Annual Drinking Water Quality Report for 2016

Village of Ossining Water System - 101 Rt. 9A, Ossining, NY 10562

(Public Water Supply ID# 5903451)

"We want you to know about your drinking water."

Paul Fraioli, P.E., ***Interim Village Manager and Village Engineer***
Andrew Tiess, ***Superintendent of Water*** **Stephen Ho,** ***Chief Filter Plant Operator***
Michael DeMartino, ***Water Department Foreman***

Este informe contiene information muy importante sobre su agua beber. Traduscalo o hable con alguien que lo entienda bien.

INTRODUCTION: To comply with State and Federal regulations, the Village of Ossining must issue an annual report which describes 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 and information as to the source of your water and the various treatment processes. Also included are details with regard to test results for 27 contaminants and how they compare to State standards. We want you to be informed about your drinking water and that we have met water quality standards. **If you have any questions about this report or concerns about your drinking water, please call Stephen Ho, Chief Filter Plant Operator, at (914) 941-0128, Monday to Friday, 7 a.m. to 3 p.m. You can also attend the Village of Ossining Board Meetings, which are held every first and third Wednesday of the month at the Birdsall-Fagan Police Court Facility, 86-88 Spring Street, Ossining, N.Y.**

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.

Our water is supplied from two surface water sources: the Indian Brook Reservoir, located at 25 Fowler Avenue, and the Croton Reservoir, which is part of the New York City Water System. The average blend ratio for 2016 was approximately 76% from the Croton Reservoir and 24% from the Indian Brook Reservoir. The two waters are blended together and treated at the Indian Brook Water Filtration Plant. The raw water entering the plant undergoes several treatment processes, which include oxidation, aeration, coagulation/flocculation, sedimentation, filtration, ph/corrosion control, fluoridation and disinfection. The treated water is then pumped into the distribution system from three finished water storage tanks (Pleasantville Road, Lakeville and Torbank Tanks) for the public's use. There were no water restrictions for 2016.

The New York State Department of Health has evaluated the susceptibility of water supplies statewide to potential contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph(s) 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 does not mean that source water contamination has occurred or will occur while regular monitoring ensures that water delivered to consumers meets all applicable standards.

The Village obtains its water from the New York City Croton watershed in Putnam and Westchester counties. The reservoirs in this mixed land use area are moderately shallow with various degrees of development along their shorelines. The main water quality concern associated with land cover is residential development and its associated waste water discharges, which can contribute to microbial contaminants, pesticides, and algae producing nutrients. However, advanced treatments that reduce contaminants are in place for most of these discharges. There are also a number of other discrete facilities, such as landfills, chemical bulk storages, etc. that have the potential to impact local water quality, but large scale water quality problems associated with these facilities are unlikely due to the watershed surveillance and management practices. In addition, the shallow nature of the reservoirs, along with excess algae nutrients and the presence of wetlands in the watershed, contribute to periods of elevated water color and disinfection byproduct (DBP) precursor levels.

The assessment area for Indian Brook Reservoir's drinking water source contains no discrete Permit Compliance Systems (PCSs). None of the land cover contaminant prevalence ratings are greater than low. However, the high mobility of microbial contaminants in reservoirs results in this drinking water intake having medium-high susceptibility ratings for protozoa, enteric bacteria and viruses. In addition, reservoirs are highly susceptible to water quality problems caused by phosphorus additions.

FACTS AND FIGURES: Our water system serves approximately 32,000 people through approximately 6,030 service connections. The total water produced in 2016 was approximately 1.19 billion gallons. The daily average of water treated and pumped into the distribution system was 3.25 million gallons per day (MGD). The peak day was 4.2 million gallons. In 2016, water customers located within the Village were charged $25.00 for the first 748 gallons and $7.49 for each additional 748 gallons of water. All other water customers were charged $37.50 for the first 748 gallons and $11.23 for each additional 748 gallons of water. Of the 1.19 billion gallons produced, 0.9 billion gallons was charged to paying users. The remaining water is attributable to flushing mains, fighting fires and miscellaneous leakage.

