

Annual Drinking Water Quality Report for 2018
Birch Hill Water Supply
Reilly Road, Beekman, NY
Public Water Supply ID#1330021

INTRODUCTION

To comply with State regulations, Birch Hill Water Supply 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, we conducted tests for more than 60 contaminants. We found copper results at a level higher than the State allows. 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.

At the end of 2008 ownership of your system was transferred to the Dutchess County Water & Wastewater Authority. This report is based on some of the information that was transferred to the Authority at that time. If you have any questions about this report or concerning your drinking water, please contact **Dutchess County Water & Wastewater Authority at (845) 486-3601**. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled board meetings. They are generally held on the third Wednesday of each month. The meetings begin at 4:00 and take place in the conference room at 1 Lagrange Ave., Poughkeepsie, NY. Please call our office at 845-486-3601 for agenda details and any last-minute meeting date or time changes.

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 water system serves 182 people through 69 service connections. Our water source is ground water via three drilled deep rock wells which are located within our property off of Reilly Road. The water is disinfected with chlorine and then filtered to remove Iron, Manganese, and reduce the levels of radionuclides. We also add orthophosphate and caustic to the water for corrosion control.

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this water source were evaluated. The State source water assessments include 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 be contaminated.** See section "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected, if any. The source water assessments provide resource managers with additional information for protecting source waters in the future. The source water assessment has rated our water source as having an elevated susceptibility to microbial and nitrates contaminants. These ratings are due primarily to the proximity of the wells to a landfill and a permitted discharge facility (industrial/commercial facilities that discharge wastewater into the environment and are regulated by

the state and/or federal government) and the residential and agricultural land use and related activities in the assessment area. In addition, the wells draw from fractured bedrock and overlying soils may not provide adequate protection from potential contamination. The county and state health departments will use this information to direct future source water protection activities. The source water assessment summary for your system is available by calling the DCDB&CH at 845-486-3404 and requesting a copy.

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, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, and radiological. 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 Dutchess County Department of Behavioral and Community Health at 845-486-3404.

A Summary of the Regulated Contaminants Detected in Our Treated Water

Inorganic Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source of Contamination
Lead (1)	No	Jun. 2018 & Dec. 2018	0.0030 (<0.0005-0.0044) 0.0024 (<0.0005-0.0024)	mg/l	0	15 AL	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (1)	Yes	Jun.2018 & Dec. 2018	4.36 0 2.48 (0.167-2.52)	mg/l	1.3	1.3-AL	Corrosion of household plumbing systems; Erosion of natural deposits: leaching from wood preservatives.
Nickel	N/A	10/16	0.008	mg/l	N/A	N/A	Naturally occurring, by product of some manufacturing waste
Nickel Well 5A (3)	No	11/16	0.0082	Mg/l	N/A	N/A	Naturally occurring, by product of some manufacturing waste
Chromium Entry Point	No	10/16	4	ug/l	100	100	Discharge from steel and pulp mills; Erosion of natural deposits.

Chromium Well 5A (3)	No	11/16	2.8	ug/l	100	100	Discharge from steel and pulp mills; Erosion of natural deposits.
Arsenic Well 5A	No	11/16	0.9	ug/l	n/a	10	Erosion of natural deposits; Runoff from Orchards; Runoff from glass and electronics production wastes.
Barium	No	10/16	0.0103	mg/l	2	2	Discharge of drilling wastes; Discharge of metal refineries Erosion of natural deposits
Calcium	No	12/17	90.8	mg/l	N/A	N/A	Naturally occurring
Manganese	No	Quarterly	0.0011 (ND-0.0012)	mg/l	N/A	0.3	Naturally occurring; Indicative of landfill contamination
Nitrate	No	4/18	0.22	mg/l	10	10	Runoff from fertilizer use, leaching from septic tanks, erosion of natural deposits
Nitrate Well 5A (3)	No	11/16	0.09	Mg/l	10	10	Runoff from fertilizer use, leaching from septic tanks, erosion of natural deposits
Phosphate	No	Monthly	0.48 (<0.10-0.79)	mg/l	N/A	N/A	Treatment chemical added for corrosion control.
Total Hardness	No	5/15	251	mg/l	N/A	N/A	Dissolved minerals
Chloride 184 Reilly	No	8/17	51	mg/l	N/A	250	Naturally occurring or indicative of road salt contamination
Conductivity Entry Point	No	12/17	777	Umhos/cm	N/A	N/A	Naturally occurring
Conductivity 184 Reilly	No	8/17	626	Umhos/cm	N/A	N/A	Naturally occurring
Sulfate 184 Reilly	No	8/17	44	mg/l	N/A	250	Naturally occurring
Alkalinity Entry Point	No	8/17-12/17	187-216	mg/l	N/A	N/A	Naturally occurring
77 Harden Chloride (3)	No	8/17	51	mg/l	N/A	250	Naturally occurring or indicative of road salt contamination
Conductivity 77 Harden	No	8/17	654	Umhos/cm	N/A	N/A	Naturally occurring;

Sulfate 77 Harden	No	8/17	44	Mg/l	N/A	250	Naturally occurring
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Radiological Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source of Contamination
Uranium	No	5/16	1.27	mg/L	0	30	Erosion of natural deposits

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source of Contamination
Chlorine residual	No	Daily	1.11 (0.4-2.5)	mg/l	n/a	4.0	Water additive used to control microbes

Footnotes:

1 – Sampling and analysis was performed twice in 2017. The level of lead was well below the Action Level (AL). The copper levels at some homes were above the AL. The samples taken at the entry point of the system after treatment and in the distribution system all were below the AL for lead. We had some copper levels above the AL. To address the leaching of copper from the plumbing in individual homes, the Dutchess County Department Behavioral and Community Health approved a system to add a corrosion inhibitor to the water. The addition of phosphate began in February of 2014. Lead and copper sampling will continue to be conducted in 2019 to evaluate the treatment.

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.

3) Result is for an individual well prior to treatment process.

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.

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.

WHAT DOES THIS INFORMATION MEAN?

The Health Department has directed that monitoring for iron and manganese continue annually, at the entry point to the distribution system and at each well. The action level for Copper was exceeded in 2018 at some sampling points. A desktop study corrosion control analysis was performed for the Birch Hill water system in 2017. The Dutchess County Department Behavioral and Community Health have approved a system to optimize the corrosion control of the water supply. During the summer of 2018 the addition of caustic was approved and started in addition to the orthophosphate that is on line to optimize the corrosion control for this water supply. Copper is an essential nutrient, but some people who drink water containing copper more than the action level over a relatively short amount of time could experience gastrointestinal distress. Additionally, some people who drink water containing copper more than the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community because of materials used in your home's plumbing. Birch Hill Water System is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2018, our system was compliant with all 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).

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 several reasons why it is important to conserve water:

- ◆ Saving water saves energy and some of the costs associated with both 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 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.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. To maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all our customers.