

City of Beacon Water Supply 2005 Water Quality Report

This is an annual report on the quality of water delivered by City of Beacon Water Supply (Public Water Supply I.D. #-1302760). It meets the federal Safe Drinking Water Act (SDWA) requirement for “Consumer Confidence Reports” and the New York State Department of Health requirement for “Annual Water Quality Report”. It contains important information on the source of our water, its constituents, and the health risks associated with any contaminants. Safe drinking water is vital to our community. Please be conservation minded in your use of water. Please read this report* carefully and, if you have any questions on this report or on our drinking water, call the City of Beacon Water Supply at- (845) 831- 3185. Contact – David Russell

City of Beacon Water Supply’s drinking water meets or surpasses all federal and state drinking water standards.

*This report is available on the City of Beacon’s web site at www.cityofbeacon.org

Water Production

The City of Beacon Water Supply produced 819,929,000 gallons of water in 2005 for a daily average of 2,246,381 gallons.

The use of the yearly production was accounted for as follows:

Residential and Commercial-	476,738,548 gallons.
Dept. of Corrections-	188,862,000 gallons.
Town of Fishkill-	94,783,570 gallons
Unaccounted for water-	59,544,882 gallons

Unaccounted for water is water lost due to system leaks, water main breaks, use in municipal buildings and operations, system flushing, meter error and theft of service.

The supply serves approximately 19,000 people and has 4405 metered accounts. The largest user was the Dept. of Corrections, which used an average of 517,430 gallons per day and paid \$499,084 for water in 2005. City residents were charged for water as follows - \$20.16 for the first 600 cu/ft, then \$2.67/100 cu/ft up to 10,000 cu/ft, then \$2.25/100 cu/ft up to 100,000 cu/ft, then \$1.45/100 cu/ft up to 1,000,000 cu/ft (cu/ft = cubic feet. 100 cu/ft = 748 gallons) Non-residents were charged at twice the resident rate.

Water Source and Treatment

The City of Beacon water supply consists of three surface sources- Cargill, Mt. Beacon and Melzingah reservoirs, and three ground water sources- City of Beacon Wells 1 and 2 and Village of Fishkill Well 8.

These sources are blended in various combinations depending on source condition and demand for water. The blended water is then treated at the water filtration facility at 470 Liberty St. The current capacity of the filtration plant is 4 million gallons per day.

Chemicals are added to the blended water to facilitate filtration. The water is then filtered and chemicals are added for disinfection and corrosion control. The water is then pumped to the distribution system entry point tank.

The following is a list of chemicals used in 2005:

Chemical	Purpose	Quantity
Alum	Primary Coagulant- for filtration	125,646 lbs.
Polymer	Coagulant aid- for filtration	407 lbs.
Zinc Orthophosphate	Corrosion Control	10,677 lbs.
Chlorine	Disinfection	14,654 lbs.

Water Quality

In house laboratory tests were conducted on a daily basis to insure high quality finished water. Tests were done at the water treatment plant for turbidity, Ph, alkalinity, aluminum, orthophosphate, and chlorine residual. The results of all these tests were within the guidelines set by the New York State Health Department.

In addition, 240 samples were collected from the distribution system and tested for turbidity, chlorine residual, total coliform bacteria and E-coli bacteria. All test results were **negative for the presence of E-coli** and were within the guidelines for turbidity and chlorine residual. One sample site tested positive for total coliform. Repeat samples taken at and near the site all tested negative for total coliform and E-coli. Samples were also collected to test for nitrate, inorganic contaminants, volatile organic contaminants and disinfection byproducts. (cont. on pg.2)

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A source water assessment program was also completed by the NYS Department of Health.

The summary of the assessment follows the Table of Detected Contaminants.

