# ANNUAL DRINKING WATER QUALITY REPORT FOR 2020
# TOWN OF AURELIUS AND VILLAGE OF CAYUGA
# 1241 WEST GENESEE ST RD
# AUBURN, NY 13021
# WATER SUPPLY ID# NY 051732, 0511731, & 0501711

## *INTRODUCTION*

To comply with State and Federal regulations, the Town of Aurelius, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise public understanding of drinking water and awareness of the need to protect municipal drinking water sources. Last year, your tap water met all State drinking water health standards. In 2020, City of Auburn Water Filtration Plant operators, conducted tests for over 100 contaminants. Testing resulted in the detection of several contaminants, however, none of the contaminants were found at a level above the threshold set forth by the New York State Department of Health. However, Aurelius WD #3 found 1 group of those contaminants, trihalothemanes, at a level higher than the State allows. As we told you at that time, our water temporarily exceeded a drinking water standard and we are working to rectifiy the problem by increasing frequency of flushing of water mains, activating the aerator in the new water storage tank, amd reducing the amount of chlorine added to the water. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions concerning this report on your drinking water, please contact Mr.Harold Waltert, Water/Sewer Manager-at 315-246-4631. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled City Council Work Sessions. A schedule of the Board Meetings and Work sessions maybe be obtained from the Clerk's Office located at 1241 West Genesee St Rd Auburn, 315-255-1894, ext 1000 or on the Town's web site: www.aureliustown.org

## *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, 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 New York State Department of Health (NYSDOH) and the Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The NYSDOH and the United States Food and Drug Administration's (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

The Town of Aurelius Village of Cayuga water source is Owasco Lake, a surface water source from the City of Auburn. The City draws its water through a single 30-inch intake line that extends over 1,800 feet into the lake. The intake structure is a submerged concrete crib. The City's allowable withdrawal from Owasco Lake is 15 million gallons per day (mgd), as permitted by Water Resource Application #422 dated 10/3/63. The dependable yield is determined to be 48 mgd in a study conducted in 1995 by R & D Engineering, P.C., and Buffalo, New York. Dependable yield, sometimes called safe yield, is the amount of water that can be continuously withdrawn from the source without ecological impact.

Owasco Lake is classified as a Class-AA Special water body designated by the New York State Department of Environmental Conservation (NYSDEC) as listed in 6 NYCRR Part 702. It is considered an excellent source of potable water, and must be protected. In an effort to maintain our source water quality, the City of Auburn actively participates and financially supports the Owasco Lake Watershed Inspection and Protection Division on an annual basis. The Watershed Inspection and Protection Division is charged with enforcement of watershed rules and regaulations for Owasco Lake, promulgated by lay under NYCRR Section 1100 (Public Health).

The transmission main for the City of Auburn is from the from the Upper Pumping Station to the Filtration Plant on Swift Street consists of approximately 8,800 feet of 24-inch cast-iron pipe. The first 400 feet of transmission main is a new 30-inch diameter pipe installed as part of the re-construction of the Owasco Lake Seawall Project, completed in 2001**.** The pipe size is increased to 36-inch at the point where it crosses over the Owasco Lake Outlet adjacent to the State Dam, and is reduced to 30 inches before entering the rapid-sand filtration plant.

The City presently operates two filtration plants: a slow-sand plant, and a rapid-sand plant, which function in parallel operation. The plants are located at the corner of Swift Street and Pulsifer Drive in Auburn. The slow-sand filtration plant was constructed in 1916-17. The plant contains 4 beds with a total capacity of about 7.5 MGD (million gallons per day). The beds consist of about 42 inches of sand supported by 12 inches of gravel. The rapid-sand filtration plant originally constructed in 1969 consists of 3 dual-media filters with a combined capacity of about 7.25 MGD. In the rapid-sand plant, all water is pre-treated with poly-aluminum chloride to facilitate coagulation and sedimentation and settling prior to filtration. All water is disinfected with Sodium Hypochlorite Solution prior to distribution. Reservoirs on Franklin Street and Swift Street maintain reserves of 10.25 million gallons (MG) and 3 MG, respectively. The City also protects its raw water intake pipe from Zebra Mussels by adding a chemical solution of Sodium Hypochlorite. The addition of Sodium Hypochlorite added at concentrations between 0.40 and 0.70 mg/L prevents adolescent zebra mussels from developing into adults which can attach to the inside of the intake pipe and restrict the City's ability to draw water from the lake. During the 2017 season, a Powdered Activated Carbon system was built at the Upper Pumping Station to help treat for microcystin, the toxin associated with Harmful Algae Blooms (HAB).

