

**ANNUAL WATER QUALITY REPORT FOR CALENDAR YEAR 2014**  
**CITY OF POUGHKEEPSIE**  
**26 Howard Street**  
**Poughkeepsie, New York**  
**Federal Public Water Supply ID #NY1330291**

**Introduction:**

To comply with State regulations, the City of Poughkeepsie annually issues 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. Sampling and analyses are carried out routinely as directed by the Dutchess County Health Department and the New York State Department of Health and currently meet the drinking water standards.

We want you to be informed about your drinking water. If you have any questions about this report or concerning your drinking water, please contact Jesse Purcell, Water Distribution Operator, at the City of Poughkeepsie Department of Public Works, at (845) 451-4111, or the Dutchess County Health Department at (845) 486-3404. If you want to learn more, please attend any of the regularly scheduled Joint Water Board meetings held the first Tuesday of every month in the conference room at the Poughkeepsies' Water Treatment Facility (behind Marist College). For further information about the Poughkeepsies' Water Treatment Facility, telephone the Joint Water Board Administrator, Randy Alstadt at (845) 451-4173, ext. 2003. You may also visit the Poughkeepsies' Water Treatment Facility website at <http://www.cityofpoughkeepsie.com/watertreatment>. This report can be found on the City of Poughkeepsie's web site <http://www.cityofpoughkeepsie.com/departments/dpw/waterdistribution>.

**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, 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 the 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.

The source of water for the City of Poughkeepsie is treated surface water (Hudson River) which is purchased from the jointly owned town and city treatment plant, Poughkeepsies' Water Treatment Facility, where the water is filtered, aerated, disinfected with chlorine and ultraviolet light, and treated with orthophosphate and sodium hydroxide to reduce corrosion of lead piping (for further information, please refer to the contact information for the Poughkeepsies' Water Treatment Facility in the Introduction section of this report). Results of testing for the treatment facility are attached in an addendum to this report.

**Facts and Figures**

In 2014 a total volume of 1,723,942,172 gallons of potable water was received from the Poughkeepsies' Water Treatment Facility. Of this total, 530,960,370 gallons was delivered to 3<sup>rd</sup> party customers and 834,157,500 gallons delivered to city residents. Unaccounted water loss was 358,824,304 gallons. This water loss is due to, in part, water main breaks, meter inaccuracies, reservoir loss, flushing programs, hydrant testing and firefighting.

**Water Cost**

Since April 2014, the City of Poughkeepsie billed its users based on quarterly water meter readings at the rate of \$3.45 per 100 cubic feet of water (or 750 gallons).

**Facility Modification**

No facility modifications were made in 2014.

**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 Bacteria, Turbidity, Orthophosphate, Lead and Copper, Residual Chlorine, Total Trihalomethanes and Haloacetic Acids. 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.

The test data presented in this report cover solely the City of Poughkeepsie distribution system. An addendum to this report contains data from the Poughkeepsies' Water Treatment Facility. Additional information about the water supplied by the Poughkeepsies' Water Treatment Facility may be found in the Annual Water Quality Report published by the Joint Town/City Water Board.

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 at 800-426-4791, or the Dutchess County Health Department at 845-486-3404, or by viewing the EPA drinking water website, [www.epa.gov/safewater](http://www.epa.gov/safewater), and the New York State Health Department website, [www.health.state.ny.us](http://www.health.state.ny.us).

### Salt Front Information

Our water is taken from the Hudson River Estuary, which is subject to increased chloride and sodium levels during low rainfall periods. In 2014, the Poughkeepsie's Water Treatment Facility did not experience a salt front episode (defined by USGS as Chloride levels exceeding 100 mg/L). Poughkeepsie's Water Treatment Facility tested the raw water for sodium 12 times in 2014 resulting in an average concentration of 18.7 mg/L (range 11.8 to 25.3 mg/L). The use of the water's conductivity and chloride concentration was used as an indicator of sodium level increase. If specific triggers were met, sodium analysis would have taken place. Last year, the average raw water chloride concentration was 30 mg/L (range 24 to 42 mg/L), which did not trigger additional sodium monitoring.

During normal water years the sodium level varies from 15 – 25 mg/L with higher levels occurring during periods of low rainfall. **Customers who are on a salt restricted diet should consult with their physician concerning salt in their drinking water.** Information concerning sodium levels in your water can be obtained at any time by contacting the Water Plant Administrator, Randy Alstadt, at 451-4173 x 2003.

