

2017 Annual Drinking Water Quality Report

City of Olean Water Filtration Plant

1332 River Street

Olean, NY 14760



City of Olean Water Division; Public Water Supply #0400345

Town of Olean Water District; Public Water Supply #0422400

Town of Portville Water District; Public Water Supply #0430089

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REPORT AVAILABLE

ONLINE:

www.cityofolean.org/dpw/ccr.pdf

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Dear Water Customer,

To comply with New York State regulations, the City of Olean publishes an annual 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 tap water met all State drinking water health standards. We are proud to report that our system did not violate any maximum contaminant level for any of the samples collected and analyzed. This report provides an overview of last year's water quality. We have included details about where your water comes from, what it contains, and how it compares to New York State standards.

If you have any questions about this report or the water system in general, please feel free to contact one of the individuals listed above. We want you to be informed about your drinking water and are willing to help with any questions or concerns you may have. Another way you can learn more is to attend any of the City of Olean Common Council meetings in the City of Olean Municipal Building. They are held at 7:30pm on the second and fourth Tuesday of the month with the exception of holidays.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap and bottled) 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 materials, 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.

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The City of Olean utilizes four water sources: Well site M18 on Richmond Ave; Well sites M37 and M38 on the East River Road; and the water treatment plant on River Street, which draws water from the Olean Creek. During 2017 we had no water restrictions at any time.

The water from the well sites is pumped through air-stripper towers to remove volatile contaminants from the water. Chlorine is added to disinfect the water and, to promote dental health, fluoride is also added. The water is then pumped out to the distribution system. Process monitoring equipment relay the information to the operators at the water plant.

The water plant treats the water from the Olean Creek. Chemicals are added to help settle particles out of the water. After the larger particles have settled out, the water is disinfected with sodium hypochlorite (chlorine) and then filtered through anthracite (which removes taste and odor) and sand. After filtering, fluoride, caustic soda (pH adjustment for corrosion control), and more sodium hypochlorite are added to the filtered water. The water then travels through a large clearwell in the plant (allowing the chlorine proper time to disinfect the water) and is pumped out to the distribution system.

SOURCE WATER ASSESSMENT SUMMARY

The State of New York maintains a program called the Source Water Assessment Program, in which the State evaluates each source of drinking water used for public drinking water for possible and actual threats to its quality. The summary chart below shows the potential sources of contamination for each source, the likelihood that the contaminants will reach the treatment facility, and an overall susceptibility rating for each contaminant. A detailed copy of the report is available from the contacts listed at the beginning of this document.

Contaminant Category	City of Olean Wells M18, M37, M38		City of Olean – Olean Creek	
	Sensitivity	Susceptibility	Sensitivity	Susceptibility
Halogenated Solvents	High	Very High	Medium	Medium
Petroleum Products	High	High	Medium	Medium
Herbicides/Pesticides	High	High	Medium	Medium
Other Industrial Organics	High	High	Medium	Medium
Metals	High	High	Medium	Medium
Nitrates	High	High	Medium	Medium
Protozoa	Medium	Medium	High	High
Enteric Bacteria	Medium	Medium	High	Medium – High
Enteric Viruses	Medium	Medium	High	Medium – High
Cations/Anions (Salts, Sulfate)	High	High	Medium	Medium
Sediments/Turbidity	N/A	N/A	High	Very High
DBP Precursors	N/A	N/A	Medium	Medium

Adapted from New York State Source Water Assessment Report for System #NY0400345, May 8, 2003

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your water for numerous contaminants. The contaminants include, but are not limited to: coliform bacteria, turbidity, inorganic compounds, nitrate, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological, and synthetic organic compounds. 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 table included with this document lists only the contaminants that we have detected. All others that are NOT detected are NOT listed. More information is available from the contacts listed in this document.

It should be noted that all drinking water, including bottled 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

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health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or the Cattaraugus County Department of Health at 716-701-3386.

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 the health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by microbial pathogens are available from the Safe Drinking Water Hotline at 1-800-426-4791.

