

*Annual Drinking Water Quality Report for 2015*  
*Queensbury Water Department*  
*823 Corinth Rd*  
*Queensbury, NY 12804*  
*(Public Water Supply ID# 5600114)*

## **INTRODUCTION**

To comply with State and Federal regulations, the Queensbury Water Department 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.

If you have any questions about this report or concerning your drinking water, please contact **Alexander Benway, Engineer, telephone number 793-8866 Ext. 2026**. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Town board meetings. The meetings are held on the first and third Mondays of each month (exceptions, because of Holidays will be January, February, and September of 2015) at 7:00 PM at the Queensbury Activity Center on Bay Rd. (next to the Town Hall)

## **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 that limit the amount of certain contaminants in water provided by public water systems. The State Health Department and the FDA's regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. The Queensbury Water District source is the Hudson River, a surface water supply that is located at the Sherman Island Dam. During 2015, our system did not experience any restriction of our water source.

## **SOURCE WATER ASSESSMENT**

The NYS Department of Health has evaluated the Hudson River's susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this water supply. The Queensbury Water District provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

Based on documented polychlorinated biphenyl (PCB) contamination of sediments upstream of the intake, the Queensbury Water District is tested throughout the year for PCBs. The finished water is tested annually, and the raw water is tested quarterly. During 2015, PCBs were not detected in source or finished drinking water. It should also be noted that rivers in general are highly sensitive to microbial contaminants.

## **HOW IS OUR WATER TREATED?**

Water is pumped from the river into a complete treatment facility consisting of the following: chemical pre-treatment, flocculation, coagulation, sedimentation, pre-chlorination, filtration, post-chlorination, and corrosion control. The treatment plant is manned 24 hours a day, 365 days per year under the supervision of a IA operator.

I. Typical or average raw and treated water information:

	<u>Raw Water</u>	<u>Finished Water (Filtered-Entry Point)</u>
pH	6.6-7.1	7.7 (6.9-8.4)
Alkalinity	7.3-22.0 mg/L	22.7 mg/L (15.3-34.7 mg/L)
Hardness		19.2 mg/L (12.0-23.0 mg/L)
Turbidity	0.38-2.57 NTU	0.07 NTU (0.05-0.12 NTU) 0.06-0.98 NTU in distribution system The average was 0.14 NTU. The MCL is 5 NTU/month (average).
Color	14-80 units	0.94 unit (0-14 units)
Chlorine, Free	0 mg/L	0.77 mg/L (0.6 – 1.0 mg/L) 0.03 – 0.85mg/L in the distribution system. The average was 0.41 mg/L in the distribution system. The MRDL and MRDLG is 4.0 mg/l

Note: Raw Water Range: Turbidity 0.38– 2.57 NTU’s (0.68 NTU typical)  
Color 14 – 80 units (28 typical)

***Definitions of terminology and abbreviations are found on page 4-5.***

II. Chemicals used in the treatment process:

<u>Chemical</u>	<u>Typical Feed Rate</u>	<u>Maximum Feed Rate</u>
Aluminum Sulfate	26.4 mg/L	95.0 mg/L
Sodium Hypochlorite	1.2 mg/L	2.15 mg/L
Sodium Carbonate	16.2 mg/L	49.0 mg/L

**FACTS AND FIGURES**

There are approximately 9,025 connections served by the water treatment plant. The Queensbury Consolidated Water District serves a population of approximately 21,200. The system also serves the Kingsbury Water District, Hudson Falls, Moreau, and the Warren Washington Industrial Park.

The total amount of water produced in the previous four billing cycles was 1,802,320,000 gallons. The daily average of water treated and pumped into the distribution system is 5,010,000 gallons per day. Our highest single day was 9,860,000 gallons. The amount of accounted water is 1,756,449,000 gallons. This leaves an unaccounted total of 45,871,000 gallons, or 2.5 %. This unaccounted water use was due to fighting fires, leakage, recreation, street sweeping and illegal use. Accounting for these factors, our leakage rate is at about 2.5% - an extraordinarily low number and a sign of a well maintained distribution system along with an aggressive capital plan.

In 2016, water customers will be billed quarterly at the rate of \$25.00 for the first 8,000 gal then \$2.20 per 1,000 gallons up to 3,250,000 gallons. The rate then drops to \$0.78 per 1,000 gal for bulk customers above 3,250,000 gallons. An Ad Valorem tax is collected through the town’s property tax bill and is directed toward capital improvements and bond payments. The rate for 2015 was \$0.34/\$1,000.

