# *Annual Drinking Water Quality Report for 2021*
# *Rensselaerville Water District*
# *Rensselaerville, New York*
# *(Public Water Supply ID# NY0100202)*

**INTRODUCTION**

To comply with State regulations, Rensselaerville WD 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. 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.

We had violations of the drinking water standards in 2021 for an exceedance in total trihalomethane (TTHM) and haloacetic acids (HAA5) which is discussed later in this report. We have installed a stand-alone granular activated carbon filter, which has been online since August 2021, in order to mitigate this issue. Our constant goal is and always has been, to provide to you a safe and dependable supply of drinking water.

If you have any questions about this report or concerning your drinking water, please contact John Rice, Water Operator, (518) 810-7219. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled water board meetings. The meetings are typically held the first Thursday of the month at 7pm.

**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. 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 source of our water is Lake Myosotis, which is located at the headwaters of Ten Mile Creek. The Rensselaerville water treatment facility employs a multi step process to purify your water. The water from Lake Myosotis initially passes through settling chamber to remove particles. The water is further cleaned by a slow sand filter. In the warmer months, aeration is used before the slow sand filter to raise dissolved oxygen levels in the raw water. After passing through the slow sand filter the water is disinfected with chlorine (sodium hypochlorite) and stored in a 50,000 gallon clearwell before distribution to your homes.

**ARE THERE CONTAMINANTS IN OUR DRINKING WATER? -** As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include total coliform, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds (petroleum products and solvents), and synthetic organic compounds (herbicides and pesticides). The table presented below depicts which compounds were detected in your drinking water. A separate table is also included showing contaminants that were tested and not detected. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Albany County Health Department at (518) 447-4620.

| Table of Detected Contaminants | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Contaminant** | **Violation Yes/No** | **Date of Sample** | **Level Detected** | **Unit of Measure** | **MCLG** | **Regulatory Limit (MCL, TT or AL)** | **Likely Source of Contamination** |
| Turbidity | No | Daily | <1 | NTU | N/A | TT = at least 95% of samples < 1.0 | Erosion of soils |
| Barium | No | 6/5/19 | 0.012 | mg/L | 2 | 2 (MCL) | Erosion of natural deposits |
| Lead[2] | No | 6/3/19 | 0.0015 | mg/L | 0 | 0.015 (AL) | Corrosion of household plumbing systems. |
| Copper[2] | No | 6/3/19 | 1.36 | mg/L | 1.3 | 1.3 (AL) | Corrosion of household plumbing systems. |
| Nitrate | No | 3/8/21 | 0.344 | mg/L | 10 | 10 (MCL) | Erosion of natural deposits, or runoff from agricultural practices |
| TTHMs[3] | **Yes** | quarterly | RAA 101.15 | ug/L | N/A | 80 (MCL) | Bi-product of chlorination |
| HAA5[3] | **Yes** | quarterly | RAA 136.9 | ug/L | N/A | 60 (MCL) | Bi-product of chlorination |
| Iron | No | 12/6/21 | 0.0558 | mg/L | N/A | 0.3 (MCL) | Naturally Occurring |

**Notes:**

2 - During 2019, 5 samples were collected and analyzed for Lead & Copper. The value above represents the 90th percentile. In other words 90% or more of our samples were below the action level for both lead and copper.

3 - Drinking water containing these disinfection byproducts in excess of the MCL *may* lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

**Definitions: ≤ -** Less than

***Maximum Contaminant Level*** (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

***Maximum Contaminant Level Goal*** (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

***Maximum Residual Disinfectant Level*** (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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

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

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

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

| Table of Contaminants Monitored But Not Detected | | | |
|---|---|---|---|
| **Contaminant** | **Date of Last Sample** | **Required Frequency** | **Comment** |
| Total Coliform Bacteria | Monthly | Monthly | Testing for E. coli required if Total Coliform is detected |
| Inorganic Chemicals – Group 1 | 6/5/19 | 3 Years | Arsenic, Cadmium, Chromium, Fluoride, Selenium, Mercury |
| Inorganic Chemicals – Group 2 | 6/5/19 | 3 Years | Antimony, Beryllium, Cyanide, Nickel, Thallium, Sulfate |
| Synthetic Organic Chemicals | 6/5/19 | 3 Years | Group of 33 Pesticides & Herbicides |
| Principal Organic Chemicals | 6/5/19 | 6 Years | Group of 57 Solvents, petroleum products and Vinyl Chloride |
| Gross Alpha & Beta Radioactivity | 5/24/13 | 9 Years | Naturally occurring |
| PFOA, PFAS, 1-4,Dioxane | 11/1/21 | quarterly | Released into the environment from widespread use in commercial and industrial applications |
| Manganese | 12/6/21 | N/A | Manganese is a common element in rocks, soil, water, plants, and animals. Manganese occurs naturally in water after dissolving from rocks and soil. Contamination of drinking water may occur if manganese gets into surface or groundwater after dissolving from rocks and soil. |

**WHAT DOES THIS INFORMATION MEAN? —** We have learned through our monitoring and testing that some contaminants have been detected; however, these compounds were detected below New York State requirements, with the exception of the TTHM & HAA5 exceedance. MCL's are set at very stringent levels.