INFORMATION ABOUT LEAD IN DRINKING WATER

As you can see from the table of detected contaminants, our system had no violations. We have learned through our testing that some contaminants have been detected but they were detected at levels below New York State requirements. No location exceeded the action limit, hence we did not exceed the 90th percentile action level. Regardless, we are required to present the following information on lead in drinking water:

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 the construction of your home's plumbing. The City of Olean 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 elevated lead levels in your home's 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 at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

INFORMATION ON CRYPTOSPORIDIUM

Cryptosporidium is a microbial 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. During 2017, as part of our routine sampling, twelve (12) samples of the Water Plant source water were collected and analyzed for Cryptosporidium oocysts. Of these samples, one (1) was confirmed positive. Therefore, our testing indicates the presence of Cryptosporidium in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome disease within a few weeks. However, immuno-compromised people 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 a 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. During 2017, as part of our routine sampling, twelve (12) samples of the Water Plant source water were collected and analyzed for Giardia cysts. Of these samples, nine (9) confirmed positive. Therefore, our testing indicates the presence of Giardia in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. 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.

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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 hand washing practices are poor.

INFORMATION ON FLUORIDE ADDITION

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at a properly controlled level. To ensure that the fluoride supplement in your water provides optimal dental protection, we monitor fluoride levels on a daily basis to make sure the fluoride is maintained at a target level of 0.7 mg/L. During 2017 routine monitoring showed no fluoride levels near the 2.2 mg/L MCL for fluoride, with 1.21 mg/L being the highest reading reported.

WATER USAGE INFORMATION

Our water system serves approximately 15,000 people in the City of Olean, Town of Olean, and Town of Portville through almost 6,300 metered connections. The total water produced in 2017 was 878,487,623 gallons (a 5% reduction from 2016) and the total amount of water metered and delivered to customers equaled 501,497,667 gallons. This leaves 376,989,956 gallons of non-metered water, or 42.9%.

Non-metered water includes water used to fight fires, flush mains, leaks in the system, used by non-metered City facilities, and inaccurate water meters in need of replacement.

Breaking down production from the different sources, we find that Well Site M18 produced 284 million gallons; Well Site M37/38 produced 347 million gallons; and the Filtration Plant produced 248 million gallons.

Residential Water Rate Breakdown for 2017

2017 Water Rate Summary	Rate
Minimum Charge of 1,600 gallons	\$14.37
First 2,600 gallons	\$0.00898 per gallon
Next 10,000 gallons	\$0.00746 per gallon
Next 15,000 gallons	\$0.00665 per gallon
All usage thereafter	\$0.00595 per gallon

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WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demand, 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 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:

- 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.
- 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 toilet. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you can save more than 30,000 gallons a year.
- Consider upgrading older washing machines or dishwashers to newer, more efficient models.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, and then check the meter after 15 minutes. If it moved then you have a leak.

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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

Detected Contaminants						
Parameter	Violation (Yes/No)	Sample Date (or date of highest result)	MCL	MCLG	Level Detected and Highest Level Detected	Likely Source of Contamination
Distribution Turbidity ¹	NO	HIGH: 5/2/2017	Monthly Average < 5 NTU	n/a	0.05 to 0.95 NTU; Highest Monthly Average = 0.12 NTU (August)	Deposits in Distribution System; Precipitation of minerals in water
Distribution System Free Chlorine Residual	NO	HIGH: 4/26/2017	MRDL 4.0 mg/L	MRDLG 4.0 mg/L	0.08 to 1.33 mg/L; High = 1.33 mg/L	Added for disinfection
Total Coliform	NO	4/13/2017 8/7/2017 10/9/2017	Two positive samples in one month	Zero	1 positive 1 positive 1 positive	Naturally present in the environment
Total Trihalomethanes	NO	HIGH: 9/5/2017	LRAA of 80 ug/L	n/a	2.3 to 114 ug/L; LRAA Max = 52 ug/L	By-products of water disinfection (chlorine)
Total Haloacetic Acids	NO	HIGH: 9/5/2017	LRAA of 60 ug/L	n/a	ND to 66.5 ug/L; LRAA Max = 33.73 ug/L	
Copper ²	NO	Sampled 9/6/2017 through 9/12/2017	1300 ug/L (A.L.)	1300 ug/L	17 to 371 ug/L; 90th percentile = 211 ug/L	Corrosion of household plumbing; Erosion of natural deposits
Lead ²	NO		15 ug/L (A.L.)	Zero	ND to 7.2 ug/L; 90th percentile 3.9 ug/L	
Entry Point Turbidity ¹	NO	HIGH: 9/13/2017	n/a	n/a	0.05 to 0.20 NTU; High = 0.20 NTU	Soil Runoff
Combined Filter Turbidity ¹ (Water Plant Only)	NO	n/a	TT = 95% of monthly samples ≤ 0.30 NTU	n/a	100% of samples were <0.30 NTU	Soil Runoff
	NO	5/24/2017	TT ≤ 1.0 NTU	n/a	Highest Level Detected = 0.198 NTU	
Entry Point Fluoride	NO	HIGH: 5/1/2017	2.2 mg/L	2.2 mg/L	0.10 to 1.21 mg/L; High = 1.21 mg/L	Naturally occurring and added to help prevent tooth decay
Nitrates	NO	5/8/2017	10 mg/L	10 mg/L	0.46 to 1.4 mg/L; High = 1.4 mg/L	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits.
Total Organic Carbon – Treated (Water Plant Only)	NO	HIGH: 6/20/2017	TT	n/a	1.2 to 2.0 mg/L; High = 2.0 mg/L Highest RAA = 1.6, 2 nd , 3 rd , and 4 th Quarters 2017	Naturally present in the environment
Sodium	NO	5/8/2017	*SEE NOTE 4*	n/a	18 to 26 mg/L; High = 26 mg/L	Naturally occurring; Road salt; Water softeners; Animal waste.
Barium	NO	5/8/2017	2000 ug/L	2000 ug/L	28 to 36 ug/L; High = 36 ug/L	Naturally present in the environment
Uranium ³	NO	8/10/2016	30 ug/L	Zero	ND – 1.5 ug/L; High = 1.5 ug/L	Erosion of natural deposits; mine drainage
Perfluorooctanoic Acid ("PFOA")	NO	11/1/2017	* SEE NOTE 5 *		ND to 2.21 ng/L High = 2.21 ng/L	Perfluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films.
Perfluorooctanesulfonic Acid ("PFOS")	NO	11/1/2017			ND to 2.88 ng/L High = 2.88 ng/L	

