

## INTRODUCTION

To comply with State Regulations, the City of Jamestown Board of Public Utilities annually issues a report describing the quality of your drinking water. This report provides an overview of last year's water quality. The purpose of the report is to raise your understanding of drinking water and to raise awareness of the need to protect your water sources. In 2003, your tap water met all New York State drinking water health standards. We are proud to report that your system did not violate a maximum contaminant level or any other water quality statement. 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.



*Annual Drinking Water Quality Report  
Year 2003  
City of Jamestown  
Board of Public Utilities  
92 Steele Street  
Jamestown, NY 14701  
Public Water Supply ID#NY0600366*

If you have any questions about this report or your drinking water, please contact BPU Communications Coordinator, Susan Jones, at 716-661-1666. We want you to be informed about your drinking water. If you want to learn more, we urge you to attend any of the regularly scheduled meetings of the Board of Public Utilities. The meetings are held the first and the third Tuesday of each month at 12:00 PM in the BPU Board Room at 92 Steele Street. We encourage public interest in our community's decisions affecting drinking water.

### 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, New York State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. New York State Health Department and FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

The BPU water source consists of seven artesian wells in the Cassadaga aquifer and four artesian wells in the Conewango aquifer. Aquifers are areas where enough groundwater (water contained in the soil and rock material below the surface of the earth) exists to supply wells or springs. The Jamestown aquifers are "confined" or sandwiched between layers of relatively impermeable materials such as clay and shale. The BPU operates seven wells, which draw water from the Cassadaga aquifer, having a watershed of 140 square miles. The BPU also operates four wells in Poland Center drawing water from the Conewango aquifer, which has a watershed of 290 square miles. During 2002, a new well was drilled and was brought on line in 2003.

The water is collected in a receiving tank, then pumped by a high-pressure mechanical delivery process through the transmission and distribution system. If the water is not used within the day, it backfeeds into storage at a 10,000,000 gallon reservoir for future distribution. Two underground reservoirs in the city can store approximately 12,000,000 gallons of finished water (water treated with chlorine for disinfection and with fluoride for tooth decay prevention). Two above ground storage tanks each hold an additional 500,000 gallons of raw water (water without chlorine and fluoride).

### SOURCE WATER ASSESSMENT PROGRAM (SWAP) SUMMARY

The New York State Department of Health has completed a source water assessment for the BPU system, based on available information. Possible and actual threats to this drinking water source were evaluated. The New York State 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. While nitrates (and other inorganic contaminants) were detected in BPU 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 from natural sources. The presence of contaminants does not necessarily indicate that the water poses a health risk. All detected contaminants are within normal background levels found in the County. See the 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.

As mentioned before, BPU water is derived from 11 drilled wells, 7 in the Cassadaga well field, and 4 in the Poland Center well field. The source water assessment has rated the wells in both well fields as having a medium-high susceptibility to microbials, viruses, and nitrates, and a medium susceptibility to industrial solvents, and other industrial contaminants. The ratings for the Cassadaga well field are due primarily to the close proximity of permitted septic systems or other wastewater treatment systems to the wells, a facility listed on the State's Toxic Release Inventory, and oil and gas well drilling in the area. In addition, the wells draw water from a confined aquifer (an aquifer bounded above and below by geology that restricts the passage of ground water), the aquifer recharge area (the section of land that receives precipitation and allows it to infiltrate into the aquifer) is considered vulnerable to potential sources of contamination.

While the source water assessment rates BPU wells as being susceptible to microbials, please note that BPU 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 above.

The BPU designed its water supply emergency plan according to guidelines recommended by the NYS Department of Health. The plan was subsequently submitted to and approved by the New York State Department of Health.

### FACTS AND FIGURES

The BPU water system serves over 44,268 people in homes, businesses, industries and schools. The BPU manages the 14,362 service connections that carry the water to its customers. The total number of gallons produced in 2003 was 1,939,995,000 with 1,434,793,000 gallons delivered to customers. An additional 505,202,000 gallons (26% of daily pumpage) was lost and unaccounted for due to flushing, leaks, fires and meter replacements. The number of gallons of raw water treated and pumped into the distribution system daily was 5,315,055. August 14, 2003 was the single highest production day with 6,671,000 gallons. In 2003, water customers were charged \$1.40 per unit of water. A unit of water is equal to 100 cubic feet of water or 748 gallons.

### ARE THERE CONTAMINANTS IN THE BPU DRINKING WATER?

As the State regulations require, the BPU routinely tests your drinking water for numerous contaminants to include: total coliform, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. The table presented next depicts which compounds were detected in your drinking water. Many contaminants were tested for, but not detected, in your drinking water.

The State allows the BPU to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the BPU data, though representative, is more than one year old. An Annual Water Quality Report Supplement has been compiled in addition to the Table of Detected Contaminants. The Supplement contains testing results for individual sites and contaminants detected but not required to be reported by the State. Copies of the Supplement and this report are available upon request from Sue Jones at (716) 661-1666 and appear on the utility's website at [www.jamestownbpu.com](http://www.jamestownbpu.com).

It should be noted that all drinking water, including bottled drinking water, should 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 Chautauqua County Health Department at 716-753-4481.