**TRIHALOMETHANES**

Trihalomethanes are a group of chemicals that are formed in drinking water during disinfection when chlorine reacts with naturally occurring organic material (e.g., decomposing vegetation such as tree leaves, algae or other aquatic plants) in surface water sources such as rivers and lakes. They are disinfection byproducts and include the individual chemicals chloroform, bromoform, bromodichloromethane, and chlorodibromomethane. The amount of trihalomethanes formed in drinking water during disinfection can change from day to day, depending on the temperature, the amount of organic material in the water, the amount of chlorine added, and a variety of other factors.

Disinfection of drinking water by chlorination is beneficial to public health. Drinking water is disinfected by public water suppliers to kill bacteria and viruses that could cause serious illnesses, and chlorine is the most commonly used disinfectant in New York State. All public water systems that use chlorine as a disinfectant contain trihalomethanes to some degree.

Some studies suggest that people who drank water containing trihalomethanes for long periods of time (e.g., 20 to 30 years) have an increased risk of certain health effects. These include an increased risk for cancer and for low birth weights, miscarriages and birth defects. The methods used by these studies could not rule out the role of other factors that could have resulted in the observed increased risks. In addition, other similar studies do not show an increased risk for these health effects. Therefore, the evidence from these studies is not strong enough to conclude that trihalomethanes were a major factor contributing to the observed increased risks for these health effects. Studies of laboratory animals show that some trihalomethanes can cause cancer and adverse reproductive and developmental effects, but at exposures much higher than exposures that could result through normal use of the water. The United States Environmental Protection Agency reviewed the information from the human and animal studies and concluded that while there is no causal link between disinfection byproducts (including trihalomethanes) and human health effects, the balance of the information warranted stronger regulations that limit the amount of trihalomethanes in drinking water, while still allowing for adequate disinfection. The risks for adverse health effects from trihalomethanes in drinking water are small compared to the risks for illness from drinking inadequately disinfected water.
(3/2016)

**HALOACETIC ACIDS**

Haloacetic acids are disinfection byproducts formed during treatment of drinking water by chlorine, the most commonly used disinfectant in New York State. Drinking water is disinfected by public water suppliers to kill bacteria and viruses that could cause serious illnesses. For this reason, disinfection of drinking water by chlorination is beneficial to public health. The amount of haloacetic acids in drinking water can change from day to day, depending on the temperature, the amount of organic material in the source water, the amount of chlorine added, and a variety of other factors.

The following paragraph summarizes and characterizes the available studies on human populations exposed to haloacetic acids, and provides a general summary of the health effects of haloacetic acids in animals, which occur at exposure levels much higher than exposures that could result through normal use of the water.

Some studies suggest that people who drank chlorinated drinking water containing disinfection by-products (including haloacetic acids) for long periods of time (e.g., 20 to 30 years) have an increased risk for cancer. However, how long and how frequently people actually drank the water, and how much haloacetic acids the water contained is not known for certain. Therefore, the evidence from these studies is not strong enough to conclude that the observed increased risk for cancer is due to haloacetic acids, other disinfection by-products, or some other factor. Studies of laboratory animals show that the two haloacetic acids, dichloroacetic acid and trichloroacetic acid, can cause cancer following exposure to high levels over their lifetimes. Dichloroacetic acid and trichloroacetic acid are also known to cause other effects in laboratory animals after high levels of exposure, primarily on the liver, kidney, and nervous system and on their ability to bear healthy offspring. The risks for adverse health effects from haloacetic acids in drinking water are small compared to the risk for illness from drinking inadequately disinfected water. (10/2018)

**IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS? –** During 2021, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

**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/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).

**Lead and Drinking water** - If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Rensselaerville WD 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 the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

**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 lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions. 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:

- Only run dishwashers and clothes washing machines when there is a full load.
- Turn off the tap when brushing your teeth.
- Use water saving fixtures
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day.
- 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.