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

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. 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 (New York State Department of Health – Glens Falls District Office) at (518) 793-3893.

As the State regulations require, we routinely test your drinking water for numerous contaminants. These groups of contaminants exist at levels that were *Non-Detects* in your drinking water: Table 9C of the State Sanitary Code (Pesticides, Dioxins and PCB's) were *Non-Detects*. Table 9D of the State Sanitary Code (Primary Organic Compounds) were *Non-Detects*. Odor and color were also not detected. Inorganic contaminants that were *Non-Detects* are: Arsenic, Antimony, Cyanide, Beryllium, Cadmium, Chromium, Fluoride, Mercury, Nickel, Selenium, and Thallium. Microbiological: No violations for Total Coliform or E. Coli (20 distribution samples per month). Unregulated Contaminant Monitoring Rule 3 (UCMR3) *Non-Detects* are: Cobalt, Molybdenum, 1,3-Dioxane, Bromochloromethane, Bromomethane, 1,3-Butadiene, Chlorodifluoromethane, Chloromethane, 1,1-Dichloroethane, 1,2,3-Trichloropropane, PFBS, PFHpA, PFHxS, PFNA, PFOS, and PFOA. More information on UCMR3 can be found below.

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG	Regulatory Limit MCL	Likely Source of Contamination
<i>Radiologicals</i>							
Combined Radium 226 and 228	No	2008	0.468	pCi/l	0	5 pCi/L	Erosion of natural deposits.
Radium 228	No	5/13/08 2/14/08	0.139 0.129	pCi/l	0	5pCi/L	Erosion of natural deposits.
Radium 226	No	2/19/08	0.0334	pCi/l	0	5pCi/L	Erosion of natural deposits.
<i>Combined Filter Effluent Turbidity (5 filters) and Microbiologicals</i>							
Turbidity <sup>1</sup>	No	5/2/2015	0.12	NTU	N/A	TT=<1 NTU	Soil Runoff
Turbidity <sup>1</sup>	No	May 2015	100%	%	100%	TT=95% of samples <0.3 NTU	Soil Runoff
<i>Inorganic Contaminants</i>							
Copper	No	8/20/14	73.0 <sup>3</sup> 4.0 – 110.0	µg/l	1300 µg/l	AL – 1300 µg/l	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	No	8/20/14	2.0 <sup>4</sup> ND – 5.0	µg/l	0	AL-15 µg/l	Corrosion of household plumbing systems; Erosion of natural deposits
Barium	No	2/4/15	0.005	mg/l	2.0 mg/l	2.0 mg/l	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG	Regulatory Limit MCL	Likely Source of Contamination
Sodium	No	5/6/15 8/5/15 11/4/15	13.5 9.29 35.1 <sup>2</sup>	mg/l	N/A	N/A	Naturally occurring, road salt, animal waste, sodium carbonate
Nitrate	No	2/4/15	0.2	mg/l	10 mg/l	10.0 mg/l as Nitrogen	Erosion of natural deposits, Runoff from fertilizer
Chloride	No	2/13/2013	5.8	mg/l	N/A	250 mg/l	Erosion of natural deposits, water disinfection by-product
Iron	No	2/13/2013	0.009	mg/l	N/A	0.3 mg/l	Erosion of natural deposits
Manganese	No	2/13/2013	0.005	mg/l	N/A	0.3 mg/l	Erosion of natural deposits
Sulfate	No	2/13/2013	11.5	mg/l	N/A	250 mg/l	Erosion of natural deposits, Runoff from fertilizer
Zinc	No	2/13/2013	0.006	mg/l	N/A	5.0 mg/l	Erosion of natural deposits
<b>Disinfection Byproducts</b>							
Total Trihalomethanes	No	Quarterly Samples 2/4/15, 5/6/15, 8/5/15, 11/4/15	54.3 – Highest location annual average <sup>6</sup>  24.3-57.6 – Annual range	µg/l	N/A	80 µg/l	By-products of drinking water chlorination. THM's are formed when source water contains large amounts of organic matter.
Total Haloacetic Acids	No	Quarterly Samples 2/4/15, 5/6/15, 8/5/15, 11/4/15	20.0 – Highest location annual average <sup>6</sup>  12.1-23.0 – Annual range	µg/l	N/A	60 µg/l	By-products of drinking water chlorination. HAA5's are formed when source water contains large amounts of organic matter.
Total Organic Carbon	No	Monthly	Annual Range <sup>5</sup> 1.5-2.5  Average – 1.92	mg/l	N/A	TT	Naturally present in the environment
<b>Unregulated Contaminant Monitoring Regulation 3 (UCMR3)<sup>7</sup></b>							
Strontium	No	Quarterly Samples 2/13/15, 4/13/15, 7/16/15, 10/15/15	22 – 28 Annual Range	ug/L	N/A	N/A	Erosion of Natural Deposits
Chlorate	No	Quarterly Samples 2/13/15, 4/13/15, 7/16/15, 10/15/15	44-160 Annual Range	ug/L	N/A	N/A	Agriculture Runoff
Vanadium	No	Quarterly Samples 2/13/15, 4/13/15, 7/16/15, 10/15/15	0.2-0.5 Annual Range	ug/L	N/A	N/A	Erosion of Natural Deposits
Chromium (hexavalent)	No	Quarterly Samples 2/13/15, 4/13/15, 7/16/15, 10/15/15	0.03 Annual Range	ug/L	N/A	N/A	Erosion of Natural Deposits

