

City of Brighton

2018 Water Quality Report

This report offers valuable water quality information for all our customers, including water service provided to Pine Creek Ridge, Pine Creek Bluffs, Dillion Area, and the Northstar Development located in Brighton, Genoa & Hamburg Townships. The City of Brighton is pleased to report our water quality standards have complied with all Environmental Protection Agency (EPA) and State of Michigan standards and requirements for the 2018 calendar year. We are committed to and take pride in providing quality drinking water and service to our customers on a daily basis. If you have any questions or needs for service, please do not hesitate to contact your water utility for assistance. We will provide you with quick and responsive service for your needs, and as always, we are open to your suggestions for how we can improve our public service.

Water System Overview:

The City of Brighton's water supply comes to you from five groundwater wells located on two well fields, each providing treatment facilities for:

- Iron removal
- Addition of chlorine for disinfection
- Addition of fluoride, to reduce tooth decay
- Addition of polyphosphate for corrosion control

After the treatment process, the treated water is pumped to one of three storage tanks, providing 1,620,000 gallons of water for normal system demand and reserve water for fire protection needs.

In September 2002, the City of Brighton identified our source water protection area and submitted a Wellhead Protection Program to the Michigan Department of Environmental Quality, which outlined management strategies to minimize the contamination threat to the municipal water supply. In April 2014, the City of Brighton completed a plan update, identifying new goals and guidelines within the plan to continue to protect one of our most precious resources, your Drinking Water.

A safe and reliable source of drinking water is essential for life. Because our water supply is limited, you can help protect this valuable resource by:



Customer Service Information:

Water Department Superintendent:
Todd Bennett (810) 844-5115

Utility Billing Clerk
(810) 225-8041

Request for Emergency Service:

Monday – Friday
7:00 am – 3:30 pm
(810) 227-2968 or
(810) 227-9479

After hours, holidays, and weekends you can call either of the above numbers and press 1, following the greeting.



Water System Overview (cont.):

- Disposing all household and hazardous waste in a proper and safe manner. Information on the proper disposal of household and hazardous waste is available at www.brightoncity.org or you may contact the Department of Public Works Office at (810) 225-8001, and we will be more than happy to assist you.
- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water.
- Don't dump anything down storm drains; storm water dumps directly into your local water body.

Protect your Health, the Environment , and your Drinking Water Source

What is Groundwater?

Groundwater is the water that fills the small spaces between rock particles (sand, gravel, etc.) or cracks in solid rock. Rain, melting snow, or surface water becomes groundwater by seeping into the ground and filling these spaces. The top of the water-saturated zone is called the **water table**.

Water movement is cyclical and moves from the ground to the surface (springs, rivers, lakes, wells), to the air (evaporation) and back to the surface (precipitation) where it seeps into the ground and into an aquifer.

An **aquifer** is any type of geologic material, such as sand or sandstone, which can supply water to wells or springs.

Groundwater, which supplies wells, often comes from within a short distance (a few miles) of the well. How fast the groundwater moves depends both on how much the well is pumped and what type of rock particles or bedrock it is moving through.

Contaminants and Their Presence in Water:

Drinking water, including bottled water, may reasonably be 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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at (800) 426

Vulnerability of Subpopulations:

Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline at (800) 426-4791.

Sources of Drinking Water:

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from 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 activity.

Contaminants That May Be Present in Source Water Include:

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can, also, come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Additional Information for Lead:

If present, elevated levels of 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. The City of Brighton 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 at 1-800-426-4791 or <http://water.epa.gov/drink/info/lead/index.cfm>.

Additional Information for Copper:

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Additional Information for PFAS:

Per- and Polyfluoroalkyl Substances (PFAS) Per- and Polyfluoroalkyl (PFAS), sometimes called PFC's, are a group of chemicals that are resistant to heat, water, and oil. PFAS have been classified by the United States Environmental Protection Agency (U.S. EPA) as an emerging contaminant on the national landscape. For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, fire-fighting foams, and metal plating. They are still used today. PFAS have been found at low levels both in the environment and in blood samples from the general U.S. population.

These chemicals are persistent, which means they do not break down in the environment. They also bioaccumulate, meaning the amount builds up over time in the blood and organs. Although our understanding of these emerging contaminants is constantly evolving, elevated levels of PFAS have the potential to cause increased cholesterol, changes in the body's hormones and immune system, decreased fertility, and increased risk of certain cancers. Links to these health effects in humans are supported by epidemiologic studies and by laboratory studies in animal models.

Are there health advisory levels? The U.S. EPA has not established enforceable drinking water standards, called maximum contaminant levels, for these chemicals. However, the U.S. EPA has set a lifetime health advisory (LHA) level in drinking water for two PFAS: perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). The PFOA and PFOS LHA is the level, or amount, below which no harm is expected from these chemicals. The LHA level is 70 parts per trillion (ppt) for PFOA and 70 ppt for PFOS. If both PFOA and PFOS are present, the LHA is 70 ppt for the combined concentration.

The amount of PFOA and PFOS combined in the sample collected from our water sources, ranged from ND (non-detect) to 2 ppt, which is more than 35 times lower than the LHA for the combination of these two chemicals.

There are many other PFAS compounds that currently do not have LHA levels. For information on PFOA, PFOS, and other PFAS, including possible health outcomes, you may visit these websites: <https://www.epa.gov/pfas>; <https://www.atsdr.cdc.gov/pfas/>; or <http://www.michigan.gov/pfasresponse>.

Why was the City of Brighton's source water tested for PFAS? The Michigan Department of Environmental Quality (MDEQ) has coordinated a statewide initiative to test drinking water from all schools that use well water and community water supplies for PFAS. MDEQ is taking the precautionary step to testing these drinking water sources to determine if public health actions are needed.

