

*Annual Drinking Water Quality Report for 2009  
Village of Baldwinsville Water Department  
16 West Genesee Street, Baldwinsville, NY 13027  
(Public Water Supply ID# NY3304307)*

## **INTRODUCTION**

To comply with State regulations the Village of Baldwinsville 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. 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 Timothy C. Baker, P.E., Village Engineer, phone number: 315-635-9665. 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 the first and third Thursday of each month at 7:30 pm at the Village Hall, 16 West Genesee Street, Baldwinsville, NY 13027.

## **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, 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 sources are:

- ◆ **Doan Well:** Located in the Town of Lysander, outside of the Village. The well field consists of three (3) separate wells, all approximately ninety (90') feet deep. This well field is capable of producing 2 million gallons per day. In 2009, 251,910,000 gallons were produced from this well field. Treatment for the Doan Well supply consists of chlorination and fluoridation.
- ◆ **Canton Street Well:** Located within the Village. This well is twenty feet (20') deep and twenty feet (20') in diameter. This well field is capable of producing 1.5 million gallons per day. In 2009, 124,896,000 gallons were produced from this well field. Treatment for the Canton Street Well consists of chlorination and fluoridation.

During 2009, our system did not experience any restriction of our water sources. The water is treated by chlorination and fluoridation prior to distribution.

The NYS Department of Health (DOH) has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The DOH source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See section “Are there contaminants in our drinking water?” for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future. Water suppliers and county and state health departments will use this information to direct future source water protection activities. These may include water quality monitoring, resource management, planning, and education programs.

As mentioned before, our water is derived from one dug well and 3 drilled wells. The source water assessment has rated these wells as having a medium-high to high susceptibility to microbials, a medium-high susceptibility to nitrates, metals, herbicides/pesticides, and industrial solvents, and a high susceptibility to petroleum products and other industrial contaminants. These ratings are due primarily to the close proximity of oil and gas wells, pasture, and low intensity residential activity in the assessment area. In addition, the wells yield or pump greater than 100 gpm from unconfined aquifers. While the source water assessment rates our wells as being susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered into your home meets New York State’s drinking water standards for microbial contamination.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted below.

<b>Susceptibility Ratings</b>					
<b>System Name: Baldwinsville Village NY3304307</b>					
<b>Well Name</b>	<b>Well Number</b>	<b>Microbials</b>	<b>Nitrates</b>	<b>VOCs</b>	<b>Others</b>
Canton St. Well	2558437	H	MH	H	MH
Doan Well field – Well No. 2	2558436	MH	MH	H	MH
Doan Well field – Well No. 3	2592903	MH	MH	H	MH
Doan Well field – Well No. 4a	2592904	MH	MH	H	MH

**FACTS AND FIGURES**

Our water system serves 7,053 people within the Village through 2,819 service connections and an additional 1,000 people through six water districts within the Town of Lysander. The total water produced in 2009 was 376,806,000 gallons. The amount of water delivered to customers was 284,281,514 gallons. 92,524486 gallons or 24.55% of production was unaccounted for (lost or leakage). This includes water for fire protection and practice, road cleaning, municipal use, etc. In 2009, water customers were charged \$ 1.59 per 1,000 gallons of water with the annual average water charge per user at \$103.96.

## **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, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. The tables presented below depict 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 Onondaga County Health Department at 315-435-6600.

### **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.

**Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

**EPA:** Environmental Protection Agency

**DBP – Disinfection By-product:** Chemical compounds that result from the addition of chlorine to water containing organic substances.

**CDC:** Center for Disease Control

**Non-Detects (ND):** Laboratory analysis indicates that the constituent is not present.

**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):** A measure of the radioactivity in water.

**Millirems per year (mrem/yr):** A measure of radiation absorbed by the body.

**TTHM:** Total Trihalomethanes

**HAA5:** Total Haloacetic Acids

**90<sup>th</sup> Percentile Value:** The values reported for lead and copper represent the 90<sup>th</sup> percentile. A percentile is a value on a scale of 100 that indicates the percent of distribution that is equal to or below it. The 90<sup>th</sup> percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

**Maximum Residual Disinfectant Level (MRDL):** The highest level 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 Goal (MRDLG):** The level of 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.

