	Perfluorobutanesulfonic acid
1,3-Butadiene	Atrazine	Endothall	Perfluorohexanesulfonic acid
1,2-Dichlorobenzene	Benzene	Endrin	Perfluorooctanesulfonic acid
1,3-Dichlorobenzene	Benzo(a)pyrene	Equilin	Perfluorooctanoic acid
1,4-Dichlorobenzene	Beryllium	Estrilol	Perfluorooctane sulfonate
1,1-Dichloroethane	Bromide	Estrone	Perfluorooctanoic acid
1,1-Dichloroethane	Bromobenzene	Ethoprop	Perrmethrin
1,1-Dichloroethylene	Bromochloromethane	Ethylbenzene	Picloram
cis-1,2-Dichloroethylene	Bromomethane	Ethylene Dibromide (EDB)	Profenofos
trans-1,2-Dichloroethylene	Butachlor	Glyphosate	Propachlor
1,2-Dichloropropane	Butylated hydroxyanisole	Gross Alpha Particles	n-Propylbenzene
1,3-Dichloropropane	n-Butylbenzene	Cross Beta Particles	Quinoline
2,2-Dichloropropane	sec-Butylbenzene	Heptachlor	Radium 226
t-Butylchloroprene	t-Butylbenzene	Heptachlor Epoxide	Selenium
cis-1,3-Dichloropropene	Cadmium	Hexachlorobutadiene	Sinazime
trans-1,3-Dichloropropene	Carbaryl	Hexachlorobutadiene	Styrene
1,4-Dioxane	Carbofuran	Hexachlorocyclopentadiene	Tebuconazole
3-Hydroxycarbofuran	Carbon Tetrachloride	Isopropylbenzene	Tetrachloroethylene
2,3,7,8-TCDD (Dioxin)	Chlordane	p-Isopropyltoluene	Thallium
2,4,5-TP (Silvex)	Chlorobenzene	Lindane	Toxaphene
1,1,1,2-Tetrachloroethane	Chlorodifluoromethane	Mercury	o-Tolidine
1,1,2,2-Tetrachloroethane	Chloroethane	Methomyl	Total Microcystin
1,2,3-Trichlorobenzene	Chloromethane	Methoxychlor	Toxaphene
1,2,4-Trichlorobenzene	Chloropyrifos	Methyl-t-butyl ether (MTBE)	Tribrufos
1,1,1-Trichloroethane	Chromium, Total	Methylene Chloride	Trichloroethylene
1,1,2-Trichloroethane	Cobalt	Metolachlor	Trichlorofluoromethane
1,2,3-Trichloropropane	Cyanide	Metribuzin	Vinyl Chloride
1,2,4-Trimethylbenzene	Cyindrospermopsin	Nickel	Xylenes (o,m and p)
1,3,5-Trimethylbenzene	Dalapon	Oxamyl (Vydate)	
Alachlor	Di(2-ethylhexyl) adipate	Oxyfluorin	
Aldicarb	Di(2-ethylhexyl) phthalate	PCB 1016	
Aldicarb Sulfone	Dibromochloropropane	PCB 1121	
Aldicarb Sulfoxide	Dibromoethane	PCP1232	

**For a large-print copy of ECWA's 2018  
Water Quality Report, please visit [www.ecwa.org](http://www.ecwa.org)  
or email your request to [questionscomments@ecwa.org](mailto:questionscomments@ecwa.org)**

Results presented here are from 2018 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. Further information can be obtained upon request from the ECWA Water Quality Laboratory at (716) 685-8580 or on the Internet at [www.ecwa.org](http://www.ecwa.org).