**TABLE OF DETECTED CONTAMINANTS**

Contaminant	Violation	Date of Sample	Level Detected (Max. Ave./Range)	Unit Measurement	Regulatory Limit (MCL,TT, or AL)	MCLG	Likely Source of Contamination
<b>INORGANICS NITRATE-NITRITE</b>							
Nitrate	No	09/03/03	1.81; Range=.31-1.81	Mg/l	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
<b>INORGANIC CONTAMINANTS</b>							
Fluoride	No	09/03/03	0.8; Range = 0.8-0.9	Mg/l	2.2	N/A	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Barium	No	09/03/03	0.27; Range=0.27-0.41	Mg/l	2.0 (MCL)	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
<b>SECONDARY INORGANICS</b>							
Chloride	No	07/27/00	34; Range=25-34	Mg/l	250 (MCL)	N/A	Naturally occurring or indicative of road salt contamination.
Sulfate	No	09/03/03	23; Range=21-23	Mg/l	250 (MCL)	N/A	Naturally occurring.
Copper	No	06/2003	0.2; Range=0.15-0.38	Mg/l	1.3 (AL)	1.3	Corrosion of household plumbing systems; erosion of natural deposits.
Lead	No	06/2003	.005 Range=ND-0.031 <sup>1</sup>	Mg/l	0.015	0	Same as Copper
Manganese	No	07/27/00	17; Range=6-17	Ug/l	300 (MCL)	N/A	Naturally occurring; indicative of land fill contamination.
Sodium	No	07/27/00	14.9; Range=11.8-14.9	Mg/l	N/A <sup>2</sup>	N/A	Naturally occurring; road salt; water softeners; animal waste
<b>SYNTHETIC ORGANIC CHEMICALS</b>							
Di (2ethylhexyl)-phthalate	No	07/27/00	1.9; Range=1.4-1.9	Ug/l	6	0	Used in plastic production such as polyvinyl chloride, plastic toys, vinyl upholstery, adhesives & coatings. Com pound 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.
<b>DISINFECTION BY-PRODUCTS (trihalomethanes)</b>							
Total	No	09/03/03	7.1 Range=1.9-13.3	Ug/l	100	N/A	By-product of drinking water chlorination needed to kill harmful organisms. TTHM's are formed when source contains large amounts of organic matter.

**Notes:**

1- Lead and copper are regulated by a treatment technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps (only 1 of 30 samples or 3.3% exceeded the action level for lead). For copper, the action level is 1.3 mg/L, and for lead it is 0.015 mg/L.

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.

**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.

**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).

**WHAT DOES THIS INFORMATION MEAN?**

As you can see by the table, the BPU system had no violations. The BPU has learned through its testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by New York State. It should be noted that the action level for lead was exceeded in one of the samples collected. Based on this exceedance the BPU is required to present the following information on lead in drinking water: "infants and young children are typically more vulnerable to lead in drinking water than the general population. 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 (1-800-426-4791).

**IS THE BPU WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?**

During 2003, the BPU system was in compliance with applicable New York State drinking water operating, monitoring and reporting requirements.

**INFORMATION ON RADON**

Radon is a naturally-occurring radioactive gas found in soil and outdoor air that may also be found in drinking water and indoor air. Some people exposed to elevated radon levels in drinking water over many years may have an increased risk of getting cancer. The main risk is lung cancer from radon entering indoor air from soil under homes.

In 2000, the BPU collected 2 samples that were analyzed for radon. The two sites tested were Clay Pond Pump Station and Cassadaga Pump Station. The average of the two samples was 250 picocuries/liter (pCi/l) and the range was 182 - 319 pCi/l. The current non-regulated standard (Maximum Contaminant Level) for radon is 3,000 pCi/l. The levels detected at the two pump stations were well below the level allowed by the State. For additional information call your state radon program (1-800-458-1158) or call the EPA's Radon Hotline (1-800-SOS-Radon).

**DO I NEED TO TAKE SPECIAL PRECAUTIONS?**

Although BPU 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).

**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.

**WHY SAVE WATER AND HOW TO AVOID WASTING IT?**

Although the BPU 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.
- ? Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions, to meet essential fire fighting needs.

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, shaving or rinsing dishes.
- ? Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and save almost 6,000 gallons per year.
- ? Check for toilet 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 save more than 30,000 gallons a year.
- ? Use your water meter to detect hidden leaks. Turn off all taps and water using appliances, check the meter in 15 minutes. If it moved, you have a leak.

**SYSTEM IMPROVEMENTS**

In 2000, the Board of Public Utilities undertook a complete water meter replacement program, replacing all of its existing meters with radio read meters. This project will be completed in 2004. The BPU drilled a replacement well at the Cassadaga Well Field and brought it online in 2003. The BPU upgraded distribution lines on Benedict Street from Harris to Pratt in Jamestown. In the Town of Ellicott, the BPU installed new mains on Orchard Road, Industrial Drive in the Mason Industrial Park and on Yolande Avenue.

**CLOSING**

Thank you for allowing the BPU to continue to provide your family with quality drinking water this year. The BPU asks that all its customers help protect our water sources, which are the heart of our community.