## 2009 Sampling

<b>Table of Detected Contaminants</b>							
<b>Contaminant</b>	<b>Violation Yes/No</b>	<b>Date of Sample</b>	<b>Level Detected Avg. (Range)</b>	<b>Unit Measurement</b>	<b>MCLG</b>	<b>Regulatory Limit MCL</b>	<b>Likely Source of Contamination</b>
<b>Disinfection By-Products (DBP)</b>							
Total Trihalomethanes (TTHM)	No	8/14/07	32 (12.8 - 51.2)	ug/L	N/A	MCL 80	By-product of drinking water chlorination. TTHM's form when source water contains large amounts of organic matter.
Chlorine Residual	No	Daily	0.57 (0.3-0.8)	mg/L	(MRDLG) 0	(MRDL) 4	By-product of drinking water chlorination
Total Haloacetic Acids (HAA5)	No	8/14/07	4.6 (2.4-6.8)	ug/L	N/A	MCL 60	By-product of drinking water chlorination
<b>Inorganic Contaminants</b>							
Nitrate - Canton St. Well*	No	12/10/09	1.26	mg/L	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrate - Doan Wellfield*	No	12/10/09	6.82 (6.34 - 7.14)	mg/L	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Sodium - Canton St. Well**	No	6/19/09	94.0	mg/L	N/A	N/A	Naturally occurring; road salt; water softeners; animal waste
Sodium - Doan Wellfield**	No	6/19/09	13.33 (12-15)	mg/L	N/A	N/A	Naturally occurring; road salt; water softeners; animal waste
<b>Inorganic Chemicals – Sampling Required Every Three Years</b>							
Barium – Doan Wellfield	No	2/7/07	0.32	mg/L	2	2.00	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
<b>Inorganic Chemicals – Sampling Required Every Five Years</b>							
Sulfate - Canton St. Well	No	2/7/07	37.3	mg/L	N/A	250 MCL	Naturally occurring
Sulfate - Doan Wellfield	No	2/7/07	33.2	mg/L	N/A	250 MCL	Naturally occurring
Chloride - Canton St. Well	No	2/7/07	127	mg/L	N/A	250 MCL	Naturally occurring or indicative of road salt contamination
Chloride - Doan Wellfield	No	2/7/07	39	mg/L	N/A	250 MCL	Naturally occurring or indicative of road salt contamination
Color – Canton St. Well	No	2/7/07	10	Units	N/A	15 MCL	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant by-products such as trihalomethanes, the presence of metals such as copper, iron and manganese; Natural color may be caused by decaying leaves, plants, and soil organic matter.
Color – Doan Wellfield	No	2/7/07	2	Units	N/A	15 MCL	

Iron – Canton St. Well***	Yes	2/7/07	0.43	mg/L	0.3	N/A	Naturally occurring.
Manganese – Doan Wellfield	No	2/7/07	0.08	mg/L	0.3	N/A	Naturally occurring; Indicative of landfill contamination.
Zinc – Canton St. Well	No	2/7/07	0.20	mg/L	5	N/A	Naturally occurring; Mining waste.

\* “Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.” We were required to monitor nitrates once in 2009.

\*\* Water containing more than 20 mg/L (ppm) 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.

\*\*\* Iron has no health effects. At 1,000 ug/l a substantial number of people will note the bitter astringent taste of iron. Also, at this concentration, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels of 50 ug/l, lower than those detectable to taste buds. Therefore, the MCL of 300 ug/l represents a reasonable compromise as adverse aesthetic effects are minimized at this level. Many multivitamins may contain 3,000 or 4,000 micrograms of iron per capsule.

### Lead & Copper – Sampling Required Every 3 Years

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	90 <sup>th</sup> Percentile (Range)	Unit Measure -ment	MCLG	Regulatory Limit AL	Likely Source of Contamination
Copper	No	7/10/07	0.28* (0.02-0.62)	mg/L	1.3	AL = 1.3*	Corrosion of household plumbing, erosion of natural deposits

\* The level presented represents the 90<sup>th</sup> percentile of the 20 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 90<sup>th</sup> percentile is equal to or greater than 90% of the Copper values detected at your water system. In this case, 20 samples were collected at your water system and the 90<sup>th</sup> percentile value was the 18th highest value (0.28 mg/L). The Action Level for Copper was not exceeded at any of the sites tested. The Action Level for Lead is 15 ug/L. Lead was not detected at any of the sites.