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, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. 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 table presented below depicts which compounds were detected in your drinking water. 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 Westchester County Health Department (914-813-5000).**

Table 1

TABLE OF DETECTED CONTAMINANTS							
Contaminant	**Compliance Yes/No**	**Date of Sample**	**Level Detected (Range)**	**Unit Measure-ment**	**MCLG**	**Regulatory Limit (MCL, TT or AL)**	**Likely Source of Contamination**
Microbiological							
Cryptosporidium[1]	Yes	Monthly Oct-Dec 2016	0	# cysts/liter	0	0	Animal waste.
Giardia[1]	Yes	Monthly Oct-Dec 2016	0	# cysts/liter	0	0	Animal waste.
Inorganics							
Chloride	Yes	7/7/16	96.3	mg/l	N/A	250	Naturally occurring; road salts.
Fluoride	Yes	7/7/16	0.66	mg/l	N/A	2.2	Water additive, promotes strong teeth.
Nitrate	Yes	7/7/16	0.446	mg/l	10	10	Runoff from fertilizers; leaching from septic tanks; naturally occurring.
Sulfate	Yes	7/7/16	12.3	mg/l	N/A	250	Naturally occurring.
Sodium[2]	Yes	7/7/16	44.0	mg/l	N/A	20-270	Naturally occurring; road salt; water softeners; animal waste.
Nickel	Yes	7/7/16	1.27	µg/l	N/A	N/A	Naturally occurring.
Barium	Yes	77/16	.0343	µg/l	2	2	Vacuum tubes; well drilling fluid; naturally occurring.
Disinfection By-Products							
Total Trihalomethanes							
Site 1	Yes	2/11/16	42.5[3] (25.4-63.2)	µg/l	N/A	80	By-product of drinking water chlorination needed to kill harmful organisms; formed when source water contains large amounts of organic matter.
Site 2	Yes	5/5/16	49.7[3] (35.7-69.7)	µg/l	N/A	80	By-product of drinking water chlorination needed to kill harmful organisms; formed when source water contains large amounts of organic matter.
Site 3	Yes	8/11/16	54.7[3] (29.2-86.9)	µg/l	N/A	80	By-product of drinking water chlorination needed to kill harmful organisms; formed when source water contains large amounts of organic matter.
Site 4	Yes	11/10/16	38.9[3] (24.4-48.7)	µg/l	N/A	80	By-product of drinking water chlorination needed to kill harmful organisms; formed when source water contains large amounts of organic matter.
Haloacetic Acids							
Site 1	Yes	2/11/16	29.5[3] (18.6-40.6)	µg/l	N/A	60	By-product of drinking water chlorination.
Site 2	Yes	5/5/16	49.9[3] (31.2-50.8)	µg/l	N/A	60	By-product of drinking water chlorination.
Site 3	Yes	8/11/16	24.9[3] (20.7-28.4)	µg/l	N/A	60	By-product of drinking water chlorination.
Site 4	Yes	11/10/16	27.5[3] (22.5-34.0)	µg/l	N/A	60	By-product of drinking water chlorination.
Radioactive Contaminants[4]		Last results from 2013					
Gross Alpha	Yes	10/10/13	-0.4+/-0.8	pCi/L	0	15	Erosion of natural deposits.
Gross Beta	Yes	10/10/13	0.4+/-0.8	pCi/L	0	50[7]	Erosion of natural deposits.
Radium 226	Yes	10/10/13	0.3+/-0.4	pCi/L	0	Combined 5	Erosion of natural deposits.
Radium 228	Yes	10/10/13	0.1+/-0.4	pCi/L	0		Erosion of natural deposits.
Uranium	Yes	10/10/13	0.0+/-0.0	µg/l	0	30	Erosion of natural deposits.
Lead and Copper	Yes						
Lead[5]	Yes	7/14	9.81 (ND-36.1)	µg/l	0	AL 15	Household Plumbing
Copper[5]	Yes	7/14-	263 (20.2-732.0)	µg/l	0	AL 1300	Household Plumbing
Composite Filter	Turbidity/Yes	Daily	0.05[6]	NTU	0	0.3	Soil runoff.
Entry Point Turbidity	Yes	Daily	0.17[6]	NTU	N/A	<1.0	Soil runoff.
UCMR3		Last results from 2014					
Total Chromium	Yes	2014	0.22	µg/l	100	100	Erosion of natural deposits.
Chromium-6	Yes	2014	0.078	µg/l	100		Industrial discharge; erosion of natural deposits.
1,4-dioxane	Yes	2014	0.024	ug/l	N/A	50	Released to environment as a solvent; textile processes, printing processing and in detergents.
Strontium	Yes	2014	89.5	µg/l	N/A		Naturally occurring.
Alkalinity	Yes	1/7/16	77.1	mg/l	N/A	N/A	Naturally occurring.
Total Organic Carbon	Yes	1/7/16	3.79	mg/l	N/A	TT	Naturally occurring.

