



Annual Drinking Water Quality Report for 2019

CITY OF ALBANY
DEPARTMENT OF WATER & WATER SUPPLY
10 NORTH ENTERPRISE DRIVE
(Public Water Supply ID# NY 0100 189)

Introduction

The Albany Water Board issues an annual report describing the quality of your drinking water to comply with state regulations. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. We are proud to report that last year your water met all state drinking water health standards and our system had no violations of maximum contaminant levels. This report provides an overview of last year's water quality, and includes details about where your water comes from, what it contains, and how it compares to State standards. We are pleased to provide you with this information because informed customers are our best customers.

If you have any questions about this report or concerning your drinking water, please contact the City of Albany, Department of Water and Water Supply at 518-434-5300. If you want to learn more, please attend any of our regularly scheduled Albany Water Board meetings. The meetings are normally held the fourth Friday of each month at 9:30 A.M. at the 10 North Enterprise Drive offices of the Albany Water Department. The schedule of Water Board meetings is posted on our website;

<http://www.albanyny.org/Government/Departments/WaterAndWaterSupply.aspx>

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 can pick up substances resulting from the presence of animals or from human activities. Atmospheric sources of contamination enter our water sources through rain and snowfall. 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 that limit the amount of certain contaminants in water provided by public water systems. State Health Department and FDA regulations also establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water source is the Alcove Reservoir, which is surface water and is located on the Hannacroix Creek in the Town of Coeymans. This reservoir has a capacity of 13.5 billion gallons, an average depth of 25 feet and a maximum depth of 75 feet. The Basic Creek Reservoir, in the town of Westerlo, is a secondary source that may be used to augment flow into the Alcove Reservoir to maintain the Alcove elevation. During 2019, our system did not experience any restriction of your water usage due to lack of source water or any other reason.

The water source receives treatment including pre-oxidation, disinfection, coagulation, sedimentation, filtration and pH and alkalinity adjustment for corrosion control at the Feura Bush Filtration Facility. Chlorine is added as a residual disinfectant to maintain microbiological quality throughout the distribution system. Ultraviolet light disinfection is a supplemental disinfectant used at the Loudonville Reservoir.

Facts and Figures

Our water system serves over 98,000 City residents, commercial, institutional and industrial accounts through approximately 29,000 service connections, and the Towns of Bethlehem and Guilderland through purchase water agreements. The total water treated in 2019 was 6,473,227,216 gallons. The daily water production averaged 17,734,869 gallons, with maximum daily production of 22,272,288 gallons. This year the amount of water produced for customers was 6,396,092,216 gallons, allowing 77,135,000 gallons for filter washes and other filtration plant domestic use.

In 2019, water customers were charged \$2.72 per 100 cubic feet of water, which equals \$3.64 per 1000 gallons. A 2 % increase in water charges was implemented in January 2019.

Are there contaminants in our drinking water?

As State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, metals including lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, synthetic organic compounds and radioactive materials like Uranium and Radium. 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, though most of our data represented here is from 2019 analysis.

It should be noted that all drinking water, including bottled drinking water, should 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 Safe Drinking Water Hotline at 800-426-4791 or the Albany County Health Department at 518-447-4620.

| Table of Detected Contaminants | | | | | | | |
|---|-------------------------|-------------------------------------|--------------------------------------|---------------------------|-------------|--|---------------------------------------|
| Contaminant | Violation Yes/No | Date of Sample | Level Detected (Avg.) (Range) | Unit of Measure | MCLG | Regulatory Limit (MCL, TT or AL) | Likely Source of Contamination |
| Microbiological Contaminants: | | | | | | | |
| Total Coliform ¹ | No | 4/29/2019 7/22/2019 9/25/2019 | 1 positive sample on each date | N/A | 0 | MCL 5% or more Positive of sites sampled per month | Naturally present in the environment. |
| Combined Filter Effluent Turbidity ² | No | Five days per week | 0.07 (0.01 – 0.15) | Yearly Avg. (Min-Max) NTU | N/A | TT < 1.0 NTU | Soil runoff. |
| | No | Six times daily | 99.0 % <0.3 | NTU | N/A | TT 95% of samples <0.30 | Soil runoff. |
| Distribution Turbidity ³ | No | 10/15/2019 | 0.52 (0.04 -12.90) | Yearly Avg. (Min-Max) NTU | NA | MCL 5 NTU | Soil run off |
| Inorganic Contaminants: | | | | | | | |