**Lead:** Infants and young children are typically more vulnerable to lead in drinking water than the general population. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. 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. If you are concerned about elevated lead levels in your home’s water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791)

**Copper:** Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson’s Disease should consult their personal doctor.

**The State allows for testing 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.

## Radionuclides

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Gross Alpha</b>							
Doan Well #2	No	Year 2008	2.3	pCi/L	0	15	Erosion of natural deposits
Doan Well #3	No	Year 2008	2.6	pCi/L	0	15	Erosion of natural deposits
Doan Well #4A	No	Year 2008	3.0	pCi/L	0	15	Erosion of natural deposits
<b>Radium 226</b>							
Canton Street Well	No	Year 2008	0.11	pCi/L	0	5*	Decay of natural deposits and man made emissions
Doan Well #2	No	Year 2008	0.28	pCi/L	0	5*	Decay of natural deposits and man made emissions
Doan Well #3	No	Year 2008	0.15	pCi/L	0	5*	Decay of natural deposits and man made emissions
Doan Well #4A	No	Year 2008	0.16	pCi/L	0	5*	Decay of natural deposits and man made emissions
<b>Radium 228</b>							
Doan Well #2	No	Year 2008	1.9	pCi/L	0	5*	Erosion of natural deposits
Doan Well #3	No	Year 2008	0.8	pCi/L	0	5*	Erosion of natural deposits
<b>Gross Beta</b>							
Canton Street Well	No	Year 2000	0.275 (Avg. of quarterly samples)	pCi/L	0	50**	Decay of natural deposits and man made emissions
Doan Wellfield	No	Year 2000	0.3375 (Avg. of quarterly samples)	pCi/L	0	50**	Decay of natural deposits and man made emissions

**The Village tested for 66 additional isotopes in the fourth quarter of 2000. All results were below state standards. Please note that Radionuclide sampling was conducted in 2008.**

- MTBE (Methyl Tertiary Butyl Ether), a gasoline additive, was tested for in July 21, 2008. All results were non-detected (ND).
- POCs (Principal Organic Compounds) and vinyl chloride were tested for on July 21, 2008. All results were non-detected (ND).
- SOCs (Synthetic Organic Compounds) Groups 1& 2 were tested for in 2007. All results were non-detected (ND).

## WHAT DOES THIS INFORMATION MEAN?

The table shows that our system uncovered some problems. In 2007, Iron was detected above the MCL in the Canton St. well. Please see the table and note above for more information. We have learned through our testing that some other contaminants have been detected; however, these contaminants were detected below New York State requirements. Although nitrate was detected below the MCL, it was detected at greater than one-half of the MCL in the Doan Wellfield. Therefore, we are required to present the following information on nitrate in drinking water:

“Nitrate in drinking water at levels above 10 mg/l is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from you health care provider.”

### Stage 2 Disinfection By-products (IDSE\*)

Contaminant	Violation Yes/No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit MCL	Likely Source of Contamination
<b>Disinfection By-Products (DBP)</b>							
Total Trihalomethanes IDSE*	No	Nov 2009	10.45 (2.9 - 18)	ug/L	N/A	MCL 80	By-product of drinking water chlorination. TTHMs form when source water contains large amounts of organic matter.
Total Haloacetic Acids IDSE*	No	Nov 2009	2.65 (ND-4.3)	ug/L	N/A	MCL 60	By-product of drinking water chlorination.

**Disinfection by-products;** During disinfection, certain by-products form as a result of chlorine reacting with naturally occurring organic matter. The disinfection process is carefully monitored so that disinfection is effective, while levels of disinfection by-products are kept low. Trihalomethanes (THMs) and Haloacetic acids (HAA5) are classes of chemicals that Baldwinsville is required to monitor for in its distribution system.

