Annual Drinking Water Quality Report for 2016
Village of Massena
85 Robinson Road
Massena, New York 13662
Public Water Supply ID# 4404390

INTRODUCTION

To comply with State and Federal regulations, the Village of Massena Water Treatment Plant, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water health standards. 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.

If you have any questions about this report or concerning your drinking water, please contact Nick Zappia, Plant Superintendent at 315 764-0653. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled village board meetings. The meetings are generally held the 1st and 3rd Tuesday of each month at 5:30 p.m. in the Massena Town Hall.

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 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 source is the Saint Lawrence River through the Massena Intake located on Route 131 just north of the Village. During 2016, our system did not experience any restriction of our water source. The water is pre-chlorinated at the intake for disinfection and zebra mussel control; filtered through diatomaceous earth, post-chlorinated for disinfection; fluoridated for dental protection; and zinc orthophosphate is added for corrosion control.

The NYS DOH has evaluated this Public Water Supply (PWS's) susceptibility to 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 are created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this PWS. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

The Great Lakes' watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for PWS's which use these sources include: storm generated turbidity, wastewater, toxic sediments, shipping related spills, and problems associated with exotic species (e.g. zebra mussels-intake clogging and taste and odor problems). The summary below is based on the analysis of the contaminant inventory compiled for the drainage area most likely to impact drinking water quality at this PWS intake.

This assessment found a moderate susceptibility to contamination for this source of drinking water. The amount of

agricultural lands in the assessment area results in elevated potential for protozoa and pesticides contamination. In addition, the moderate density of CAFOs (Concentration Animal Feeding Operations) in the assessment area may add to the potential for contamination. While there are some facilities present, permitted discharges do not likely represent an important threat to source water quality based on their density in the assessment area. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: IHWS (Inactive Hazardous Waste Sites), Landfills and mines.

Treated water is distributed through an underground piping system that serves residents of the Village of Massena. A permissive service district from Highland Road to the St. Lawrence Centre Mall, and water districts in the Town of Massena, including Bucktown, Riverview Estates, Massena Center, Dennison Road, the East Massena Water District, and River Road are also served.

FACTS AND FIGURES

Our water system serves approximately 16,729 people in the Village and Town of Massena through 5,541 Village residential service connections, and 737 commercial connections. The Town has 581 residential connections, 1 industrial, 1 institutional service connection.
The total water produced was 414 million gallons. The daily average of water treated and pumped into the distribution system is 1.1 million gallons per day. Our highest single day was 1.54 million gallons, on 5/30/16. The amount of water delivered to consumers was 305 million gallons. This leaves an unaccounted total of 109 million gallons. This water was used to flush mains, backwash filters, collect samples, fight fires and system leakage. This accounts for the remaining 109 million gallons (26% of the total amount produced).

Water use within the Village is metered for recovery of operating expenses. The current water rate schedule for the Village is as follows:

Village Customers

Volume	Village Rates
First 3,000 gal/month	$3.95/1000 gal
Next 17,000 gal/month	$3.35/1000 gal
Excess 20,000 gal/month	$2.60/1000 gal

Non-Village Customers

Volume	Non-Village Rates
20,000 gallons minimal use monthly	Industrial $7.55/1000 gal
7,500 gallons minimal use monthly	Commercial $7.55/1000 gal
Per contract agreement	Institutional $4.15/1000 gal
3,000 gallons minimal use monthly	Residential $4.15/1000 gal

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, fluoride, zinc, phosphate, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, radiological contaminants, and synthetic organic compounds. 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.

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 Health Department's Canton District Office

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Average) (Range)	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Microbiological Contaminants							
Turbidity[1]	No	2016	0.13 (Aver.)	NTU	N/A	TT= < 5NTU, 95% of samples < 1NTU	Soil runoff.
Total Coliform	No	2016	100%	N/A	0	MCL=2 or more positive samples	Naturally present in the environment
E. Coli	No	2016	100%	N/A	0	Any positive sample	Human and animal fecal water.
Inorganics							
Nitrate	No	1/20/16	0.230	mg/L	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Fluoride	No	2016	0.64 (aver.)	mg/L	N/A	MCL= 2.2 mg/L	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.
Lead[2]	No	6/6/16-6/8/16	0.0018(90^{th} %) <0.0010-0.0039(range)	µg/L	0	AL=15	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper[2]	No	6/6/16-6/8/16	0.5460(90^{th} %) 0.0384-0.7101(range)	mg/L	1.3 mg/L	AL= 1.3 mg/L	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Barium	No	2/10/16	0.0119	mg/L	2 mg/L	2 mg/L	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Disinfection Byproducts							
Haloacetic Acids	No	2016	30(aver.) 16-57(range)	µg/L	N/A	60 µg/L running aver/site	By-product of drinking water chlorination.
Total Trihalomethanes	No	2016	48(aver.) 25-70(range)	µg/L	N/A	80 µg/L running aver/site	By-product of drinking water chlorination needed to kill harmful organisms. TTHM's are formed when source water contains large amounts of organic matter.

(315 386-1040)

Radioactive Contaminants					
Contaminant	Violation	Date of Sample	Level Detected /MCL	Unit Measurement/MCLG	Likely source of contamination

Gross alpha activity	No	3/1/16	0.546/15	PCi/L/0	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Radium – 226 Radium-228	No No	3/1/16 3/1/16	0.452 /5 1.12/5	PCi/L /0	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Notes:

1 – Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for the year occurred on 9/15/16 (0.33 NTU). State regulations require that turbidity must always be below 5 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.5 NTU.

2 – 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 to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. The action levels for lead and copper were not exceeded at any of the sites tested.

3- The parameters that make up Haloacetic Acids in drinking water are Monochloroacetic, Monobromoacetic, Dichloroacetic, Trichloroacetic, and Dibromoacetic acids. Trihalomethane parameters are as follows; Chloroform, Bromodichloromethane, Dibromochloromethane, and Bromoform.

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.
Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
Non-Detects (ND): Laboratory analysis indicates that the constituent 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.
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 to one trillion parts of liquid (parts per trillion - ppt).
Picograms per liter (pg/l): Corresponds to one part per of liquid to one quadrillion parts of liquid (parts per quadrillion – ppq).
Picocuries per liter (pCi/L): A measure of the radioactivity in water.
Millirems per year (mrem/yr): A measure of radiation absorbed by the body.
Million Fibers per Liter (MFL): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

WHAT DOES THIS INFORMATION MEAN

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

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS

During 2016, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

DO I NEED TO TAKE SPECIAL PRECAUTIONS

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

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INFORMATION FOR NON-ENGLISH SPEAKING RESIDENTS

Spanish

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

French

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.

INFORMATION ON FLUORIDE ADDITION

Our system is one of 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 Center for Disease Control, fluoride is very effective in preventing cavities when present in drinking water.

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 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 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 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.
- 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.

SYSTEM IMPROVEMENTS

In 2016 the Village of Massena completed several projects at the treatment plant and in the distribution system. Spray foam insulation was applied to the inside of the water plant walls and ceilings providing a more energy efficient building. Continuing improvements in the maintenance program ensures a quality supply of drinking water.

CLOSING

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. Please call our office if you have questions.