| | | | | | | | |
|---------------------------------|----|--------------------|------------------------|-----------------|----------|----------------------------------|--|
| Color | No | Five days per week | 2.90 (1.0 - 5.0) | Color units | N/A | 15.0 Color units | Natural metallic ions, humic and fulvic acids, dissolved plant components and treatment chemicals. |
| Odor | No | Five days per week | 1.51 (1-3) | Threshold units | N/A | 3 Threshold units | Decaying vegetation and metabolites of microbiota and disinfectants. |
| Alkalinity | No | Five days per week | 47.3 (39.4-53.4) | mg/L of CaCo3 | N/A | N/A | Naturally occurring |
| Hardness | No | Five days per week | 53.3 (45.5-60.8) | mg/L of CaCo3 | N/A | N/A | Sedimentary rocks (lime stone) seepage, runoff from soil and treatment process. |
| Barium | No | 12/12/2019 | 0.004 | mg/L | 2 | 2 mg/L | Erosion of natural deposits. |
| Chloride | No | Five days per week | 31.3 (30.1-32.9) | mg/L | N/A | MCL 250 mg/L | Soils, road salt. |
| Manganese | No | 12/12/2019 | 0.002 | mg/L | 0.1 | 0.3mg/L | Erosion of natural deposits. the most abundant metals in earth's crust, usually occurring with iron. |
| Nitrate as Nitrogen | No | 12/12/2019 | 0.02 | mg/L | <0.005 | 10mg/L | Agriculture Practices/ Nitrogen Fertilizers |
| Sodium ⁴ | No | 12/12/2019 | 19.5 | mg/L | NA | 20.0 mg/L 270 mg/L | Occurs naturally in almost all waters. |
| Sulfate | No | Monthly | 8.2 (6.83-10.75) | mg/L | N/A | MCL 250 mg/L | Occurs naturally in almost all waters. |
| Copper ⁵ | No | 2018 | 53.7* (ND-91.0) | µg/L | ND | AL 1300 µg/L | Corrosion of pipes. |
| Lead ⁶ | No | 2018 | 13.9* (ND-25.7) | µg/L | 0 | AL 15 µg/L | Corrosion of pipes. |
| Zinc | No | 12/12/2019 | 0.002 | mg/L | ND | 5mg/L | Runoff from contaminated soils, coalmines, fertilizers, wood preservatives. |
| Disinfection Byproducts: | | | | | | | |
| Total Trihalomethane | No | Quarterly | 50.2 (40.0 - 56.2) | µg/L | N/A | MCL 80 µg/L LRAA ⁷ | Disinfection by-products, resulting from chlorinating drinking water. |
| Haloacetic Acids | No | Quarterly | 17.4 (13.6-29.2) | µg/L | N/A | MCL 60 µg/L LRAA | Disinfection by-products, resulting from chlorinating drinking water. |
| Total Organic Carbon | No | 2-3 days per week | 1.64 (1.46-2.10) | mg/L | N/A | TT | Occurs naturally in almost all waters. |
| Chlorine Residual | No | Six times daily | 0.93 0.53-1.32 | mg/L | 4.0 mg/l | MCL 4.0 mg/L | Added to drinking water to Inhibit microbial growth. |
| Radionuclides: | | | | | | | |
| Alpha particles | No | Weekly | 0.55 (ND-1.2) | pCi/L | NA | 15 pCi/L | Erosion of natural deposits. |
| Beta particles | No | Weekly | 1.3 (ND-5.0) | pCi/L | NA | 50 pCi/L ⁸ | Erosion of natural deposits. |

NOTES:

¹ Coliform are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria

may be present. Total coliforms were detected only in 3 samples in 2019, in April, 1 out of 142 routine samples, in July 1 out of 149 routine samples, in September 1 out of 131 routine samples, all Less than 1.0% of the total samples for that month. Additional samples were subsequently collected and total coliforms were not detected in any of those repeat samples. Since total coliforms were detected in less than 5% of the samples collected during the month, the system did not have a MCL violation. It should be noted that *E. coli*, associated with human and animal fecal waste, was not detected in any of the samples collected.

² Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest turbidity measurement for the year occurred on 09/06/19 (0.4NTU) after plant was shut down for 48 hours although the grab sample at same time was 0.15 NTU. State regulations require that 95% of the turbidity samples collected have measurements below 0.30 NTU.

³ Distribution turbidity is a measure of the cloudiness of the water found in the distribution system. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. A distribution system turbidity violation occurs when the monthly average of the results of all distribution samples collected in any calendar month exceeds the MCL. Our single highest distribution turbidity measurement detected 4 times during the year 2019, 6.10 NTU occurred in May with monthly average 0.69 NTU, 5.10 NTU in July with monthly average 0.59 NTU, 7.49 NTU in September with monthly average 1.44 NTU and 12.90 NTU in October with monthly average 1.21NTU. All the monthly average values are below the State maximum contaminant level.

⁴ Water containing more than 20 mg/L of sodium should not be used for drinking water by people on severely restricted sodium diets. Water containing more than 270 mg/L of sodium should not be used for drinking by people on moderately restricted sodium diets.

⁵* The level presented represents the 90th percentile of the 55 sites tested in 2018. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, 55 samples were collected at your water system and the 90th percentile value was the 53.7 µg/L with the highest detected value of 91.0 µg /L. The action level (1300µg/L) for copper was not exceeded at any of the sites tested.

⁶* The level presented 13.9µg /L represents the 90th percentile of the 55 samples collected. The action level (15µg/L) for lead was exceeded at four (4) of the 55 sites tested. The highest level detected was 25.7 µg/L.

⁷ Locational Running Annual Averages for total Trihalomethane and Haloacetic acid.

⁸ The State considers 50 pCi/L to be the level of concern for beta particles.

Definitions:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG 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. MCLG allow for a margin of safety.

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 below detection level or 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.

Milligrams per Liter (mg/L): Corresponds to one part of liquid in one million parts of liquid (parts per million (ppm)).

Micrograms per Liter (µg/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 radioactivity in water.

Non-Detected Contaminants

According to State regulations, the Albany Water Board routinely monitors your drinking water for various contaminants.

Contaminants that were analyzed for but were found to be below detection limits are not included in this report, however, all required testing was completed according to Local, State, and Federal laws. {A list of non-detected contaminants can be found on City of Albany, Department of Water and Water Supply Website.}

The contaminants that were detected in your drinking water are included in the Table of Detected Contaminants. Additionally, your water is tested for coliform bacteria four days per week.

What does this information mean?

As you can see by the table, our system had no violations in the reporting year 2019. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below New York State requirements.

The City of Albany Water Department has implemented a program to minimize lead levels in your drinking water. This program includes: 1) the adjustment of pH and alkalinity levels to minimize corrosion; 2) the replacement of lead service lines as distribution lines are replaced; and, 3) public education. The water department conducted lead and copper testing on select 55 residences in 2018. All residences for 2018 testing were picked after a survey to include houses from all wards in the City of Albany and were built before 1939 and were confirmed with Lead present at their meters. The 90th percentile of the samples collected was 13.9µg /L. The action level (15µg/L) for lead was exceeded at four (4) of the 55 sites tested. The highest level detected was 25.7 µg/L at only one location. The City of Albany has a NYSDOH grant for lead service line replacement. The Albany Water Board is undertaking lead service line replacement as part of its Capital Improvements Program when there is construction of new water mains and sewers. The Albany Water Board is developing a program for full service line replacement, including the portion on private property.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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 Albany Water Department is responsible for providing high quality drinking water, but cannot control a variety of materials used in plumbing components. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Also, you may flush your cold tap for 30 seconds to 2 minutes before using tap water for cooking or drinking. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov.safewater.lead>.

Is our water system meeting other rules that govern operations?