\*IDSE: Or, Initial Distribution System Evaluation is a special testing event mandated by the EPA. The scheduled testing for May 2009 and August 2009 was missed so testing began in November 2009. Samples are to be taken 90 days apart at 2 sites located throughout the Baldwinsville’s water system for one year. Due to the missed sampling, the schedule has been extended to August 2010. The test results from the IDSE will be combined with Baldwinsville’s regular Disinfection by-product results in order to select future testing sites complying with regulations effective in 2012.

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

We are required to monitor your drinking water for specific contaminants on a regular basis. During 2009, we did not complete our IDSE, Stage 2 Disinfection By-products sampling for the months of May and August (See table and note above). We will continue taking samples in February 2010, May 2010, and August 2010 to complete our sampling 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).

**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 2009 monitoring showed fluoride levels in your water were in the optimal range 83.3% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

**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.
  - ◆ Take showers instead of baths. The usual bath requires a 36 gal., the usual shower 25 gal.; 20 gal. is enough for a bath, 10 gal. is enough for a shower if you turn it off while you lather.
  - ◆ Keep a bottle of drinking water in the refrigerator - running it until cold will waste a gallon.
  - ◆ Be careful to water the lawn, not the sidewalk or street.
  - ◆ Think before you turn on the tap.

**Water Costs Money - Don't Waste It!**

**Baldwinsville - Minimum rate - \$11.87 for first 1000 cu. ft. (7840 gals.)**

**A continuous leak from a hole this size at an average household water pressure of 60 psi would, over a three month period, result in the waste listed.**

Diameter of Stream In:	Waste per quarter at 60 psi water pressure in:		
	Inches	Gallons	Cubic Feet
1/4 	1,181,500	158,000	\$1,244.47
1/8 	296,000	39,400	\$357.03
1/16 	74,000	9,850	\$98.91
1/32 	18,500	2,465	\$27.02

\* Quarterly Village of Baldwinsville (inside rates) 2004

### **System Improvements - Capital Projects:**

- ◆ **2009** – A new electric service was installed at the Canton Street Water Plant.

### **Groundwater Protection Plan:**

For the past ten (10) years, the Village of Baldwinsville has been working on a groundwater protection plan in conjunction with the New York Rural Water Association, with the aid of a grant provided by the Rural New York Grant Program through the New York Planning Federation. This plan delineates the areas, which supply water to the two (2) aquifers that the Water Department utilizes and outlines methods of protection from contamination for these areas by overlay zoning requirements. The village adopted the village local law in May 1999. The Town of Van Buren has implemented the Groundwater Protection Plan as a part of their zoning and subdivision review process by the Planning Board. The Town of Lysander has been reviewing methods, which would incorporate the groundwater protection plan in their zoning or review process, but has not solidified any review parameters. A copy of the groundwater protection plan and other pertinent information is available by contacting Timothy C. Baker, P.E., Village Engineer at (315) 635-9665.

### **WATER INFORMATION**

- ◆ We receive many calls each year regarding the hardness of our water in anticipation of the purchase of water softening equipment. We have two well sources. Canton Street Well serves the south side of the Village and registers a 380 mg/L total hardness. Doan Well serves the north side of the Village and registers a 320 mg/L total hardness. The measurements are taken by EPA method 130.2.
- ◆ The sodium content in each well is as follows: Canton Street Well – 94 mg/L and Doan Well – 13.33 mg/L.
- ◆ Please be advised that any delinquent balances as of November 30<sup>th</sup> will be added to March property taxes.
- ◆ If you plan to sell your property please remember to contact Village Hall at 635-3521 for a final reading.
- ◆ The events of 9/11/01 have prompted the water supply industry to re-evaluate water system security. The Village of Baldwinsville Water Department has increased preventive security measures to protect our water supplies and distribution system. We request that you, as customers of the Village of Baldwinsville Water Department, aid us in the protection of our water supplies and distribution system. If you see **any** suspicious activity involving the water system, i.e. hydrant or valve tampering, please contact the Baldwinsville Police Department at 635-3131 or the Water Department at 635-3631 or 635-9665 or the Public Works after hours phone number – (315) 247-3362.

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 at (315) 635-9665 if you have questions.