Drinking water, including bottled water, can reasonably be expected to contain small amounts of contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. As mentioned earlier, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells.

In order to ensure that the tap water is safe to drink, the NYSDOH prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. We treat our water according to EPA's and the NYSDOH's regulations. The United States Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

## *FACTS AND FIGURES*

The Town of Aurelius and Village of Cayuga water system serves approximately 3,341 (2010 census) through approximately 747 service connections.

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

As the State regulations require, we routinely test your drinking water for numerous contaminants. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. These contaminants include the following:

| **Physical** | **Owasco Lake** | **NYDOH Maximum Limit** |
|---|---|---|
| Raw Water Turbidity (NTU) | 0.63-29.95 | No Designated Limit |
| Color | <5 | 15.0 Units |
| Odor | <1 T.O.N. (Threshold Odor Number) | 3 Units |
| **Radioactive Contaminants** | ***Potable Water*** | |
| Gross Alpha | 7.15 pCi/L | 15 pCi/L |
| Gross Beta Activity | ND | 4 pCi/L |
| Combined Radium 226 and 228 | ND | 5 pCi/L |
| **Chemical** | | |
| pH | 7.37-8.50 | 6.5 - 8.5 |
| Hardness (as CaCO3 mg/l) | 120 | No Designated Limit |
| **Inorganics (mg/l)** | | |
| Antimony | <0.00040 | 0.006 |
| Arsenic | <0.0010 | 0.01 |
| Barium | 0.021 | 2.00 |
| Beryllium | <0.00030 | 0.004 |
| Cadmium | <0.0010 | 0.005 |
| Chloride | 24 | 250 |
| Chromium | 0.0037 | 0.1 |
| Copper | 0.0045 | 1.3 |
| Cyanide | <0.005 | 0.2 |
| Fluoride | <0.1 | 2.2 |
| Iron | <0.050 | 0.3 |
| Iron+Manganese | <0.060 | 0.5 |
| Lead | 0.0014 | 0.015 |
| Manganese | <0.010 | 0.3 |
| Mercury | <0.00020 | 0.002 |
| Nickel | 0.0021 | 0.1 |
| Nitrate | 1.2, 1.2, 0.8, 1.0 | 10.0 |
| Selenium | <0.0010 | 0.05 |
| Silver | <0.010 | 0.1 |
| Sodium | 18 | No Designated Limit |
| Sulfate | 12 | 250 |
| Thallium | <0.00030 | 0.002 |
| Zinc | <0.020 | 5 |
| **Organics (mg/l)** | | |
| **Trihalomethanes, Total** | 0.030-0.073 | 0.080 |
| **Haloacetic acids, ( HAA5)** | 0.006-0.034 | 0.060 |
| **Specific Organic Chemicals (mg/l)** | | |
| Alachlor | <0.0001 | 0.002 |
| Aldicarb | <0.0005 | 0.003 |
| Aldicarb sulfone | <0.0008 | 0.002 |
| Aldicarb sulfoxide | <0.0005 | 0.004 |
| Aldrin | <0.001 | 0.005 |
| Atrazine | <0.0001 | 0.003 |
| Benzo(a)pyrene | <0.00002 | 0.0002 |
| Butachlor | <0.01 | 0.05 |
| Carbaryl | <0.001 | 0.05 |
| Carbofuran | <0.0009 | 0.040 |
| Chlordane <Alpha Gamma> | <0.00002 | 0.002 |
| Dalapon | <0.001 | 0.05 |
| 1,2Dibromo-3-chloropropane | <0.00002 | 0.0002 |
| Dieldrin | <0.001 | 0.005 |
| 2, 4-D | <0.0001 | 0.050 |
| Dinoseb | <0.0002 | 0.007 |
| Dicamba | <0.01 | 0.05 |
| Endrin | <0.00001 | 0.002 |
| bis(2-ethylhexyl)adipate | <0.0006 | 0.006 |
| bis(2-ethylhexyl)phthalate | <0.0006 | 0.006 |
| Glyphosate | <0.005 | 0.5 |
| Heptachlor | <0.00004 | 0.0004 |
| Heptachlor epoxide | <0.00002 | 0.0002 |
| Hexaclorobenzene | <0.0001 | 0.001 |
| Hexachlorocyclopentadiene | <0.0001 | 0.005 |
| 3-hydroxycarbofuran | <0.001 | No designated limit |
| Lindane | <0.00002 | 0.0002 |
| Methomyl | <0.001 | 0.05 |
| Methoxychlor | <0.0001 | 0.040 |
| Metolachlor | <0.01 | 0.05 |
| Metribuzin | <0.01 | 0.05 |
| Oxamyl | <0.001 | 0.05 |
| Pentachlorophenol | <0. 00004 | 0.001 |