We are required to continually monitor your drinking water daily, monthly, quarterly, annually or after multiple years for different contaminants and report to Local, State and Federal authorities. During 2019, our system was in compliance with applicable operating, monitoring and reporting requirements for drinking water regulations. The Safe Drinking Water Act (SDWA) establishes periodic monitoring (every 5 years) through the Unregulated Contaminants Monitoring Rule (**UCMR**) to assess occurrence of select constituents from the Contaminant Candidate List for potential regulatory consideration. UCMR4 is the 4th cycle of UCMR monitoring. In 2019 our system was selected for monitoring of UCMR4. This study had three components AM1, Quarterly monitoring for one year of Entry point to distribution system samples for few metals, alcohols, pesticides, and semivolatiles, AM2, quarterly monitoring for one year of distribution samples from eight locations for Brominated Haloacetic Acids, along with Raw total organic carbon and bromide and AM3, bi-weekly monitoring of Entry point samples from July –October for Microcystins, toxins produced by some of the blue green Algae. The study is still undergoing and not complete for other systems but our preliminary data shows lots of contaminants were non-detect specifically none of the microcystins were detected in any of the eight samples.

Information on Cryptosporidium

Cryptosporidium is a microbial waterborne pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Starting April of 2015 City of Albany Water system, as a part of our requirement and to improve the quality of your drinking water underwent a long term 2 Enhanced Surface Water treatment Rule, Round 2 (LT2Rd2) monitoring of our source water for Cryptosporidium which ended in March of 2017. During these 24 months City of Albany, Water Systems collected twenty four monthly samples (two samples together in two months for Quality control) and were analyzed for Cryptosporidium Oocysts and all twenty four samples came out less than one Oocyst.

Cryptosporidium, a microscopic parasite contained in an Oocyst if ingested can break open in gastrointestinal tract and may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, acute watery diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, the very young and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider

regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

Information on Giardia

Giardia is another microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection. Starting April of 2015 City of Albany Water system, as a part of our requirement and to improve the quality of your drinking water underwent a long term 2 Enhanced Surface Water treatment Rule, Round 2 (LT2Rd2) monitoring of our source water for Giardia which ended in March of 2017. During these 24 months City of Albany, Water Systems collected twenty four monthly samples (two samples together in two months for Quality control) and were analyzed for Giardia Oocysts and none were detected.

Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month, with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with Giardiasis. Individuals who think that they may have been exposed to Giardiasis should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers or other settings where handwashing practices are poor.

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 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).

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 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:
 - ◆ Run only full loads in dishwashers and washing machines.
 - ◆ 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 may 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 per 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.

2019 System Improvements

Renovation of the Feura Bush Water Filtration Plant Operator and Laboratory spaces was completed in 2019. The operators and laboratory staff were temporarily in trailers while the control Room, office spaces, restrooms and laboratory were completely renovated, the heating, ventilation and air conditioning systems were replaced and the loading dock was demolished and rebuilt. In advance of this renovation the Feura Bush staff undertook conversion from the use of liquid chlorine to sodium hypochlorite, a much safer form of chlorine to handle. This conversion allowed an area formerly used to store ton containers of chlorine to become much needed additional space for the operators. The cost of this project was \$4.5 million.

The Albany Water Board and the Town of Colonie completed a joint project to create two strong interconnections between the water supply systems, one at Loudonville Reservoir and one at New Karner Road. The cost of this project was \$3 million, with half of the cost being the Albany Water Board share. This project provides 10 million gallon per day backup supply available to both Albany and Colonie.

The Albany Water Board began construction of the Upper Washington Avenue Pressure Zone, which includes a 1 million gallon tank at the New York State Harriman Office Campus and a booster pump station on Roseland Street near Colvin Avenue. This project will improve pressures in an area between Colvin Avenue and Fuller Road. This work was coordinated with infrastructure improvements being undertaken by the State of New York at the Harriman Campus. The cost of this project was \$5.5 million. Completion will be in 2020.

The Tivoli Preserve Stream Daylighting Project was completed. This project includes protection of water transmission mains that cross the Patroon Creek in the Preserve. The project was undertaken as part of the City of Albany new vision for the Tivoli Preserve which has multiple phases. The cost of this project was \$3 million.

Funds for these projects included \$6 million in grants from the State of New York.

Closing

Thank you for allowing us to continue to provide you and your family with quality drinking water with no water quality violation this year. We continually undertaking measures to maintain and improve our water quality through our treatment and monitoring processes. We ask that all of our customers help us protect our water sources, which are the heart of our community. Please call our office at 518-434-5300 if you have questions concerning your drinking water.