

Annual Drinking Water Quality Report for 2022
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 about the Dutchess County Water and Wastewater Authority, please visit our website at WWW.DCWWA.Org

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 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. **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 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, synthetic organic compounds, 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 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 (2)	No	5/22 – 6/22	0.0048 (<0.0001-0.00346)	mg/L	0	0.015 AL	Corrosion of household plumbing systems; Erosion of natural deposits
	No	11/19/22 – 11/30/22	0.001 (<0.001-0.0029)				
Copper (1)	No	4/22-5/5/22	1.16 (0.126-1.95)	mg/L	1.3	1.3-AL	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives
	Yes	11/19/22 – 11/30/22	1.4 (0.04-1.6)				
Turbidity Well 5A (3)	No	3/16/21	1.44	NTU	N/A	N/A	Soil runoff.

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source of Contamination
Turbidity Well C4 (3)	No	7/30/21	0.55	NTU	N/A	N/A	Soil runoff.
Turbidity Well 4A (3)	No	7/26/21	6.96	NTU	N/A	N/A	Soil runoff.
Odor Well 5A (3)	No	2/15/21	1.0	T.O.N.	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
Odor Well C4 (3)	No	7/30/21	3.0	T.O.N.	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
Odor Well 4A (3)	No	7/26/21	1.0	T.O.N.	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
Sulfate Well 5A (3)	No	2/15/21	62.1	mg/L	N/A	250	Naturally occurring.
Sulfate Well C4 (3)	No	7/30/21	45.7	mg/L	N/A	250	Naturally occurring.
Sulfate Well 4A (3)	No	7/26/21	39.1	mg/L	N/A	250	Naturally occurring.
Chloride Well 5A (3)	No	2/15/21	31.9	mg/L	N/A	250	Naturally occurring; Road salt; Water softeners; Animal waste
Chloride Well C4 (3)	No	7/30/21	65.6	mg/L	N/A	250	Naturally occurring; Road salt; Water softeners; Animal waste

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source of Contamination
Chloride Well 4A (3)	No	7/26/21	29.5	mg/L	N/A	250	Naturally occurring; Road salt; Water softeners; Animal waste
Alkalinity Well C4 (3)	No	7/30/21	186	mg/L	N/A	N/A	N/A
Alkalinity Well 4A (3)	No	7/26/21	159	mg/L	N/A	N/A	N/A
Total Dissolved Solids Well C4 (3)	No	7/30/21	444	mg/L	N/A	N/A	Erosion of natural deposits
Total Dissolved Solids Well 4A (3)	No	7/26/21	232	mg/L	N/A	N/A	Erosion of natural deposits
pH Well 5A (3)	No	2/15/21	7.01	SU	N/A	N/A	N/A
pH Well C4 (3)	No	7/30/21	6.80	SU	N/A	N/A	N/A
pH Well 4A (3)	No	7/26/21	6.93	SU	N/A	N/A	N/A
Color Well 5A (3)	No	2/15/21	5.0	Pt-Co	N/A	15	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.

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source of Contamination
Color Well C4 (3)	No	7/30/21	20	Pt-Co	N/A	15	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 Well 4A (3)	No	7/26/21	20	Pt-Co	N/A	15	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.
Nitrate Entry Point	No	4/20/22	0.049	mg/L	10	10	Naturally occurring, by product of some manufacturing waste
Nitrate Well 5A (3)	No	2/15/21	0.257	mg/L	10	10	Naturally occurring, by product of some manufacturing waste
Nickel Entry Point	No	4-19-22	0.0071	mg/L	N/A	N/A	Naturally occurring, by product of some manufacturing waste
Nickel Well C4 (3)	No	7/30/21	0.0441	mg/L	N/A	N/A	Naturally occurring, by product of some manufacturing waste
Nickel Well 5A (3)	No	2/15/21	0.0923	mg/L	N/A	N/A	Naturally occurring, by product of some manufacturing waste

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, AL)	Likely Source of Contamination
Nickel Well 4A (3)	No	7/26/21	0.0176	mg/L	N/A	N/A	Naturally occurring, by product of some manufacturing waste
Antimony Well C4 (3)	No	7/30/21	0.0012	mg/L	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
Barium Entry Point	No	4-19-22	0.0041	mg/L	2	2	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Barium Well 5A (3)	No	2/15/21	0.0239	mg/L	2	2	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Barium Well C4 (3)	No	7/30/21	0.0159	mg/L	2	2	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Barium Well 4A (3)	No	7/26/21	0.00814	mg/L	2	2	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Calcium Well 4A (3)	No	7/26/21	134	mg/L	N/A	N/A	Naturally occurring
Calcium Well C4 (3)	No	7/30/21	200	mg/L	N/A	N/A	Naturally occurring
Phosphate	No	Monthly	0.25 (<0.10-0.528)	mg/L	N/A	N/A	Treatment chemical added for corrosion control.
Sodium Well 5A (3)	No	2/15/21	20.9	mg/L	N/A	(See Health Effects) (4)	Naturally occurring; Road salt; Water softeners; Animal waste

