

2011 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

CONTACT INFORMATION:

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M E M B E R



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. 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?

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 2011 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 and fluoride are added before the water is 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 chlorinated and filtered through anthracite (removes taste and odor) and sand. After filtering, fluoride (for dental health), caustic soda (pH adjustment for corrosion control), and chlorine 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

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.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2011, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements. In 2011 we were granted a waiver for monitoring for asbestos. One area of the system has a couple of small sections of pipe with cement/asbestos lining and we would normally be required to monitor for asbestos; however, this section of pipe is scheduled to be replaced in the spring of 2012, so the Department of Health has granted us a waiver for monitoring asbestos.

SPECIAL NOTE ON RADIOACTIVE CONTAMINANTS

In March of 2011 the earthquake and tsunami that devastated Japan caused failure of their Fukushima nuclear reactor. Radioactive contamination was released into the atmosphere from the damaged reactor and small levels of that contamination reached the United States in the weeks following the disaster. Concerns about radioactive contamination led us to test our surface water in April of 2011. As you can see in the table of detected contaminants, the levels of radioactive materials are well below EPA mandated maximum contaminant levels and did not pose a threat to our water supplies.

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: total coliform, 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 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 716-373-8050.

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. 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 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 an optimal range from 0.8 to 1.2 mg/L (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis. During 2011 monitoring showed that fluoride levels in your water were in the optimal range 93.4% of the time and no results showed fluoride levels near the 2.2 mg/L MCL for fluoride.

WATER USAGE INFORMATION

Our water system serves approximately 15,000 people in the City of Olean, Town of Olean, and Town of Portville through over 6,400 metered connections. The total water produced in 2011 was 855,281,156 gallons, with an average daily demand of 2,345,115 gallons and a maximum daily demand of 3,418,709 gallons on August 1, 2011. The total amount of water metered and delivered to customers equaled 525,383,241 gallons. This leaves an unaccounted-for total of 329,897,915 gallons, or 38.6%.

Unaccounted for water includes water used to fight fires, flush mains, leaks in the system, used by City facilities, and inaccurate water meters in need of replacement.

Breaking down production from the different sources, we find that Well Site M18 produced 329 million gallons; Well Site M37/38 produced 292 million gallons; and the Filtration Plant produced 234 million gallons.

Water Rate Breakdown for 2011 (One cubic foot of water = 7.48 gallons)

	First 1000 ft ³ (Min. Charge)	Next 4000 ft ³ (per 100 ft ³)	Next 5000 ft ³ (per 100ft ³)	Thereafter (per 100 ft ³)
Residential	\$58.00	\$4.80	\$4.30	\$3.80
Commercial	\$58.00	\$5.30	\$4.80	\$3.80

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.

** The City of Olean is and Equal Opportunity Provider and Employer. Discrimination is prohibited by Federal Law. Complaint of discrimination may be filed with the USD, Director, Office of Civil Rights, Room 326-W, Whitten Building, Washington DC 20250-9410. Phone 800-795-3272 (voice) or 202-720-6382 (TDD); for New York State use TDD 711 for the hearing impaired.**

Detected Contaminants - Distribution System						
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	10/6/2011	Monthly Average < 5 NTU	n/a	0.05 to 0.45 NTU; Highest Monthly Average = 0.14 NTU (October)	Deposits in Distribution System; Precipitation of minerals in water
Distribution System Chlorine	NO	6/28/2011	MRDL = 4.0 mg/L	MRDLG = 4 mg/L	0.01 to 1.50 mg/L; High = 1.50 mg/L	Added for disinfection
Total Trihalomethanes	NO	7/7/2011	RAA < 80 ug/L	n/a	ND to 48.4 ug/L; RAA Max = 35.90 ug/L	By-products of water disinfection (chlorine)
Total Haloacetic Acids	NO	5/4/2011	RAA < 60 ug/L	n/a	ND to 20.0 ug/L; RAA Max = 13.56 ug/L	
Copper ^{2,3}	NO	8/31/2011	1300 ug/L (A.L.)	1300 ug/L	9.5 to 428 ug/L; 90th percentile = 316 ug/L	Corrosion of household plumbing; Erosion of natural deposits
Lead ^{2,3}	NO	8/31/2011	15 ug/L (A.L.)	0 ug/L	ND to 14.2 ug/L; 90th percentile 4.5 ug/L	

