

# *Annual Drinking Water Quality Report for 2009*

## *Village of Canton*

*60 Main Street; Canton, NY 13617  
(Public Water Supply ID# 4404381)*

### **INTRODUCTION**

To comply with State regulations, the Village of Canton, 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. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. 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 Sean McCarthy, Operator at (315) 386-2936. 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 held on the third Monday of each month at 7:00 p.m. at the Board Room in the Municipal Building.

### **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 primary source is groundwater drawn from the Upland System. The Upland System consists of subsurface collection galleries and wells located on Waterman Hill in the Towns of Canton, Pierrepont, and Russell and are located approximately six miles from the Village. The Upland System was original constructed in approximately 1917 and has received upgrades over the years, with the most recent upgrade occurring in 2002. The Upland System consists of a 1.0 million gallon reservoir, caisson and groundwater extraction wells located at Dinsdale and Barrett, and infiltration galleries located at O'Brien, Collier and Barriger, approximately three miles of six-inch water transmission main, and six miles of eight-inch transmission main. Water from this source is chlorinated before being conveyed to the Village via six miles of 12-inch transmission main from Waterman Hill.

The Grasse River water source was reclassified as an emergency supply following 2003 and has not been utilized since March of 2003. The process at the treatment plant includes pH adjustment, chemical addition, mixing, flocculation, settling, filtration, and the addition of chlorine.

Treated water is conveyed to you, the consumer, by a distribution system. The distribution system consists of two 1 million gallon water storage towers, a flow control station, many miles of four, six, eight, and twelve-inch water mains, water services and shut-offs, valves, hydrants, and other appurtenances.

The NYS DOH has evaluated this Public Water Supplies (PWS's) susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraphs below. The susceptibility rating is an estimate of the potential for contamination of the source water and elevated susceptibility ratings do not mean that the water delivered to consumers is, or will become contaminated. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards. The presence of contaminants does not necessarily indicate that the water poses a health risk. 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 from natural, residential, agricultural, and/or industrial sources. Potential sources of contamination of our water include transportation routes, pipelines, landfills, mines, Inactive Hazardous Waste Sites (IHWS), chemical bulk storage, oil storage facilities, agricultural land, and permitted discharges from wastewater treatment plants. See the section titled "Are there contaminants in our drinking water?" for a list of contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

This assessment found a moderate or medium susceptibility to protozoan and pesticide contamination for the O'Brien, Barriger, and Collier spring sources of drinking water. The amount of agricultural lands in the assessment area results in an elevated potential for microbials and phosphorus contamination. No permitted discharges or other regulated facilities have been identified in the assessment area.

One of the biggest dangers of using springs as sources of drinking water is that they have a relatively high likelihood of being ground water under the direct influence of surface water (GWUDI). Basically, this means they collect water that has not passed through enough fine-grained soil to filter out the large diameter pathogens that are commonly found in surface waters. Springs have a tendency to be GWUDI because they generally collect groundwater from shallow depths, which has not spent much time in the ground. In addition, underground water flows to the springs can make these drinking water sources highly sensitive to existing and new sources of contamination from solvents and petroleum products.

Springs have Source Water Assessment Program (SWAP) natural sensitivity rating of medium for all contamination types. However, these ratings assume that the spring is not under the direct influence of surface water. If these springs are determined to be GWUDI, these drinking water sources should be re-evaluated using the natural sensitivity ratings of the influencing surface water body.

The Canton Upland System recently was deemed to be NON-GWUDI in a letter dated February 21, 2007 from the New York State Department of Health.

The NYS DOH has completed a source water assessment for the groundwater wells and includes a susceptibility rating based on the risk posted by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. A portion of our drinking water is derived from a series of wells located on Waterman Hill called the Dinsdale and Barrett Wells. The source water assessment has rated these wells as having a medium-high susceptibility to industrial solvents, petroleum products, industrial organics, and inorganic elements (salts and sulfates). The wells are rated as having a high susceptibility to microbials and nitrates. These ratings are due primarily to the wells close proximity to septic systems, transportation routes, and pastures.

The wells draw from an unconfined aquifer. An unconfined aquifer is a shallow aquifer that occurs immediately below the ground surface and has no overlying protective layer for protection from potential sources of contamination. Continued vigilance in compliance with water quality protection and pollution prevention programs as well as continued monitoring and enforcement will help continue to protect ground water quality.

The Village of Canton owns six hundred and forty acres of the watershed. This property is posted and patrolled daily. Adjacent property owners within the watershed have been given copies of the most current Watershed Rules and Regulations. These rules and regulations aim to protect the watershed by informing landowners of practices that may impact the quality of the water within the watershed. The Village of Canton also has an Emergency Response Plan (ERP) in place for dealing with emergencies.