Who can I call if I have questions about PFAS in my drinking water? If any resident has additional questions regarding this issue, the State of Michigan Environmental Assistance Center can be contacted at 800-662-9278. Representatives may be reached to assist with your questions Monday through Friday, 8:00 AM to 4:30 PM. You may also contact Todd Bennett, City of Brighton Water Department Superintendent at (810) 844-5115.

May I bathe or swim in water containing PFAS? Yes, information currently available suggests that this is not a major contributor to overall exposure?

How can PFAS affect people's health? Some scientific studies suggest that certain PFAS may affect different systems in the body. The National Center for Environmental Health (NCEH)/Agency for Toxic Substances and Disease Registry (ATSDR) is working with various partners to better understand how exposure to PFAS might affect people's health. If you are concerned about exposure to PFAS in your drinking water, please contact the Michigan Department of Health and Human Services Toxicology Hotline at 800-648-6942, or the Center for Disease Control and Prevention/ATSDR at <https://www.cdc.gov/cdc-info/> or 800-232-4636. Currently, scientists are still learning about the health effects of exposures to PFAS, including exposure to mixtures.

What other ways could I be exposed to PFOA, PFOS and other PFAS compounds? Why was the City of Brighton's source water tested for PFAS? The Michigan Department of Environmental Quality (MDEQ) has coordinated a statewide initiative to test drinking water from all schools that use well water and community water supplies for PFAS. MDEQ is taking the precautionary step to testing these drinking water sources to determine if public health actions are needed.

The City of Brighton routinely monitors for contaminants in your drinking water according to Federal and State standards. The table below shows the results of our monitoring for the period of January 1st to December 31st, 2018. The presence of these contaminants in the water does not necessarily indicate that water poses a health risk. 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. All of the data is representative of the water quality, but some are more than a year old.

Terms and abbreviations used below:

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 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 using the best available treatment technology.

Maximum Residual Disinfection Level (MRDL) – means 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 Disinfection Level Goal (MRDLG) – means the level of 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 contaminants.

N/A: not applicable.

ND: not detectable at testing limit.

ppb: parts per billion or micrograms per liter.

ppm: parts per million or milligrams per liter.

pCi/l: picocuries per liter (a measure of radiation).

Action Level (AL): the concentration of a contaminant which, if exceeded triggers treatment or other requirements that a water system must follow.

Treatment Technique(TT) “ A required process intended to reduce the level of a contaminant in drinking water”

Water Quality Data:

<u>Contaminants</u>	<u>MCLG</u>	<u>MCL</u>	<u>Your</u> <u>Water</u>	<u>Low</u>	<u>High</u>	<u>Date</u>	<u>Violation</u>	<u>Typical Source</u>
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.)								
Chlorine (as Cl ₂) (ppm)	4	4	0.22	0.19	.30	2018	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	ND	ND	ND	2018	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	41.1	41.1	41.1	2018	No	By-product of drinking water disinfection

<u>Contaminants</u>	<u>MCLG</u>	<u>MCL</u>	<u>Your Water</u>	<u>Low</u>	<u>High</u>	<u>Date</u>	<u>Violation</u>	<u>Typical Source</u>
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Microbiological Contaminants

Total Coliform (positive samples/month)	0	1	0	0	0	2018	No	Naturally present in the environment
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Radioactive Contaminants

Radium (combined 226/228) (pCi/)	0	5	ND	ND	ND	2016	No	Erosion of natural deposits
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Inorganic Contaminants

Arsenic (ppb)	0	10	ND	ND	ND	2012	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.38	0.28	0.38	2012	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	ND	ND	ND	2012	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	4	4	1.8	.62	1.8	2018	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate as N (ppm)	10	10	ND	ND	ND	2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (optional) (ppm)		Unregulated Contaminant	228	45	228	2018	No	Erosion of natural deposits; Leaching

Copper & Lead Monitoring

<u>Contaminants</u>	<u>MCLG</u>	<u>AL</u>	<u>90th Percentile</u>	<u>Sample Date</u>	<u># Samples Exceeding AL</u>	-	-	<u>Typical Source</u>
Copper - action level at consumer taps (ppm)	1.3	1.3	1.18	2018	0	No		Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	1.0	2018	0	No		Corrosion of household plumbing systems; Erosion of natural deposits



One useful number you need to know when programming your water softener is the hardness of the water. The hardness of the City of

Brighton's water is 25-27 grains, so set your softener to the proper settings and you will always have soft water and prevent over cycling of your system, saving on softening salt.



You can extend the life of your hot water heater by flushing the sediments from your hot water tank twice a year (follow the recommended procedure in your owner's manual).

When replacing a hot water heater the cheapest is not always the best bargain compare warranties and annual operating cost before purchasing.

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers – a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving to save up to 500 gallons a month.
- Use a water-efficient showerhead. They are inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation. Turn-off your irrigation system when it rains or install a rain sensor to avoid any unnecessary water waste.
- Cut your lawn 3" or higher each time you mow. Tall Grass retains more moisture longer, shades out weeds, and is more resistant to pests.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill! Visit www.epa.gov/watersense for more information.

We will update this report annually and will keep you informed of any problems that may occur throughout the year. Individual copies of this report will not be mailed; copies are available at City Hall – 200 N. First Street, the DPW Office – 420 S. Third Street, or on the City's web site – <http://www.brightoncity.org>.

For more information about your drinking water, or the contents of this report, contact Todd Bennett Water Department Superintendent, at (810) 844-5115.

For more information about safe drinking water, visit the U.S. Environmental Protection Agency at <http://www.epa.gov/safewater/>.