Detected Contaminants - Well sites and Water Plant						
Parameter	Violation (Yes/No)	Sample Date (or highest result)	MCL	MCLG	Level Detected	Likely Source of Contamination
Entry Point Turbidity ¹	NO	7/22 and 7/25 2011	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	7/21/11 and 7/22/2011	TT ≤ 1.0 NTU	n/a	Highest Level Detected = 0.25 NTU	
Entry Point Fluoride	NO	3/4/2011	2.2 mg/L	2.2 mg/L	0.13 to 1.37 mg/L; High = 1.37 mg/L	Naturally occurring and added to help prevent tooth decay
Arsenic	NO	6/2/2011	10 ug/l	n/a	ND to 0.8 ug/L; High = 0.8 ug/L	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Chromium (Well Site M18)	NO	9/7/2011	100 ug/L	100 ug/L	Single detection at 2.4 ug/L; All others = ND	Discharge from steel and pulp mills; Erosion of natural deposits
Nitrates	NO	6/2/2011	10 mg/L	10 mg/L	0.39 to 1.32 mg/L; High = 1.32 mg/L	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits.
Total Organic Carbon (Water Plant Only)	NO	11/1/2011	TT	n/a	0.92 to 1.7 mg/L; High = 1.7 mg/L	Naturally present in the environment
Sodium ³	NO	5/22/2008	*SEE NOTE 5*	n/a	12.1 to 28.0 mg/L; High = 28.0 mg/L	Naturally occurring; Road salt; Water softeners; Animal waste.
Silica ³	NO	5/22/2008	n/a	n/a	4.1 to 11.0 mg/L; High = 11.0 mg/L	Erosion of natural deposits.
Sulfate ³	NO	5/22/2008	250.0 mg/L	n/a	11.3 to 23.5 mg/L; High = 23.5 mg/L	Naturally occurring.
Chloride ³	NO	5/22/2008	250 mg/L	n/a	35.0 to 51.2 mg/L; High = 51.2 mg/L	Naturally occurring or indicative of road salt contamination.
Barium ³	NO	5/22/2008	2,000 ug/L	2,000 ug/L	24 to 45 ug/L; High = 45 ug/L	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Magnesium ³	NO	5/22/2008	n/a	n/a	5.0 to 11.2 mg/L; High = 11.2 mg/L	Erosion of natural deposits of indicative of road salt contamination.
All Radiological results below relate to the RAW WATER from the OLEAN CREEK						
Beta Particle ⁴	NO	4/28/2011	50 pCi/L	0	5.1 pCi/L	Decay of natural deposits and manmade emissions
Tritium	NO	4/28/2011	20,000 pCi/L	0	25.31 pCi/L	Naturally occurring and by-product of nuclear reactions
Radium 226/228	NO	4/28/2011	5 pCi/L	0	0.37 pCi/L	Erosion of natural deposits
Gross Alpha	NO	4/28/2011	15 pCi/L	0	3.89 pCi/L	Erosion of natural deposits

These results relate only to samples as they were collected and/or analyzed.

NOTES

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.) 2 samples had lead results over the action limit; no copper samples exceeded the action limit. The 90th percentiles of both lead and copper samples were below the action limit.
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. The State of New York considers 50 pCi/L to be the level of concern for beta particles.
5. Water containing more than 20 mg/L of sodium should not be used for drinking by persons with severely restricted sodium diets.

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.)

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.

Running Annual Average (RAA): This is a calculation of the average of all the readings in the year preceding the date of sampling. This is NOT site specific and averages all results for a particular parameter.

n/a: Not applicable.