### **FACTS AND FIGURES**

Our water system serves approximately 7055 people through approximately 1,500 service connections. The total water produced in 2009 was 200.1 million gallons. The daily average amount of water treated and distributed to consumers was 548.2 thousand gallons per day. Our highest single day of production was 782 thousand gallons of water produced on August 25, 2009. The amount of water delivered to customers was approximately 157.4 million gallons. This leaves an "un-metered" total of 42.7 million gallons. This water was used to flush mains, fight fires, leakage, low readings on old water meters and other miscellaneous sources. This amount of un-metered water in 2009 was 21%; customers were charged \$4.81 per 1000 gallons.

### **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, 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 reasonably be 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 New York State Department of Health at (315) 386-1040.

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG	Regulatory Limit	Likely Source of Contamination
<b>Microbiological Contaminants</b>							
Turbidity <sup>1</sup> (Distribution System)	No	2009	0.93 0.34-0.69	NTU	5.0	<5 NTU (TT)	Soil Runoff
Turbidity <sup>2</sup> (Upland System – US)	No	2009	0.59 0.33-0.51	NTU	1.0	<1 NTU (TT)	Soil Runoff
<b>Inorganic Contaminants</b>							
Copper	No	2007	0.89 <sup>3</sup> 0.14-0.81 <sup>4</sup>	mg/L	1.3	1.3 (AL)	Corrosion of household plumbing systems.
Lead	No	2007	4.0 <sup>3</sup> <0.001-7.7 <sup>4</sup>	ug/L	0	15 (AL)	Corrosion of household plumbing systems.
Barium East Line	No	2007	.038	mg/L	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride East Line	No	2007	.2	mg/L	na	2.2	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nickel East Line	No	2007	.0015	mg/L	na	na	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Barium West Line	No	2007	.037	mg/L	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride West Line	No	2007	.21	mg/L	na	2.2	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nickel West Line	No	2007	.0015	mg/L	na	na	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Nitrate	No	6-3-09	1.1	mg/L	10	10 (MCL)	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits.
<b>Disinfection Byproducts</b>							
Total Trihalomethanes (TTHMs)	No	2007	20 <sup>5</sup> .5-20 <sup>6</sup>	ug/L	na	80 (MCL)	Byproduct of drinking water chlorination.
Total Haloacetic Acids HAA5	No	2007	5.5 1-5.5 <sup>6</sup>	ug/L	na	60 (MCL)	Byproduct of drinking water chlorination.
<b>Organic Contaminants</b>							
Bis(2-Ethylhexyl) Phthalate	No	9-30-08	.0022	mg/L	0	6 (MCL)	Used in plastic products such as PVC, plastic toys, vinyl upholstery, adhesive and coatings. Compound likely to be released to the environment during production and waste disposal of these products. Also used in inks, pesticides, cosmetics and vacuum pump oil.

- Notes:**
- 1 – Turbidity is a measure of cloudiness of the water. Turbidity is monitored in our distribution system five times per week. These results should always be below 5.0 NTU. The highest distribution result was 0.93 on 1/14/2009, second highest was 0.80NTU on 8/25/2009. All remaining samples were below 0.69 NTU.
  - 2 – We monitor turbidity at the Upland System source because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. In 2009, our highest average for turbidity occurred on 8/28/2009 (0.59NTU) this value is below the turbidity standard (1 NTU) that is assigned to the Upland System source.
  - 3 - The level presented represents the 90<sup>th</sup> percentile of the 22 sites tested in 2007. 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 90<sup>th</sup> percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, 22 samples were collected at your water system and the 90<sup>th</sup> percentile value was the second highest value. None of the sites tested had results above the lead or copper action level.
  - 4 - The level presented represents the range of the 20 samples collected in 2007.
  - 5- One sample per disinfection station is collected per quarter. The value presented represents the annual average of all samples.
  - 6 – The value presented represents the range of the results for all samples collected for TTHM analysis and Haloacetic acids.

**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).

**Picocuries per liter (pCi/L)** Picocuries per liter is a measure of the radioactivity in water.

## WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations.

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 (800-426-4791).

## IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2009, our system was in compliance with all applicable State drinking water operating, monitoring and reporting requirements.

## 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 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 waste 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**

The Village anticipates identifying and evaluating additional sources of water and leak detection and repair.

### **Closing**

Thank you for allowing us to continue to provide you and 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.