| | | |
|---|---|---|
| Picloram | <0.0001 | 0.05 |
| Propachlor | <0.01 | 0.05 |
| Simazine | <0.0001 | 0.004 |
| Toxaphene | <0.001 | 0.003 |
| 2, 4, 5-TP (Silvex) | <0.0002 | 0.010 |
| **UCMR3/UCMR4 (ug/L)** | | |
| Perfluorobutanesulfonic acid | <0.030 | No designated limit |
| Perfluoroheptanoic acid | <0.0033 | No designated limit |
| Perfluorohexanesulfonic acid | <0.010 | No designated limit |
| Perfluorononanoic acid | <0.00067 | No designated limit |
| Perfluorooctanesulfonic acid | <0.0013 | No designated limit |
| Perfluorooctanoic acid | <0.00067 | No designated limit |
| Cobalt | <0.33 | No designated limit |
| Molybdenum | <0.33 | No designated limit |
| 1,1-Dichloroethane | <0.030 | No designated limit |
| 1,2,3-Trichloropropane | <0.030 | No designated limit |
| 1,3-Butadiene | <0.10 | No designated limit |
| Bromochloromethane | <0.060 | No designated limit |
| Bromomethane | <0.20 | No designated limit |
| Chlorodifluoromethane | <0.080 | No designated limit |
| Chloromethane | <0.20 | No designated limit |
| 1,4-Dioxane | <0.070 | No designated limit |
| Total Microcystin | <0.3 | No designated limit |
| Microcystin-LA | <0.008 | No designated limit |
| Microcystin-LF | <0.006 | No designated limit |
| Microcystin-LR | <0.02 | No designated limit |
| Microcystin-LY | <0.009 | No designated limit |
| Microcystin-RR | <0.006 | No designated limit |
| Microcystin-YR | <0.02 | No designated limit |
| Nodularin | <0.005 | No designated limit |
| Anatoxin-a | <0.03 | No designated limit |
| Cylindrospermopsin | <0.09 | No designated limit |
| Germanium | <0.3 | No designated limit |
| Alpha-hexachlorocyclohexane | <0.01 | No designated limit |
| Chlorpyrifos | <0.03 | No designated limit |
| Dimethipin | <0.2 | No designated limit |
| Ethoprop | <0.03 | No designated limit |
| Oxyfluorfen | <0.05 | No designated limit |
| Profenofos | <0.3 | No designated limit |
| Tebuconazole | <0.2 | No designated limit |
| Total Permethrin (cis- & trans-) | <0.04 | No designated limit |
| Tribufos | <0.07 | No designated limit |
| 1-Butanol | <2.0 | No designated limit |
| 2-Methoxyethanol | <0.4 | No designated limit |
| 2-Propen-1-ol | <0.5 | No designated limit |
| Butylated hydroxyanisole | <0.03 | No designated limit |
| o-Toluidine | <0.007 | No designated limit |
| Quinoline | <0.02 | No designated limit |

## SUMMARY OF DETECTED CONTAMINANTS

It should be noted that all drinking water, including bottled drinking water, might be reasonably expected to contain 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 at 1-800-426-4791 or the Cayuga County Health Department at 315-253-1405.