Notes:

1. Monthly samples continuing through September 2018.
2. Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.
3. This level represents the highest Locational Running Annual Average (LRAA) calculated from the data collected.
4. Next sampling 2022.
5. The level presented represents the 90th 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 10 or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system. In this case, 38 samples were collected at your water system and the 90th percentile value was the 34th sample.
6. Turbidity is a measure of the clarity of the water. We test it because it is a good indicator of the effectiveness of our filtration system. State regulations require that turbidity must always be at or below 0.3 NTU. The regulations require that 95% of the turbidity samples collected have measurements at or below 0.3 NTU.
7. The state considers 50 pCi/L to be a level of concern for beta particles.

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. MRDLGs 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 which a water system must follow.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU's is just noticeable to the average person.

Milligrams per liter (mg/l): Corresponds to one part of liquid per one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid per one billion parts of liquid (parts per billion - ppb).

UCMR3: Unregulated contaminants monitoring requirement – third grouping.

N/A: Not Analyzed or Not Available.

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

LRAA: Locational Running Annual Average.

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

Table 1 depicts which compounds were detected in your drinking water. Not included in the table are other contaminants which were tested for and not detected in the system. These undetected contaminants are listed herein:

Organics (including Other Principal Organics and Synthetic Organics) – 1,1,1-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1,2,2-tetrachloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,1-dichloropropene, 1,2,3-trichlorobenzene, 1,2,3-trichloropropane, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, m-dichlorobenzene, 1,2-dichloroethane, 1,2-dichloropropane, 1,3,5-trimethylbenzene, o-dichlorobenzene, 1,3-dichloropropane, p-dichlorobenzene, 2,2-dichloropropane, 2-chlorotoluene, 4-chlorotoluene, cis-1,2-dichloroethylene, trichloroethylene, tetrachloroethylene, benzene, bromobenzene, bromochloromethane, bromomethane, carbon tetrachloride, chlorobenzene, chloroethane, chloromethane, cis-1,3-dichloropropene, dibromomethane, dichlorodifluoromethane, ethylbenzene, hexachlorobutadiene, isopropylbenzene, m,p-xylene, methyl tert-butyl ether, methylene chloride, n-butylbenzene, n-propylbenzene, o-xylene, sec-butylbenzene, styrene, tert-butylbenzene, trans-1,2-dichloroethene, trans-1,3-dichloropropene, trichlorofluoromethane, vinyl chloride, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane.

Inorganics - antimony, arsenic, beryllium, cadmium, selenium, silver, mercury, zinc, iron and manganese and cyanide.

