

# ***Annual Drinking Water Quality Report for 2017***

City of Hudson

520 Warren Street, Hudson, NY 12534

(Public Water Supply Identification Number NY1000239)

## **INTRODUCTION**

To comply with State regulations, the City of Hudson will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your drinking water met all State drinking water health standards. This report is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to New York State standards. Our constant goal is and always has been, to provide to you a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and to protect our water resources. If you have any questions concerning this report or concerning your drinking water please contact: *Mr. George Topple, Jr., Chief Water Treatment Plant Operator, City of Hudson Water Treatment Plant, 520 Warren Street, Hudson, NY 12534; Telephone (518) 828-9458.*

## **WHERE DOES OUR WATER COME FROM?**

The City of Hudson's water source is a clean and plentiful surface water reservoir located in Churchtown, New York. Water is treated with sodium permanganate as it leaves Churchtown Reservoir for iron, manganese and organic precursor removal. The treatment process at the Hudson WTP consists of; coagulation using poly aluminum chloride to cause small particles to stick together when the water is mixed, making larger heavier particles; sedimentation allows the newly formed larger particles to settle out naturally; The flocculation process is enhanced with the addition of a nonionic polyacrylamide polymer; the water is clarified in a upflow adsorption clarifier and then filtration removes smaller particles by trapping them on a mixed media filter; final post chlorination to maintain a chlorine residual in the distribution system to prevent bacterial contamination; the pH of the filtered water is adjusted with a 25% solution of liquid caustic soda and zinc orthophosphate is also added for corrosion control.

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and EPA prescribe regulations, which limit the amount of certain contaminants in water, provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

## **FACTS AND FIGURES**

Our water system provides water through 2,200 service connections to the entire population of 6,713 residents in the City of Hudson. In 2017 the city water system produced 347,000,000 gallons of water. Our average daily demand is 951,000 gallons. Our single highest day was 1,040,000 gallons. Because the majority of residential accounts are unmetered, there is no clear record of the total water consumed and billed. A recent study performed for the City estimated the unbilled water is 20% of the water produced. The unbilled water is used to flush transmission and distribution mains, for fighting fires or is lost through the distribution system. The annual charge for a residential customer was \$420.00 per unit for combined water/sewer.

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

In accordance with State regulations, the City of Hudson routinely monitors your drinking water for numerous contaminants. We test your drinking water for inorganic contaminants, radiological contaminants, lead and copper, nitrate, volatile organic contaminants, and synthetic organic contaminants. In addition, we test 9 samples for coliform bacteria each month. The table presented on page 3 depicts which contaminants were detected in your drinking water. The state allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old and is noted. For a listing of the parameters we analyzed that were not detected along with the frequency of testing for compliance with the NYS Sanitary Code, see Appendix A.

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 pose 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 Columbia County Public Health Services at (518) 828-3358.

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

As you can see by the table on page 3, our system had no violations. We have learned through our monitoring and testing that some contaminants have been detected; however, these compounds were detected below New York State

requirements. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, 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.

Recent news stories about the safety of water supplies across the country has brought more focus on drinking water. Stories about high lead levels and PFOA seem to show up in the newspaper and television news almost every day. We would like to emphasize that our water supply is safe and regularly tested. Our most recent lead and copper testing is in the Table on page 3. There are some "emerging contaminants" in which a material or chemical is characterized as a potential or real threat to human health. This would be PFOA (Perfluorooctanoic Acid) and PFOS (Perfluorooctane Sulfonate). The City is not required to test for PFOA or PFOS (Code of Federal Regulations/Title10 Subpart 5) but in light of recent regional issues has taken the proactive stance to perform these tests. A sample was collected and analyzed for PFOA and PFOS and both compounds were determined to be less than the method detection limit of 0.67 parts per trillion (ppt). The current EPA advisory standard is 100 ppt with our water being 150 times lower the advisory standard.

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

During 2017, 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 microbiological pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

When operated under appropriate conditions, commonly used filtration technologies such as ours can effectively remove *Giardia* cysts from water. The highest removal by granular filters is achieved when coagulation is optimized. EPA's Surface Water Treatment Rule requires public water systems such as ours so we can insure 99.9% *Giardia* removal.