Sodium Well C4 (3)	No	7/30/21	38.8	mg/L	N/A	(See Health Effects) (4)	Naturally occurring; Road salt; Water softeners; Animal waste
Sodium Well 4A (3)	No	7/26/21	16.6	mg/L	N/A	(See Health Effects) (4)	Naturally occurring; Road salt; Water softeners; Animal waste
Zinc Well 5A (3)	No	2/15/21	2.32	mg/L	N/A	5	Naturally occurring; Mining waste.
Zinc Well C4 (3)	No	7/30/21	0.154	mg/L	N/A	5	Naturally occurring; Mining waste.
Zinc Well 4A (3)	No	7/26/21	3.07	mg/L	N/A	5	Naturally occurring; Mining waste.
Total Coliform Bacteria Well C4 (3)	No	7/30/21 8/4/21	Present	N/A	0	N/A	Naturally present in the environment
Total Coliform Bacteria Well 4A (3)	No	7/26/21	Present	N/A	0	N/A	Naturally present in the environment
E. Coli Well C4 (3)	No	7/30/21	Present	N/A	0	N/A	Human and animal fecal waste.
Total Trihalomethanes (TTHMs) Distribution System	No	8-24-22	3.9	ug/L	N/A	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHM's are formed when source water contains large amounts of organic matter

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
Total Uranium Entry Point	No	4-19-22	1.67	ug/L	0	30	Erosion of natural deposits.

UNREGULATED PERFLUOROALKYL SUBSTANCES							
CONTAMINANT	VIOLATION (YES/NO)	DATE OF SAMPLE	LEVEL DETECTED	UNIT MEASUREMENT	MCLG OR HEALTH ADVISORY LEVEL_{1, 2}		Likely Source of Contamination
Perfluorobutanesulfonic Acid (PFBS) Well 4A (3)	No	11-17-22	0.968	ng/l	0.002 mg/L		Released into the environment from widespread use in commercial and industrial applications.
Perfluorohexanoic Acid (PFHXA) Well 4A (3)	No	11-17-22	1.09	ng/l	N/A		Released into the environment from widespread use in commercial and industrial applications
Perfluorobutanesulfonic Acid (PFBS) Well 5A (3)	No	11-17-22	.644	ng/l	0.002 mg/L		Released into the environment from widespread use in commercial and industrial applications.
Perfluorohexanoic Acid (PFHXA) Well 5A (3)	No	11-17-22	.796	ng/l	N/A		Released into the environment from widespread use in commercial and industrial applications

Perfluorobutanesulfonic Acid (PFBS) Well 4C (3)	No	11-17-22	.1.72	ng/l	0.002 mg/L	Released into the environment from widespread use in commercial and industrial applications.
Perfluorohexanoic Acid (PFHXA) Well 5A (3)	No	11-17-22	.1.60	ng/l	N/A	Released into the environment from widespread use in commercial and industrial applications

Footnotes:

(1) The level presented represents the 90th percentile of 10 samples taken in the first half and 10 samples taken in the second half of the year. 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 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, 10 samples were collected at your water system and the 90th percentile value is the reported value. The action level for copper was exceeded at 1 of the 10 sites sampled. The exceedance of the action level requires additional water quality testing. The samples taken at the entry point of the system after treatment and in the distribution, system were below the action level for lead. 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 phosphate, a corrosion inhibitor, to the water. During the summer of 2018 the addition of caustic was approved and started in addition to the polyphosphate that is online to optimize the corrosion control for this water supply. The change from phosphate to phosphoric acid began in February of 2023. Lead and copper sampling will continue to be conducted in 2023 to evaluate the treatment.

(2) The level presented represents the 90th percentile of the 10 samples taken in the first half and 10 samples taken in the second half of the year. The action level for lead was not exceeded.

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

(4). 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.

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 action level for copper was exceeded in 2022 at some sampling points. A desktop study corrosion control analysis was performed for the Birch Hill water system in 2021. The Dutchess County Department Behavioral and Community Health have approved a system modification to optimize the corrosion control of the water supply. During the summer of 2018 the addition of caustic was approved and started a change from orthophosphate to Phosphoric Acid is scheduled to be placed online early 2023 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.

Lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. *Birch Hill water supply* is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family’s risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact **Dutchess County Water & Wastewater Authority at (845) 486-3601** Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead..>

FACILITY MODIFICATIONS

During 2021, the Authority redeveloped all three of its groundwater wells at 165 Reilly Road. The three wells were redeveloped at a cost of \$24,700.00 not including engineering costs. Since taking ownership in 2008, the yield on each well has experienced a diminished water source and the wells needed to be revitalized. All three well have been Hydro Flushed and Air Shocked by Cleverack Pump Service, returning each well production to a useful status. Using this approach, the Authority was able to avoid drilling new wells and are currently achieving the daily demands of our system.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2022, 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 firefighting 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.