Detected Unregulated Contaminants per UCMR3 Testing					
Substance	Year Collected	Sample Date of Highest Result	Result Range and Highest Level Detected	Minimum Reportable Level (MRL)	Likely Source of Contamination
Hexavalent Chromium (Dissolved) ³	2014	7/16/2014	0.032 to 0.180 ug/L; High = 0.180 ug/L	0.03 ug/L	Naturally-occurring element; used in making steel and other alloys. Chromium-3 or -6 forms are used for chrome plating, dyes, and pigments, leather tanning, and wood preservation.
Chromium ³	2014	10/16/2014	ND to 0.30 ug/L; High = 0.30 ug/L	0.02 ug/L	
Strontium ³	2014	7/16/2014	2 to 140 ug/L; High = 140 ug/L	0.3 ug/L	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Chlorate ³	2014	7/16/2014	ND to 590 ug/L; High = 590 ug/L	20 ug/L	Agricultural defoliant or desiccant; used in production of chlorine dioxide

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NOTES FOR DETECTED CONTAMINANTS LISTS

1. Turbidity is a measure of the cloudiness of the water and is a good indicator of the effectiveness of our filtration system.
2. For lead and copper, we are required to take 30 samples from the system (City and Town Districts combined). From the test results we look at the 90th percentile reading and use that as an indicator of meeting the ACTION LIMIT (A.L.) In order to calculate the 90th percentile, we multiply the number of samples times 90%. In our situation, that is 27; we then sort the samples from the lowest to the highest and select the 27th highest sample which gives us our value to determine compliance. This value was below the action limit for both lead and copper.
3. The State allows us to monitor 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.
4. Water containing more than 20 mg/L of sodium should not be used for drinking by persons with severely restricted sodium diets.
5. There is no MCL set at this time. However, the EPA lifetime health advisory level is 70 parts per trillion for PFOA and PFOS combined.

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 possible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water which below 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 that is 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 (A.L.): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Non-detects (ND): Laboratory analysis did not find the constituent at a level above their detection limit.

Nephelometric Units (NTU): A measure of the cloudiness 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 (ug/L): Corresponds to one part of liquid in one billion parts of liquid (parts per billion – ppb.)

Nanograms per liter (ng/L): Corresponds to one part of liquid in one trillion parts of liquid (parts per trillion – ppt.)

Picocuries per Liter (pCi/L): Measure of radioactivity in a liquid.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Locational Running Annual Average (LRAA): This is a calculation of the average of all the readings in the year preceding the date of sampling for a particular sample site, **not** the entire sample set from all locations.

n/a: Not applicable

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