**INFORMATION ON LEAD**

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 City of Hudson 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>

**WATER CONSERVATION TIPS**

The City of Hudson encourages water conservation. There are a lot of things you can do to conserve water in your own home. Conservation tips include:

- ◆ Only run the dishwasher and clothes washer when there is a full load
- ◆ Use water saving showerheads
- ◆ Install faucet aerators in the kitchen and the bathroom to reduce the flow from 4 to 2.5 gallons per minute
- ◆ Water gardens and lawn for only a couple of hours after sunset
- ◆ Check faucets, pipes and toilets for leaks and repair all leaks promptly
- ◆ Take shorter showers

**CAPITAL IMPROVEMENTS**

In 2017 the following capital improvements were made to the water system:

- ◆ New 8 inch water main installed on Carroll St. to Washington St. and a new 12 inch main installed from Underhill to Washington St. into a 12 inch tee. Forty feet of 12 inch main was installed going up Washington St. along with a new hydrant. A total of 220 feet of 8 inch and 180 inch of 12 inch mains were installed in 2017 along with 2 new hydrants and 15 new service connections

**CLOSING**

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit our customers. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.

**CITY OF HUDSON TABLE OF DETECTED CONTAMINANTS  
Public Water Supply Identification Number NY1000239**

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
Turbidity <sup>1</sup> (Highest turbidity sample from 9/2/17)	N	0.17 <sup>1</sup>	NTU		TT=1.0 NTU	Soil runoff
		100			TT= 95% of samples <0.3 NTU	
<b>Inorganic Contaminants</b> (sample data from 4/5/17 unless otherwise noted)						
Chloride	N	36.8	ppm	N/A	250	Geology; Naturally occurring
Copper (data from 6/15/16-7/28/16) Range of copper concentration	N	40 <sup>2</sup> ND-60	ppb	1300	AL=1300	Corrosion of household plumbing systems
Lead (data from 6/15/16-7/28/16) Range of lead concentration	N	1 <sup>3</sup> ND-5	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Manganese ( average 13 samples) range of 13 samples	N	2.1 ND-15	ppb	N/A	300	Geology; Naturally occurring
Nitrate	N	0.284				
pH	N	7.8	units		6.5-8.5	Geology; Naturally occurring
Sodium <sup>4</sup>	N	20.1	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	8.75	ppm	N/A	250	Geology;
Zinc	N	471	ppb	N/A	5000	Galvanized pipe; <b>corrosion inhibitor</b>
<b>Disinfection Byproducts</b> (Quarterly samples from 2/21/17, 5/10/17, 8/17/17 & 11/16/17)						
Chlorine (average) Range of chlorine residual based on daily testing	N	1.81 1.32-2.33	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Stage 2 Haloacetic Acids (HAA5) <sup>5</sup> Range of values for HAA5 (Train Station)	N	31.2 17-43.1	ppb	N/A	60	By-product of drinking water chlorination.
Stage 2 Total Trihalomethanes (TTHM)(Average) <sup>5</sup> Range of values for THM (Train Station)	N	38.9 20.7-61.6	ppb	0	80	By-product of drinking water chlorination
Stage 2 Haloacetic Acids <sup>5</sup> Range of values for HAA5 (Water Pollution Control)	N	32.1 17-41.3	ppb	N/A	60	By-product of drinking water chlorination
Stage 2 Total Trihalomethanes <sup>5</sup> Range of values for THM (Water Pollution Control)	N	42.32 22.3-63	ppb	0	80	By-product of drinking water chlorination
<b>Total Organic Carbon<sup>6</sup></b> (monthly samples from Jan.-Dec. 2017)						
Raw Water	N	2.4-3.5	ppm	NA	TT	Organic material both natural and man made; Organic pollutants, decaying vegetation.
Treated Water		1.22-2.62				

**Notes:**

- Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Distribution system turbidity is performed weekly with 1.39 NTU being the highest level detected. Our average distribution turbidity is 0.137 NTU.
  - The level presented represents the 90<sup>th</sup> percentile of 20 test sites. The action level for copper was not exceeded at any of the 20 sites tested
  - The level presented represents the 90<sup>th</sup> percentile of 20 test sites. The action level for lead was not exceeded at any of the 20 sites tested
  - Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets.
  - The average is based on a Locational Running Annual Average (LRAA). The average shown is the highest LRAA for 2017. The highest LRAA for the TTHMs was in the 4<sup>th</sup> quarter of 2017 while the highest LRAA for the HAA5s was in the 3<sup>rd</sup> quarter of 2017.
  - The Interim Enhanced Surface Water Treatment Rule (IESWTR) requires monitoring of raw and finished water Total Organic Carbon (TOC). Depending on the raw water alkalinity value, proper water treatment should remove between 15% to 45% of the raw water TOC thus reducing the amount of disinfection byproducts produced
- Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present.

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years or a single penny in \$10,000.

*Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

*Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

*90<sup>th</sup> Percentile Value*- The values reported for lead and copper represent the 90<sup>th</sup> percentile. 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 lead and copper values detected at your water system

*Action Level* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

*Maximum Contaminant Level* - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

*Maximum Contaminant Level Goal* - The "Goal" (MCLG) is 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.