| Table of Detected Contaminants | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Contaminant** | **Violation Yes/No** | **Date of Sample** | **Level Detected (Average) (Range)** | **Unit Measurement** | **MCLG** | **Regulatory Limit (MCL, TT or AL)** | **Likely Source of Contamination** |
| PHYSICAL Turbidity | No | 5 days per week | 0.09 Avg. Range 0.04-0.85 | NTU | N/A | 5.0 distribution system | Soil Runoff/Natural Lake Turnover |
| PHYSICAL Turbidity | No | 7 days per week | 0.036 Avg. Range 0.01– 0.19 | NTU | N/A | 0.3–1.0 MCL filter Performance | Soil Runoff/Natural Lake Turnover |
| INORGANICS | | | INORGANICS | | | | |
| Barium | No | 3/18/20 | 0.021 | ppm | 2 | 2 | Erosion of natural deposits. |
| Chloride | No | 3/23/17 | 24 | ppm | N/A | 250 | Naturally occurring. |
| Chromium | No | 3/18/20 | 0.0037 | ppm | N/A | 0.1 | Erosion of natural deposits. |
| Cyanide | No | 2/20/19 | 0.013 | ppm | N/A | 0.2 | Erosion of natural deposits. |
| Nickel | No | 3/18/20 | 0.00021 | ppm | N/A | 0.1 | Erosion of natural deposits. |
| Sulfate | No | 3/23/17 | 12 | ppm | N/A | 250 | Naturally occurring. |
| Sodium | No | 3/18/20 | 18 | ppm | N/A | No Limit | Naturally occurring. |
| Nitrate | No | 2/20/20 5/28/20 8/20/20 11/18/20 | 1.058 Avg. Range 0.8-1.2 | ppm | 10 | 10.0 MCL | Erosion of natural deposits. |
| ORGANICS Trihalomethanes, Total District #1 | No | 2020 | Avg. 64.8 Range 39.4-70.6 | PPB | N/A | 80 MCL | Contained in Chlorinated Water |
| ORGANICS Trihalomethanes, Total District #2 | No | 2020 | Avg. 53.75 Range 24.9-54.3 | PPB | N/A | 80 MCL | Contained in Chlorinated Water |
| ORGANICS Trihalomethanes, Total District #3 | Yes | 2020 | Avg. 91.55[8,9] Range 34.7-84.5 | PPB | N/A | 80 MCL | Contained in Chlorinated Water |
| Haloacetic Acids (HAA5) District #1 | No | 2020 | Avg. 25.525 Range 9.6-40.7 | PPB | N/A | 60 | Contained in Chlorinated Water |
| Haloacetic Acids (HAA5) District #2 | No | 2020 | Avg. 25.525 Range 13.2-34.4 | PPB | N/A | 60 | Contained in Chlorinated Water |
| Haloacetic Acids (HAA5) District #3 | No | 2020 | Avg. 39.225 Range 18.7-49.5 | PPB | N/A | 60 | Contained in Chlorinated Water |
| Lead District #1 | No | 8/15/18 | 1.1[1] Range N/D – 2.2 | PPB | 0 | AL=15 PPB | Contained in Finished Water, an artifact of old piping and lead soldered joints. |
| Lead District #2 | No | 8/15/18 | 4.2[2] Range N/D – 8.5 | PPB | 0 | AL=15 PPB | Contained in Finished Water, an artifact of old piping and lead soldered joints. |
| Lead District #3 | No | 8/15/18 | <1[3] Range N/D – 1.4 | PPB | 0 | AL=15 PPB | Contained in Finished Water, an artifact of old piping and lead soldered joints. |
| Copper District #1 | No | 8/15/18 | 0.036[4] Range 0.0043 - 0.037 | Mg/L | 1.3 | AL=1.3 Mg/L | Contained in Finished Water, an artifact of old piping and lead soldered joints. |
| Copper District #2 | No | 8/15/18 | 0.0405[5] Range 0.011 – 0.049 | Mg/L | 1.3 | AL=1.3 Mg/L | Contained in Finished Water, an artifact of old piping and lead soldered joints. |
| Copper District #3 | No | 8/15/18 | 0.048[6] Range 0.0024 – 0.053 | Mg/L | 1.3 | AL=1.3 Mg/L | Contained in Finished Water, an artifact of old piping and lead soldered joints. |
| **Radioactive Contaminants** | | | | | | | |
| Gross Alpha | No | 4/16/15 | 7.15 | pCi/L | 0 | 15 pCi/L | Contained in soil or sedimentary rock formations |
| Gross Beta | No | 4/16/15 | ND | pCi/L | 0 | 4 pCi/L | Contained in soil or sedimentary rock formations |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Combined Radium 226 228 | No | 4/16/15 | ND | pCi/L | 0 | 5 pCi/L | Contained in soil or sedimentary rock formations |
| **Unregulated Contaminents** | | | | | | | |
| Chromium | No | 3/18/15<br>6/18/15 | 0.29,0.29<br>0.095,0.17 | ppb | N/A | N/A | Naturally occurring element; used in making steel and other alloys;chromium -3or-6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood peservation |
| Strontium | No | 3/18/15<br>6/18/15<br>12/17/15 | 84.1, 86.6<br>81.9, 80.5<br>85.5,82.3 | ppb | N/A | N/A | Naturally occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode ray tube televisions to block x-ray emissions |
| Hexavalent Chromium | No | 3/18/15<br>6/18/15<br>12/17/15 | 0.033<br>0.048, 0.030<br>0.043,0.031 | ppb | N/A | N/A | Naturally occurring element; used in making steel and other alloys;chromium -3or-6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood prservation |
| Vanadium | No | 6/18/15 | 0.12,0.11 | ppb | N/A | N/A | Naturally-occuring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst |
| Chlorate | No | 12/17/15 | 180,160 | ppb | N/A | N/A | Agricultural defoliant or desiccant:disinfection byproduct;and used in production of chlorine dioxide |
| Bromide | No | 7/02/18<br>10/02/18 | 15<br>15 | ppb | N/A | N/A | Naturally occurring. |
| TOC | No | 1/15/20<br>2/19/20 | 1.4<br>1.4 | ppm | N/A | N/A | Erosion of natural deposits. |
| Manganese | No | 7/02/18<br>10/02/18 | 0.86<br>1.7 | ppb | N/A | N/A | Naturally occurring. |
| Haloacetic Acids, (HAA9) | No | 7/05/18<br>10/02/18 | 33.2<br>19.3 | ppb | N/A | N/A | Contained in Chlorinated Water. |
| Haloacetic Acids, (HAA6Br) | No | 7/05/18 | 4.9 | ppb | N/A | N/A | Contained in Chlorinated Water. |
| 1,4-Dioxane | No | 10/6/20 | <0.0400 | ppb | N/A | N/A | Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites. |
| PFOS | No | 10/6/20 | <2.0 | ppt | N/A | N/A | Released into the environment from widespread use in commercial and industrial applications. |
| PFOA | No | 10/6/20 | <2.0 | ppt | N/A | N/A | Released into the environment from widespread use in commercial and industrial applications. |
| **Cyanotoxin** | | | | | | | |
| Microcystin Finished Water | No | 8/11/20-<br>11/2/20<br>30 samples | All <0.3 | ppb | 0 | N/A[3] | Naturally occurring due to harmful algae blooms/cyanobacteria |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Microcystin<br>Raw Water | N/A | 8/11/20-11/2/20 30samples | Range <0.3-3.07 | ppb | N/A | N/A | Naturally occurring due to algae blooms/cyanobacteria |

