



2023 Annual Drinking Water Quality Report for the Birch Hill Water System Beekman NY 12540 Public Water Supply ID NY1330021

Introduction

We are pleased to present you this year's Annual Drinking Water Quality Report. This report provides details about your water source, what it contains, how we treat it, and how it compares to the standards set by State and Federal regulatory agencies. DCWWA works to provide safe and dependable drinking water. Our personnel conducted over 100 tests for over 50 different contaminants in 2023 and we proudly inform you that your drinking water met all regulatory standards.

If you have any questions about this report or your drinking water, please contact Dutchess County Water and Wastewater Authority at (845) 486-3601. We want you to be informed about your drinking water. If you want to learn more about 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 or substances resulting from the presence of animals or 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.

Our water system serves 182 people through 69 service connections. Our water source is groundwater drawn from three 400-foot deep drilled wells, which are located within our property off Reilly Road. The water is disinfected with chlorine and then passes through green sand to remove iron and manganese. Phosphoric acid and caustic are then added 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 nitrate contamination. 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 Dutchess County Department of Behavioral and Community Health 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 isotopes. 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.

Summary of the Regulated Contaminants Detected in our Water

Disinfectants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Chlorine Residual	Entry Point	No	1.24 0.87 - 1.47	1/1/2023 through 12/31/2023	mg/L	4	N/A	Water additive used to control microbes.

Disinfection Byproducts

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Total Trihalomethanes (TTHM)	System Wide	No	3.9	8/24/2022	ug/L	80	N/A	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains organic matter.

Inorganic Contaminants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Antimony	Well C4	No	0.0012	7/30/2021	ug/L	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Barium	Entry Point	No	0.004	4/19/2022	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
	Well 4A	No	0.008	7/26/2021	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
	Well 5A	No	0.024	2/15/2021	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
	Well C4	No	0.016	7/30/2021	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Calcium	Well 4A	No	134	7/26/2021	mg/L	N/A	N/A	Naturally occurring.
	Well C4	No	200	7/30/2021	mg/L	N/A	N/A	Naturally occurring.

Chloride	Well 4A	No	29.5	7/26/2021	mg/L	250	N/A	Naturally occurring or indicative of road salt contamination.
	Well 5A	No	31.9	2/15/2021	mg/L	250	N/A	Naturally occurring or indicative of road salt contamination.
	Well C4	No	65.6	7/30/2021	mg/L	250	N/A	Naturally occurring or indicative of road salt contamination.
	Entry Point	No	52.73	4/19/2023	mg/L	250	N/A	Naturally occurring or indicative of road salt contamination.
Copper (1)	System Wide	No	488 35.1 - 964	6/16/2023 through 7/29/2023	ug/L	1300	1300	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
	System Wide	No	642 32.6 - 773	11/13/2023 through 12/15/2023	ug/L	1300	1300	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Nickel	Entry Point	No	0.007	4/19/2022	ug/L	N/A	N/A	Naturally occurring, byproduct of some manufacturing waste.
	Well 4A	No	0.018	7/26/2021	ug/L	N/A	N/A	Naturally occurring, byproduct of some manufacturing waste.
	Well 5A	No	0.092	2/15/2021	ug/L	N/A	N/A	Naturally occurring, byproduct of some manufacturing waste.
	Well C4	No	0.044	7/30/2021	ug/L	N/A	N/A	Naturally occurring, byproduct of some manufacturing waste.
Nitrate (as N)	Well 5A	No	0.257	2/15/2021	mg/L	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
	Entry Point	No	0.32	4/12/2023	mg/L	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Phosphate	System Wide	No	5.6 0.424 - 55.72	1/12/2023 through 12/13/2023	mg/L	N/A	N/A	Treatment chemical added for corrosion control.
	Entry Point	No	0.77	4/12/2023	mg/L	N/A	N/A	Treatment chemical added for corrosion control.
Sodium (2)	Well 4A	No	16.6	7/26/2021	mg/L	(See Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.
	Well 5A	No	20.9	2/15/2021	mg/L	(See Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.

Sodium (2)	Well C4	No	38.8	7/30/2021	mg/L	(See Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.
	Entry Point	No	33.7	4/19/2023	mg/L	(See Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.
Sulfate	Well 4A	No	39.1	7/26/2021	mg/L	250	N/A	Naturally occurring.
	Well 5A	No	62.1	2/15/2021	mg/L	250	N/A	Naturally occurring.
	Well C4	No	45.7	7/30/2021	mg/L	250	N/A	Naturally occurring.
	Entry Point	No	51.6	4/19/2023	mg/L	250	N/A	Naturally occurring.
Zinc	Well 4A	No	3.07	7/26/2021	mg/L	5	N/A	Naturally occurring; Mining waste.
	Well 5A	No	2.32	2/15/2021	mg/L	5	N/A	Naturally occurring; Mining waste.
	Well C4	No	0.154	7/30/2021	mg/L	5	N/A	Naturally occurring; Mining waste.

Microbiological Contaminants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Escherichia coli (E. coli) (3)	Well C4	No	1 positive sample	7/30/2021	N/A	0	0	Human and animal fecal waste.
Total Coliform (4)	Well 4A	No	1 positive sample	7/26/2021	N/A	TT = 2 or more positive samples	0	Naturally present in the environment.
	Well C4	No	1 positive sample	8/4/2021	N/A	TT = 2 or more positive samples	0	Naturally present in the environment.
	Well C4	No	1 positive sample	7/30/2021	N/A	TT = 2 or more positive samples	0	Naturally present in the environment.