### EPA's Unregulated Contaminant Monitoring Rule 3 (UCMR3)

In 2014, the City of Poughkeepsie participated in the first 3 quarterly rounds of sampling for unregulated contaminants to satisfy the federal requirement set by the EPA. The purpose of the UCMR3 is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether regulation is required. Unregulated contaminants are not regulated by the EPA or state and therefore do not have set drinking water standards. Contaminants detected are listed in the table. For more information on the testing and results please contact the department manager listed at the beginning of this report.

Table of Detected Contaminants, City of Poughkeepsie, 2014							
Water Distribution System							
Contaminant	Violation Yes/No	Sample Date(s) month/year	Level Detected	Unit of Measurement	MCLG	Regulatory Limit	Likely Source of Contamination
<b>Microbial Monitoring</b>							
Total Coliform	No	40 Samples per month	2 positive samples 6/14 10/14	N/A	N/A	A violation occurs when more than 5% of the samples collected in each month are positive for Total Coliform	Naturally present in the environment.
<b>Lead and Copper Monitoring</b>							
Copper	No	8/14	0.088 <sup>1</sup> Range = ND to 0.441	mg/L	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits.
Lead	No	8/14	3 <sup>2</sup> Range = ND to 27	ug/L	0	AL = 15	Corrosion of household plumbing systems, erosion of natural deposits
<b>Inorganic Contaminants</b>							
Turbidity	No	5 per week	Average = 0.17 Range = ND to 13	NTU	N/A	MCL = 5.0 <sup>3</sup>	Soil runoff
Orthophosphate (reported as Phosphorus)	N/A	6/14	Average = 0.71 Range = 0.53 to 0.78	mg/L	N/A	N/A	Orthophosphate is added at the Poughkeepsie's Water Treatment Facility to inhibit corrosion of lead piping in the distribution system.
<b>Disinfection Byproducts</b>							
Free Chlorine Residual	No	Minimum of 40 per month	Average = 1.55 Range = ND to 2.5	mg/L	N/A	MCL = 4 <sup>4</sup>	Water additive used to control microbes.
Total Trihalomethanes (TTHMs -- chloroform, bromo-dichloromethane, dibromochloromethane, and bromoform)	No	2/14 5/14 8/14 11/14	Running Annual Average = 60.3 (Range of detects = 22.5 to 100.7) <sup>5</sup>	ug/L	N/A	MCL = 80 for four-quarter average <sup>6</sup>	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
<b>Continued on next page</b>							

Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and dibromoacetic acid)	No	2/14 5/14 8/14 11/14	Running Annual Average = 26.1 (Range of detects = 9 to 40) <sup>5</sup>	ug/L	N/A	MCL = 60 for four-quarter average <sup>6</sup>	By-product of drinking water disinfection needed to kill harmful organisms.
<b>Unregulated Contaminant Monitoring Rule (UCMR3)</b>							
Strontium	No	5/14 8/14 11/14	Average = 151 Range = 132 to 182	ug/L	N/A	N/A	Naturally-occurring element in soil and bedrock and may dissolve entering groundwater; commercially used in making ceramics and glass products, pyrotechnics, paint pigments, fluorescent lights, and medicines.
Chlorate	No	5/14 8/14 11/14	Average = 265 Range = 130 to 530	ug/L	N/A	N/A	By-product of drinking water disinfection when sodium hypochlorite or chlorine dioxide is used
Vanadium	No	5/14 8/14 11/14	Average = 0.27 Range = 0.24 to 0.32	ug/L	N/A	N/A	Erosion of natural deposits; found in fossil fuels
Hexavalent Chromium	No	5/14 8/14 11/14	Average = 0.079 Range = 0.061 to 0.100	ug/L	N/A	N/A	Erosion of natural deposits; Discharge from steel and pulp mills
Chromium	No	5/14 7/14 8/14 11/14	Average = 0.25 Range = 0.2 to 0.33	ug/L	100	100	Discharge from steel and pulp mills; Erosion of natural deposits