*Locational Running Average (LRA)*: The LRA is calculated by taking the average of the four most recent samples collected at each individual site.

N/A-not applicable

**Appendix A**

New York State Sanitary Code Compliance Monitoring Requirements- Compounds Analyzed that were Below Limits of Detection

CITY OF HUDSON TEST RESULTS					
Public Water Supply Identification Number NY1000239					
CONTAMINANT	MONITORING FREQUENCY		CONTAMINANT	MONITORING FREQUENCY	
Asbestos	Every 9 years Sample from 6/4/2012		<b>POC's (Volatile Organic Compounds)</b>		
			Benzene	Trans-1,3-Dichloropropene	
Antimony	Monitoring requirement is one sample annually  Sample results from 4/5/17  <b>NON DETECT</b>		Bromobenzene	Ethylbenzene	
Arsenic			Bromochloromethane	Hexachlorobutadiene	
Barium			Bromomethane	Isopropylbenzene	
Beryllium			N-Butylbenzene	p-Isopropyltoluene	
Cadmium			sec-Butylbenzene	Methylene Chloride	
Chromium			Tert-Butylbenzene	n-Propylbenzene	
Cyanide			Carbon Tetrachloride	Styrene	
Mercury			Chlorobenzene	1,1,1,2-Tetrachloroethane	
Nickel			2-Chlorotoluene	1,1,2,2-Tetrachloroethane	
Selenium			4-Chlorotoluene	Tetrachloroethene	
Thalium			Dibromomethane	Toluene	
Fluoride			1,2-Dichlorobenzene	1,2,3-Trichlorobenzene	
			1,3-Dichlorobenzene	1,2,4-Trichlorobenzene	
			1,4-Dichlorobenzene	1,1,1-Trichloroethane	
		Dichlorodifluoromethane	1,1,2-Trichloroethane		
		1,1-Dichloroethane	Trichloroethene		
Color	Monitoring requirement is at State discretion  Sample results from 4/5/17  <b>NON DETECT</b>		1,2-Dichloroethane	Trichlorofluoromethane	
Silver			1,1 Dichloroethene	1,2,3-Trichloropropane	
Iron			cis-1,2 Dichloroethene	1,2,4-Trimethylbenzene	
			Trans-1,2-Dichloroethene	1,3,5-Trimethylbenzene	
			1,2 Dichloropropane	m-Xylene	
			1,3 Dichloropropane	o- Xylene	
			2,2 Dichloropropane	p-Xylene	
			1,1 Dichloropropene	Vinyl Chloride	
			Cis-1,3-Dichloropropene		
			Total Coliform / E. coli		Monitoring is 9 samples/ month <b>NON DETECT</b>
			<b>Radiological Parameters</b>		
			Gross Beta particle activity		requirement is one sample every 6-9 years Sample from 4/5/17
		Radium 226 & 228		<b>NON DETECT</b>	
<b>Regulated &amp; Unregulated Synthetic Organic Chemicals</b>					
Synthetic Organic Chemicals (Group I)		Synthetic Organic Chemicals (Group II)			
Alachlor	Aldicarb	Aldrin	Benzo(a)pyrene	Monitoring requirement is every 36 months <b>NON DETECT</b> Sample 10/19/17 <b>*State waiver does not require monitoring these compounds</b>	
Aldicarb Sulfoxide	Aldicarb Sulfone	Butachlor	Carbaryl		
Atrazine	Carbofuran	Dalapon	Di(2-ethylhexyl)adipate		
Chlordane	Dibromochloropropane	Di(2-ethylhexyl)phthalate	Dicamba		
2,4-D	Endrin	Dieldrin	Dinoseb		
Ethylene Dibromide	Heptachlor	Diquat*	Endothall*		
Lindane	Methoxyhlor	Glyphosate*	Hexachlorobenzene		
PCB's	Toxaphene	Hexachlorocyclopentadiene	3-Hydroxycarbofuran		
2,4,5-TP (Silvex)		Methomyl	Metolachlor		
		Metribuzin	Oxamyl vydate		
		Pichloram	Propachlor		
		Simazine	2,3,7,8-TCDD (Dioxin)*		

**City of Hudson**  
**PWSID 1000239**  
**Source Water Assessment Summary**

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

The source water assessment has rated the Churchtown Reservoir as having a medium-high susceptibility to microbial and phosphorus, and a low rating to organics, industrial solvents, nitrates and other industrial contaminants. Land cover and its associated activities within the assessment area does not increase the potential for contamination. No permitted discharges are found in the assessment area. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: mines. It should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

The 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 assessment can be obtained by contacting us.