Physical Characteristics

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Alkalinity to pH 4.5 as mg/L CaCO3	Well 4A	No	159	7/26/2021	mg/L	N/A	N/A	Naturally occurring.
	Well C4	No	186	7/30/2021	mg/L	N/A	N/A	Naturally occurring.
Color	Well 4A	Yes	20	7/26/2021	Units	15	N/A	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant by products
	Well 5A	No	5	2/15/2021	Units	15	N/A	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant by products
	Well C4	Yes	20	7/30/2021	Units	15	N/A	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant by products
Odor	Well 4A	No	1	7/26/2021	Units	3	N/A	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
	Well C4	No	3	7/30/2021	Units	3	N/A	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
	Entry Point	No	2.67	4/19/2023	Units	3	N/A	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
	Well 5A	No	1	2/15/2021	Units	3	N/A	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
pH	Entry Point	No	6.8	4/19/2023	SU	N/A	N/A	Naturally occurring.
	Well 4A	No	6.93	7/26/2021	SU	N/A	N/A	Naturally occurring.
	Well 5A	No	7.01	2/15/2021	SU	N/A	N/A	Naturally occurring.
	Well C4	No	6.8	7/30/2021	SU	N/A	N/A	Naturally occurring.
Total Dissolved Solids	Well 4A	No	232	7/26/2021	mg/L	N/A	N/A	Erosion of natural deposits.

Total Dissolved Solids	Well C4	No	444	7/30/2021	mg/L	N/A	N/A	Erosion of natural deposits.
Turbidity - Raw Well	Well 4A	No	6.96	7/26/2021	NTU	N/A	N/A	Soil runoff.
	Well 5A	No	1.44	3/16/2021	NTU	N/A	N/A	Soil runoff.
	Well C4	No	0.55	7/30/2021	NTU	N/A	N/A	Soil runoff.

Radioactive Contaminants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Uranium	Entry Point	No	1.67	4/19/2022	ug/L	30	0	Erosion of natural deposits.

Synthetic Organic Contaminants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Perfluoro-octanesulfonic Acid (PFOS)	Well C4	No	0.83	10/12/2023	ng/L	10	N/A	Released into the environment from widespread use in commercial and industrial applications.
Perfluoro-octanoic Acid (PFOA)	Well 4A	No	0.977	10/12/2023	ng/L	10	N/A	Released into the environment from widespread use in commercial and industrial applications.
	Well C4	No	1.82	10/12/2023	ng/L	10	N/A	Released into the environment from widespread use in commercial and industrial applications.

Unregulated Perfluoroalkyl Substances

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Perfluoro-buthanesulfonic Acid (PFBS)	Well 4A	No	2.14	10/12/2023	ng/L	N/A	2000	Released into the environment from widespread use in commercial and industrial applications.
	Well 5A	No	0.687	10/12/2023	ng/L	N/A	2000	Released into the environment from widespread use in commercial and industrial applications.

Perfluoro-butanesulfonic Acid (PFBS)	Well C4	No	3.45	10/12/2023	ng/L	N/A	2000	Released into the environment from widespread use in commercial and industrial applications.
Perfluoroheptanoic Acid (PFHpA)	Well 4A	No	0.681	10/12/2023	ng/L	N/A	N/A	Released into the environment from widespread use in commercial and industrial applications.
	Well C4	No	1.21	10/12/2023	ng/L	N/A	N/A	Released into the environment from widespread use in commercial and industrial applications.
Perfluoro-hexanoic Acid (PFHXA)	Well 4A	No	2.1	10/12/2023	ng/L	N/A	N/A	Released into the environment from widespread use in commercial and industrial applications.
	Well 5A	No	0.916	10/12/2023	ng/L	N/A	N/A	Released into the environment from widespread use in commercial and industrial applications.
	Well C4	No	3.26	10/12/2023	ng/L	N/A	N/A	Released into the environment from widespread use in commercial and industrial applications.

Footnotes

- (1) The copper 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. The action level for copper was not exceeded at any of the sites tested.
- (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) Although detected in untreated well water, E. coli has never been found in Birch Hill's treated water.
- (4) Although detected in untreated well water, no sample collected from Birch Hill's treated water has been found to contain total coliform bacteria since 2009.

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

What does this information mean?

As the table shows, our system had no violations in 2023. Although we have learned through testing that some contaminants are present in our water, all of the regulated contaminants are present at concentrations lower than the levels allowed by the State.

Although testing did not reveal hazardous levels of lead in our system, we are required to present the following information on lead in drinking water:

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. DCWWA 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 the 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 2023, our system was compliant with all applicable State drinking water operating, monitoring, and reporting requirements.

Do I need to take special precautions?

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).

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.
- 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. Birch Hill Water customers used an average of 60 gallons of water per person per day in 2023. Our average customer used less than 40 gallons per person per day. 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. We understand that rising utility bills are a major concern for our customers and our dedicated staff is working hard to provide you with safe and dependable water at the lowest cost possible.