**Notes:**

1 – The level presented represents the 90th percentile of the 5 samples collected. 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 lead values detected at your water system. In this case, 5 samples were collected at your water system and the 90th percentile value was the average of the fourth and fifth highest value values, 1.1 ppb. The action level for lead was not exceeded at any of the 5 sites.

2 – The level presented represents the 90th percentile of the 5 sites tested. The action level for lead was not exceeded at any of the sites tested.

3 – The level presented represents the 90th percentile of the 10 sites tested. The action level for lead was not exceeded at any of the sites tested.

4 – The level presented represents the 90th percentile of the 5 sites tested. The action level for copper was not exceeded at any of the sites tested.

5 – The level presented represents the 90th percentile of the 5 sites tested. The action level for copper was not exceeded at any of the sites tested.

6 – The level presented represents the 90th percentile of the 10 sites tested. The action level for copper was not exceeded at any of the sites tested.

7 – The United States Enviromental Protection Agency 10 day health advisory level for microcystin is 0.3 ppb for children less than or equal to 5 years of age and vulnerable populations and 1.6 ppb for all other people.

8 – This level represents the highest running annual average calculated from data collected during the calendar year 2020, and the range of detected values at 2 sample sites. The system was out of compliance of the 80 ug/l limit at one sample site for two quarters of 2020 with a running annual average of 91.55 ug/l for the first quarter of 2020 and a running annual average of 84.25 ug/l for the second quarter of 2020.

9 – 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 systems, and may have an increased risk of getting cancer.