**Footnotes:**

1. The level presented represents the 90th percentile of the sites tested for copper.
2. The level presented represents the 90th percentile of the sites tested for lead. The action level was exceeded at one of the locations tested.
3. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of the filtration system of the Poughkeepsies' Water Treatment Facility. In accordance with State regulations for distribution systems, we test for turbidity 5 days/week, 52 weeks/year. Results are reported for the year. Since the City purchases its water from the Poughkeepsies' Water Treatment Facility, Treatment Technique regulations do not apply to the City's distribution system. State regulations for distribution systems require that the monthly average for turbidity must be below 5 NTU.
4. The value reported represents the Maximum Residual Disinfectant Level (MRDL) which is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.
5. This range represents the maximum and minimum value of all samples collected throughout 2014.
6. An MCL violation occurs when the annual composite of four quarterly samples or the average of the analysis of four quarterly samples exceeds the MCL.

**Definitions:**

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

**CFU/100 mL:** Colony Forming Units per 100 milliliters of sample.

**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 possible.

**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.

**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).

**N/A:** Not Applicable.

**ND (Non-Detects):** Laboratory analysis indicates that the contaminant 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.

**90th Percentile Value:** The values reported for lead and copper represent the 90th 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 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

**Running Annual Average:** This value is determined by first calculating the quarterly average of all 4 locations sampled and then averaging all 4 quarterly averages.

**Locational Running Annual Average:** This value is determined by averaging the 4 most recent quarterly results from one location.

### **What does this information in the table mean?**

As you can see by the table, our system had no violations in 2014. We learned through our testing that some contaminants have been detected; however, these contaminants were detected at levels below the State MCLs.

### **Information on Lead**

We must provide information on lead in drinking water even though our last round of testing showed no problems. Please take a moment to read the following information on lead:

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 City of Poughkeepsie 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>.

### **Information on Fluoride**

Up until February 2008, our system was one of the many drinking water systems in New York State that provided drinking water with a controlled, low level of fluoride for consumer dental health protection. The fluoride was added by the Poughkeepsies' Water Treatment Facility before it was delivered to us. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/L (parts per million). To ensure that the fluoride supplement in your water provided optimal dental protection, the State Department of Health required that the Joint Town and City of Poughkeepsie Water Treatment Facility monitor fluoride levels on a daily basis. During the period when fluoride was being added to the water, no monitoring test results showed levels of fluoride which approached the 2.2 mg/L MCL.

In February 2008, the Poughkeepsies' Water Treatment Facility stopped adding fluoride to the water. You may want to discuss this with your family dentist to see if some other form of fluoride supplement should be considered for your dental protection.

### **Is our water system meeting other rules that govern operations?**

The New York State Department of Health has issued a violation, 5-1.31 and 5-1.32, in respect to the protection of the distribution reservoir because of the water that is leaking into and out of the storage tank.

### Administrative Order on Consent

The EPA has granted the Poughkeepsies' Water Treatment Facility, City of Poughkeepsie and Town of Poughkeepsie an additional 24 months for capital improvements to comply with Stage 2 Disinfection Byproduct (DBP) MCLs. The consent order allows these systems to use the DBP1 Running Annual Average (RAA) calculation in place of the DBP 2 Locational Running Annual Average (LRAA) calculation. All other provisions of DBP2, including sample locations, MCLs, and other calculations, still apply.

Disinfection Byproducts are formed when naturally-occurring organic and inorganic materials in the water react with chlorine that is applied to drinking water for disinfection. The amount of disinfection byproducts is variable depending upon time the water is in contact with chlorine and temperature. As a result, levels vary throughout the distribution system. The Stage 1 standard requires utilities to average the quarterly results throughout the distribution system then average four (4) continuous quarters. The Stage 2 regulation requires the quarterly average be calculated at each individual sample site. The MCL has not changed.

The City of Poughkeepsie and the Town of Poughkeepsie have not failed this standard, however, customers in Hyde Park and East Fishkill have had exceedences. To improve water quality for our customers we have initiated a treatment upgrade that will be operational in May 2016.

### **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 at 1-800-426-4791.

### **Why Save Water? How Do I 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 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 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Water your garden and lawn only when necessary. Remember that a layer of mulch in the flower beds and garden is not only aesthetically pleasing but will help retain moisture.
- Turn off the tap when brushing your teeth.
- 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.

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community and our way of life. Please call us at the number listed at the beginning of this report if you have any questions.