1 - Turbidity is a measure of the cloudiness of the water. We measure it because it is a good indicator of the effectiveness of our filtration system. Our highest single entry point turbidity measurement for the year occurred on 5/2/15 (0.12 NTU). State regulations require that entry point turbidity must always be below 1.0 NTU. The regulations also require that 95% of the entry point turbidity samples collected have measurements below 0.3 NTU. All levels recorded were well below the acceptable range allowed and did not constitute a treatment violation.

2 - Water containing more than 20 mg/l sodium should not be used for drinking by people on severely restricted diets. This represents 4.73 mg of sodium in one 8 fluid oz. glass of water.

3 – The level presented represents the 90<sup>th</sup> percentile of the 30 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 values detected at your water system. In this case, 30 samples were collected at your water system and the 90<sup>th</sup> percentile value was 73.0 µg/l. The action level for copper was not exceeded at any of the sites tested with the highest level being 110 µg/l.

4 – The level presented represents the 90<sup>th</sup> percentile of the 30 samples collected. The 90<sup>th</sup> percentile is equal to or greater than 90% of the lead values detected at your water system. In this case, 30 samples were collected at your water system and the 90<sup>th</sup> percentile value was 2.0. Of the 30 samples taken 24 results were **NON-DETECTS**. The action level for lead was not exceeded at any of the sites tested with the highest level being 5.0 µg/l. ND (**NON-DETECTS**) is any sample less than 1.0 µg/L.

5 - Total Organic Carbon is not regulated, but its calculated removal and compliance ratio must equal or exceed performance requirements established by the USEPA. All levels recorded were well below the acceptable range allowed and did not constitute a treatment technique violation.

6 – Stage 2 of the DBP Rule calculates the highest average at a single location-Location Running Annual Average (LRAA).

7- In 2015, we were required to collect and analyze drinking water samples under the Unregulated Contaminant Monitoring Regulation 3 (UCMR3). The contaminants currently do not have a maximum contaminant level but are being tested for future regulations. More information can be found the EPA website under UCMR3.

### **Definitions:**

**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. MRDLG's 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 that 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.

**Non-Applicable: (NA)**

**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):** one part per million corresponds to one minute in two years or a single penny in \$10,000.

**Micrograms per liter (µg/l):** one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

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

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

As you can see by the table, our system had no MCL violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the state. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

### **SUMMARY OF DISTRIBUTION SYSTEM SAMPLING POINTS:**

Distribution system samples are collected daily for turbidity, chlorine residual, pH and bacteriological analysis. Seventeen sample locations are regularly monitored throughout the distribution system.

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

During 2015, our system complied with all applicable State drinking water requirements. All testing was performed and reported in the required time.

### **INFORMATION ON LEAD IN 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. The Queensbury Water Department 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 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 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 reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers.
- ◆ 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 up to 10 gallons for every cycle, regardless of how many dishes are loaded.
- ◆ 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.
- ◆ 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:**

### **In 2015:**

The two Gurney Lane tanks were drained and inspected. Ongoing engineering consultation will decide which direction the department will head as far as maintenance or replacement of tanks.

The Supervisor Control And Data Acquisition (SCADA) Replacement project started in December and will continue through the spring of 2016. This will update our system from 1996 and provide the department with a more reliable control and data collection system.

### **In 2016:**

The Luzerne Road Tank will be the last to be inspected. After inspection, a decision will be made as to what maintenance is required for each tank.

For additional information about the Queensbury Water Department please visit the Town of Queensbury web site at: [www.queensbury.net](http://www.queensbury.net), from the menu select “Departments” then choose “Water”.