**Definitions:**

**Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.**

**Level 2 Assessment: A level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. Coli violation has occurred and/or why total coliform bacteria have been found in our water systemon multiple occasions.**

***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 Disinfection 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 Disinfection 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.

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

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

***Nephelometric Turbidity Unit (NTU)***: A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

***Colony Forming Units (CFU)***: A unit used to measure the number of viable bacteria cells.

***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).

***Picocuries per liter (pCi/L)***: A measure of the radioactivity in water.

***Color***: The presence of dissolved substances in water.

***Hardness***: A characteristic of water caused mainly by the salts of calcium and magnesium, such as bicarbonate, carbonate, sulfate, chloride and nitrate.

***Inorganic chemicals***: Materials such as sand, salt, iron, calcium salts, and other materials of mineral origin.

***Odor threshold***: The minimum odor of a water sample that can just be detected after successive dilutions with odorless water.

## *WHAT DOES THIS INFORMATION MEAN?*

The table shows that our system uncovered a problem this year. We violated the maximum contaminant level for total trihalomethanes during the first & second quarters of 2020. The potential adverse health effects are that 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 systems, and may have an increased risk of getting cancer. We are correcting this by increasing frequency of flushing of water mains, activating the aerator in the new water storage tank, amd reducing the amount of chlorine added to the 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 Town Of Aurelius 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.

Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Turbidity itself has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbiological growth. Turbidity may indicate the presence of disease causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Please pay special attention to the additional statement in this document regarding Cryptosporidium and Giardia. Plant monitoring equipment has been updated and plant procedures have been modified to allow treatment of our water and keep it well within all regulatory requirements.

## *IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?*

During 2020 our system was in compliance with all applicable State and Federal drinking water requirements.

## *INFORMATION ON CRYPTOSPORIDIUM & GIARDIA*

New York State law requires water suppliers to notify their customers about the risks of Cryptosporidiosis and Giardiasis. Cryptosporidiosis and Giardiasis are intestinal illnesses caused by microscopic parasites. Cryptosporidiosis can be very serious for people with weak immune systems, those on chemotherapy, dialysis or transplant

patients, as well as people with Crohn's disease or Human Immune Deficiency (HIV) infection. People with weakened immune systems should discuss with their health care providers the need to take extra precautions such as boiling water, using certified bottled water or a specially approved home filter. Individuals who think they may have Cryptosporidiosis or Giardiasis should contact their health care provider immediately. The city began a two year testing program for Giardia and Cryptosporidium in October of 2016. Samples of our **raw water** were collected once a month during this two year period. Of the 24 samples collected during this period, one sample in April 2018 tested positive for Giardia. The rest of the samples collected in 2018 were negative for Giardia and Cryptosporidium.
For additional information on **Cryptosporidiosis** or **Giardiasis**, please contact the Cayuga County Health Department at 315-253-1405.

## *INFORMATION ON RADIOLOGICAL TESTING*

Radiological Testing was performed in 2015. Regulatory limits are as listed on the table, and all testing was below limits. Testing will be due again in 2021.

## *Information on Unregulated Contaminents*

The City of Auburn is required to test for the unregulated contaminents in 2015 and 2018. A list of the contaminents found are in the summary of detected contaminents section of this report. PFOS/PFOA sampling started in October 2020. Sampling will continue quarterly in 2021.

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

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/Acquired Immune Deficiency Syndrome (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/Center for Disease Control and Prevention (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 1-800-426-4791.

## *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:**

1. 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.
2. Turn off the tap when brushing your teeth.
3. 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.
4. 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.
5. Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, and then check the meter after 15 minutes. If it moved, you have a leak.
6. Retrofit plumbing fixtures.
7. Be more conscientious of water use.

## *SYSTEM IMPROVEMENTS*

The City of Auburn Department of Municipal Utilities continues to proactively develop and implement a capital improvement projects on a 5 year look ahead cycle. In addition to capital project planning, our Operators and Staff deploy multiple annual programmatic improvements to your water system infrastructure. The following list compiles recent capital and operational improvement projects:

1. We continue to use Poly Aluminum Chloride (PACl) for coagulation. By using PACl, we have enhanced the pretreatment of the water, reduced chemical handling costs and now produce 1/3 of the waste sludge by volume as in previous years.
2. We continue to improve our telemetry and Supervisory Control and Data Acquisition (SCADA) systems. Our SCADA system was recently upgraded to current industry standards in 2019. This allows our operations staff to keep a watchful eye on every water treatement process from our command center on a 24/7/365 basis.
3. Lagoon cleaning and improvement project completed in 2018. The lagoon system treats all filtered waste products prior to discharge of clean water back into the environment.
4. Complete, system-wide Distribution Mapping & GIS Integration project completed in 2018. The City now owns and uses a comprehensive mapping system of the entire water distribution system. This mapping allows staff to conduct hydraulic analysis on the system prior to implementation of a water main improvement project so resources are best spent on projects with the most beneficial systemwide impacts.
5. North St. water main replacement project completed in 2018.
6. Vulnerability Assessment done on SCADA system in 2017.
7. New Powdered Activated Carbon (PAC) system installed at Upper Pumping Station in 2017.
8. PAC storage system and upper pumping station improvements installed in 2019.
9. Hign Storage Reservoir inspected in 2020.
10. Zebra Mussel control system at the Upper Pumping Station upgraded in 2020.
11. Storage Pole Barn installed at Water Filtration Plant in 2017.
12. Remove stone around Upper Pumping Station and replace with asphalt and flexipave.
13. York St., Chase St. ext., Swift St., and Pulsifer Dr. water main upgrades and replacement in 2019.
14. Arlington Ave., Kensington Ave., West Clymer St., and Dunning Ave. water main upgrades in 2020.

## *FUTURE WORK*

Slow Sand Filter resanding in 2021.
Rapid Sand Filter media remediation in 2021.
South St. Water Main Replacement Project in 2021.
Slow Sand Building and Clearwell upgrades in 2022

## *FREQUENTLY ASKED QUESTIONS & ANSWERS*

**What affects the taste of my water?**

The taste of drinking water is affected by its mineral content as well as the presence of chlorine, which is used to protect against potential bacterial contamination. Sometimes plumbing can cause a metallic flavor, especially if water has been sitting in pipes for many hours. Taste, however, does not necessarily indicate a higher or lower degree of contamination. At times, when conditions are right, algae blooms occur in our lake sometimes causing objectionable odors and taste in the finished drinking water. Although algae are removed during the treatment process, some of their metabolites may be left behind. The two most common metabolites are geosmin and 2-methylisoborneal (MIB). Even though these compounds are harmless, the human sense of taste and smell are extremely sensitive to them and can detect them in water at concentrations as low as 5 parts per trillion. To give you an idea of what a "part per trillion" is, consider this – One part per trillion is equivalent to one drop of water diluted in 20 Olympic swimming pools.

**What affects the way my water looks?**

In addition to naturally occurring minerals, our water also includes small amounts of iron picked up from our cast-iron water mains. When a surge of pressure occurs, usually from a main break or a fire hydrant being used, the sediment becomes stirred into the water. During these episodes, the water supply to your home can be tinted yellow or even brownish-red. The iron is harmless and settles out again in a few hours. Please be aware that it will stain clothing, so don't wash your clothes if you experience iron-tinted water. Also, avoid running hot water at these times, if possible, so that your water heater doesn't refill with iron tinted water.

**Do I really need to buy a Water Filter or Home Treatment System?**

The decision to buy water filters or home treatment systems is yours. Our water meets and exceeds rigid State and Federal Standards. If you decide to buy a filter system, be a smart shopper and do some homework. Be sure that any treatment device you buy is registered with the National Sanitation Foundation (NSF). Information on these systems is available at libraries, or from the NSF.
Contact the NSF toll free at 877-867-3435 or visit www.nsf.org.

**Owasco Lake Watershed Inspection and Protection Division 2020 Summary**

The Owasco Lake Watershed Inspection and Protection Division sustained a normal schedule of duties and operations, conducting regular surveillance of the Owasco Lake watershed throughout 2020. Our primary activities included stream monitoring with a special emphasis on Sucker and Veness Brook sub-watersheds, responding to and addressing water quality threats and cyanobacteria blooms, and participating in community engagement projects throughout the basin.

Mandatory social distancing protocols presented minor challenges to our surveillance efforts during 2020, however staff were able to conduct nearly 100 site inspections uniformly throughout the watershed, ranging from new residential construction sites, steep slope disturbance issues, stream erosion, agricultural runoff, and septic failures. Among numerous issues and concerns discovered, 5 water quality violations were identified. Regulatory and enforcement assistance from county, state, and federal agencies resulted in swift landowner responses to the violations, achieving 100 percent compliance through implementation of corrective actions.