### Addendum

## SUMMARY OF REGULATED CONTAMINANTS DETECTED IN POUGHKEEPSIES' WATER TREATMENT FACILITY'S PLANT EFFLUENT (PWS # 1302774)

**Poughkeepsies' Water Treatment Facility**  
**PWS # 1302774**  
**3431 North Road**  
**Poughkeepsie, NY 12601**  
**Licensed Operator: Randy J. Alstadt, P.E.**

Microbiological Contaminants							
CONTAMINANT	NYSDOH MCL	USEPA MCLG	VIOLATION Yes/No	# OF SAMPLES	RANGE	AVERAGE	SOURCE IN DRINKING WATER
<b><u>Inorganic Contaminants</u></b>							
<b><u>ACETONE</u></b>							
PLANT EFFLUENT	50	50	NO	1	9.3 µg/L	n/a	Naturally occurring; mining waste
<b><u>BARIUM</u></b>							
PLANT EFFLUENT	2 mg/L	2 mg/L	NO	1	0.105 mg/L	n/a	Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries
<b><u>SODIUM</u></b>							
PLANT EFFLUENT	n/a	n/a	n/a	1	29.4 mg/L	n/a	Naturally occurring; run off
<b><u>CHLORIDE</u></b>							
PLANT EFFLUENT	250	250	NO	1	44 mg/L	n/a	Naturally occurring; run off
<b><u>IRON</u></b>							
PLANT EFFLUENT	300	300	NO	1	0.028 mg/L	n/a	Naturally occurring; run off
<b><u>MANGANESE</u></b>							
PLANT EFFLUENT	300	N/A	NO	1	0.086 mg/L	n/a	Naturally occurring; run off
<b><u>ZINC</u></b>							
PLANT EFFLUENT	5	5	NO	1	0.013 mg/L	n/a	Naturally occurring; mining waste

**Miscellaneous Water Quality Parameters**

CONTAMINANT	NYSDOH MCL	USEPA MCLG	VIOLATION YES/NO	# OF SAMPLES	RANGE	AVERAGE	SOURCE IN DRINKING WATER
<b><u>TURBIDITY</u></b>							
PLANT EFFLUENT	95% OF SAMPLES < 0.3NTU <sup>1</sup>	95% OF SAMPLES < 0.3NTU <sup>1</sup>	NO	Continuous Monitoring	0.02 - 0.15 NTU	0.03 NTU	Soil runoff; flushing hydrants
<b><u>CHLORINE</u></b>							
PLANT EFFLUENT	4 mg/L	n/a	NO	Continuous Monitoring	1.98 – 3.33 mg/L	2.56 mg/L	Disinfectant Additive
<b><u>HARDNESS</u></b>							
Hudson River (Raw)	n/a	n/a	NO	12	66-101 mg/L	88 mg/L	Primarily from calcium & magnesium in geological formations
<b><u>SULFATE</u></b>							
PLANT EFFLUENT	250 mg/L	250 mg/L	NO	1	12 mg/L	n/a	Erosion of natural deposits
<b><u>HALOACETIC ACIDS</u></b> (includes mono, di, & trichloroacetic acid; mono & dibromoacetic acid)							
PLANT EFFLUENT	60	n/a	NO	4	6 - 22 µg/L	16 µg/L	Naturally occurring
<b><u>TOTAL TRIHALOMETHANES</u></b> (THM includes chloroform, bromodichloromethane, dibromochloromethane & bromoform)							
PLANT EFFLUENT	80	n/a	NO	4	14 - 44 µg/L	30 µg/L	Naturally occurring

1. Turbidity is a measure of the cloudiness of the water. It is used as an indicator for overall water treatment. State and Federal regulations require that turbidity must always be less than 1.0 NTU leaving the treatment plant.
2. Only compounds detected are listed in this report. For a complete list of Synthetic and Volatile Organic Compounds tested for, please visit our website at [www.pokwater.com](http://www.pokwater.com).

**Table Definitions**

**NYSDOH:** New York State Department of Health

**USEPA:** United States Environmental Protection Agency

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in the drinking water.

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

**NTU (Nephelometric Turbidity Unit):** A measure of the clarity of the water. Turbidity in excess of 5.0 NTU is just noticeable to the average person.

**mg/L (milligrams per liter):** Corresponds to one liquid part in one million parts of another liquid (parts per million)

**µg/L (micrograms per liter):** Corresponds to one liquid part in one billion parts of another liquid (parts per billion)