Of the 96 contaminants tested for, only the ten contaminants listed in the table below were detected. They are all below the maximum contaminant level required. The contaminants listed in the table below were detected in samples taken in the year 2005 and other years. The state allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Therefore some of the data, though representative of the water quality, is more than one year old.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Maximum) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Microbiological Contaminants							
Turbidity ⁽¹⁾	No	11/28/05	0.16	NTU	n/a	TT= < 0.5 NTU	Soil runoff
Turbidity ⁽¹⁾	No	2005	100%	NTU	n/a	TT= 95% of samples < 0.5 NTU	
Inorganic Contaminants							
Barium	No	11/15/05	0.018	mg/l	2	MCL= 2.0	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits.
Copper	No	7/30/05	0.35 ⁽²⁾ 0.25 – 0.52	mg/l	1.3	AL= 1.3	Corrosion of household plumbing; Erosion of natural deposits
Lead	No	7/30/05	5 ⁽²⁾ ND – 20	ug/l	0	AL= 15	Corrosion of household plumbing; Erosion of natural deposits
Asbestos	No	1/14/04	0.20	MFL ⁽³⁾	7	MCL= 7	Decay of asbestos-cement pipe. Erosion of natural deposits
Disinfection Byproducts							
Total Trihalomethanes	No	11/10/05	40 ⁽⁴⁾ 9-54	ug/l	n/a	MCL= 80	By-product of drinking water chlorination
Haloacetic Acids	No	11/10/05	20 ⁽⁴⁾ 5-41	ug/l	n/a	MCL= 60	By-product of drinking water chlorination
Radioactive Contaminants							
Gross Alpha	No	11/10/05	1.9	pCi/l	0	MCL= 15	Erosion of natural deposits
Radium	No	11/10/05	0.04	pCi/l	0	MCL= 5	Erosion of natural deposits
Uranium	No	11/10/05	1.5	ug/l	0	MCL= 30	Erosion of natural deposits

Notes:

¹ – **Turbidity** is a measure of the cloudiness of the water. It is a good indicator of filtration effectiveness. All (100%) of our filtered water turbidity measurements were below the regulatory limit of 0.5 NTU, with the highest being 0.16 NTU on 11/28/05.

² – The level listed represents the **90th percentile** of 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 action level (AL) value for copper was not exceeded at any of the sites and for lead at one site

³ – MLF= million fibers per liter-a measure of the presence of asbestos fibers longer than 10 micrometers

⁴ - The level listed represents the annual quarterly average calculated from the data collected

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Definitions:

MCL = Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

MCLG = Maximum Contaminant Level Goal - 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.

AL = Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

TT = Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

NTU = Nephelometric Turbidity Unit - A measure of the clarity of water. The lower the value the clearer the water.

mg/l = Milligrams per liter - corresponds to one part liquid in one million parts of liquid (parts per million- ppm)

ug/l = Micrograms per liter - corresponds to one part liquid in one billion parts of liquid (parts per billion- ppb)

pCi/l = Picocuries per liter - A measure of radioactivity in water.

ND = Non-Detects - Laboratory analysis indicates that the constituent is not present.

Source Water Assessment

The NYS DOH has completed a source water assessment for our water system, based on available information. Possible and actual threats to this drinking water source were evaluated, The 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.** Please see preceding table for a list of contaminants that were detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

The source water assessment has rated our water source as having an elevated susceptibility to microbials, nitrates, industrial solvents and other industrial contaminants. These ratings are due primarily to the close proximity of the wells to permitted discharge facilities (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government), and the residential land use and related activities in the assessment area. In addition, the wells draw from fractured bedrock and the overlying soils may not provide adequate protection from potential contamination, and are located in an area that is prone to flooding.

The 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. A copy of the assessment can be obtained by contacting us, as noted at the end of this report.

Educational Information

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

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 Dutchess County Health Department at (845) 486-3400.

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).

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Water Conservation – a few tips-

- ◆ It is not hard to conserve water. 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.
- ◆ Water your lawn after 6:00 p.m. - this prevents water loss due to evaporation.

Thank you for taking the time to read this report. We hope it was informative. If you have questions please call us at (845) 831-3185.
Contact – David Russell.

Beacon City Council meetings are held the first and third Mondays of the month.

City of Beacon Public Water Supply I.D. #- 1302760

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

City of Beacon Water Supply, 1 Municipal Plaza, Beacon, N.Y. 12508