The following pesticides, herbicides, carbamates and base neutral extractables were analyzed and not detected: alachlor, atrazine, lindane, butachlor, chlordane, dieldrin, endrin, heptachlor, heptachlorepoxide, hexachlorobenzene, hexachlorocyclopentadiene, methoxychlor, metolachlor, PCB, propachlor, simazine, toxaphene, EDB, DBCP, 24D, dalapon, dicombra, dinoseb, pentachlorophenol, picloram, 2,4,5-TP, 2,4-DCAA, aldicarb, aldicarb sulfone, aldicarb sulfoxide, carbofuran, 3-hydroxycarbofuran, methanyl, oxamyl, carbaryl, Aldrin, benzopyene, bis(z-ethylexyl)adipate, bis-(2-ethylhexyl)phlate, metribazin.

WHAT DOES THIS INFORMATION MEAN? As you can see by the above table, our system had no water quality violations. We have learned through our testing that some contaminants have been detected; however, they are below the levels allowed by the State.

Ossining maintains a well-equipped laboratory capable of performing all process control tests needed to run the Indian Brook Treatment Plant. Additionally, some required samples from the raw water source entry point and distribution system are taken for analysis and regulatory reporting to an independent laboratory certified by New York State. In 2016, Ossining water met or exceeded New York State Standards for every category of analysis in every sample taken.

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 Village of Ossining water system 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 the 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 (1-800-426-4 at http://www.epa.gov/safewater/lead.**

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATION? During 2016, our system was in compliance with applicable state drinking water operating monitoring and reporting requirements.

INFORMATION ON CRYPTOSPORIDIUM AND GIARDIA: ***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. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the 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.

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. 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. 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 handwashing practices are poor.

During 2016, as part of routine sampling, the Village of Ossining water system collected monthly samples beginning in October from the blended Croton/Indian Brook drinking water supply and analyzed them for Cryptosporidium oocycsts and Giardia cysts through the Mohawk Valley Water Authority Certified Laboratory. Of these samples, none were confirmed positive for Crypto and Giardia. Both these analyses recorded a minimum presence of zero oocysts per liter of sample water.

DO I NEED TO TAKE SPECIAL PRECAUTIONS? Although our drinking water met or exceeds 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 (1-800-426-4791).

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 fluoride is maintained at a target level of 1.0 mg/l. During 2016, monitoring results showed fluoride levels in your water were within 0.2 mg/l of the target level 90% of the time. Fluoride was added continuously in 2016 and none of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for Fluoride.

INFORMATION ON UNREGULATED CONTAMINANTS: Unregulated contaminants are those for which EPA has not established drinking water standards. In 2014, the Village of Ossining Water Department monitored for additional contaminants under the EPA's Unregulated Contaminants Monitoring Rule (UCMR3). The information collected by the Village, as well as nationally, will help the EPA determine future drinking water regulations. The results of our sampling are included in Table 1. If you have any questions regarding the results, please contact Stephen Ho at (914) 941-0218.

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 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 run it only when full.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up 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.

Information continued below...

Village of Ossining Water Department
John-Paul Rodrigues Ossining Operations Center
P. O. Box 1166
101 Route 9A
Ossining, NY 10562

Information continued from above...

- 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.
- Do not let the water run while brushing your teeth and rinse your mouth with a glass of water. You will save over one gallon of water each time you brush.
- Take shallow baths and short showers.

SYSTEM IMPROVEMENTS: The Village of Ossining is committed to constantly improving and maintaining its water system. During 2016, we completed the automation for the SCADA system for the Havell Street Pump Station, and completed the water relining project for the following streets: Eastern Avenue, Elizabeth Street, Tompkins Avenue, Churchill Street, Prospect Place, Hunter Street and Linden Avenue. A new water main was installed on lower Main Street to replace the existing water main, and we completed the installation of the new spillway at the Indian Brook Reservoir. At the Indian Brook Water Treatment Plant, we performed our filter surveillance program and followed through with all required filter media preventative maintenance.

In 2017, we will continue our leak detection for unaccounted for water and complete the rehabilitation of our Indian Brook Dam spillway and intake structure.

CLOSING: Thank you for allowing us to continue providing your families with quality drinking water. We ask that all our customers help us protect our water resources, which are the heart of our community and our way of life.