**Landscape Conditions Observed**

Aside from only three widespread, noteworthy rainfall events, frozen and liquid precipitation amounts throughout the watershed were significantly below normal in 2020, resulting in drought, but highly stable soil conditions. Dry stream beds and little rainfall meant few observed runoff and sediment plumes entering the lake from the surrounding landscape.

The watershed agricultural community continues to incorporate and advance management practices on farmsteads and crop lands to prevent runoff, particularly with the widespread increased use of cover crops for soil and nutrient stability. Despite a very moist post-harvest fall season in 2019, a tremendous effort was made by the ag community to cover thousands of acres of exposed crop soils, reducing the impacts of spring snowmelt and rain during the spring of 2020.

Watershed municipal highway departments were observed taking advantage of the dry conditions to conduct reparations and stabilization to the structural water conveyance network, including roadside ditches, bridges, and culverts. The jurisdictions within the Tompkins County portion of the watershed were particularly active in 2020. Tompkins County Highway Department performed ditch maintenance on numerous miles of roadway in the Owasco Inlet headwater sub-watersheds. Newly excavated ditch segments were witnessed receiving vegetative (hydroseeding) and velocity control (stone armoring) practices in highly commendable, timely manner. The village of Groton undertook expensive improvements to water conveyance infrastructure in 2020, including an expensive replacement of a failing culvert and the realignment of a damaged stream channel on a tributary of the Owasco Inlet.

**Special Projects**

Division staff participated in numerous community awareness projects during 2020. In cooperation with the Owasco Watershed Lake Association and Scout Troop 11 from Auburn, 140 storm drain educational "Drains to Lake" medallions were placed onto street storm grates throughout the villages of Moravia and Groton, as well as the hamlet of Locke. Staff assisted the Owasco Lake Watershed Management Council's Lake Friendly Living campaign, distributing and placing roadside lawn signs to residents throughout the watershed pledging to conduct lawn care activities in a manner that protects water quality.

**Backflow Prevention**

The Department of Municipal Utilities (DMU) is responsible for providing a continuous supply of safe, clean drinking water to more than 45,000 residents and visitors throughout the City and Cayuga County. To protect the City's drinking water from contamination, DMU has a robust water quality monitoring program and regularly performs sampling throughout the City to ensure all relevant State and Federal standards are met. DMU also works to prevent contamination before it occurs by ensuring that local businesses comply with all relevant City and State codes. A key component of this enforcement and inspection initiative is the City's Cross Connection Control Program, (Article IV § 297-32 - §297-38) which requires all commercial businesses and residential four units or more to install and operate approved backflow prevention devices. The City of Auburn currently has 239 businesses, with 378 backflow units in operation.

## A NOTE FROM New York STATE DEPARTMENT OF HEALTH

The NYS Department of Health has completed a source water assessment for the City of Auburn, based on available information. Possible and actual threats to this drinking water source were evaluated. This 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 lakes. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. (See the section of this document "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected in the drinking water.) The source water assessments are intended to provide managers with additional information for protecting source waters into the future.

As mentioned before, our water is derived primarily from Owasco Lake. The source water assessment has rated this source as having an elevated susceptibility to protozoa and phosphorus due to the amount of agricultural lands in the assessment area and the quantity of wastewater discharged from municipal wastewater treatment plants to surface water. In addition, this source water assessment rated Owasco Lake as having an elevated susceptibility to pesticide contamination due to the amount of agricultural lands.

County and state health departments will use this information to direct future source water protection activities. These may include water quality monitoring, resource management, planning, and education programs. A copy of the complete assessment is available for review by calling the Cayuga County Health Department at 253-1405.

### ADDITIONAL SOURCES OF INFORMATION

Harold Walter
Aurelius Water/Sewer Manager
315-246-4631
highway1@aureliustown.org

United States Environmental
Protection Agency
1-800-426-4791
www.epa.gov/safewater/

Cayuga County Health Dept
Kathleen Cuddy, Public Health
315-253-1560
cchealth@cayugacounty.us

Debbie Pinckney
Aurelius/Cayuga Water Billing Clerk
315-255-1894 ext 1000
d.pinckney@aureliustown.org

Eileen O'Connor, Director
of Environmental Health
315-253-1405

Visit www.aureliustown.org or www.cayugavillageny.com for information on our water supply.