

Annual Drinking Water Quality Report

Burlington City Water Department

For the Year 2021, Results from the Year 2020

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources.

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/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

The Burlington City Water Department routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2020.

TEST RESULTS						
Contaminant	Viola-tion Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants:						
Turbidity Test results Yr. 2020	N	Highest reading= 0.23 Percentage of samples <0.3 NTU = 100%	NTU	N/A	TT % of samples <0.3	Soil runoff
Total Organic Carbon Test results Yr. 2020	N	Running Annual Average = 1.35 Monthly Average Range = 0.96 – 1.75	ppm	N/A	TT 35 – 45 % of removal	Naturally present in the environment
Inorganic Contaminants:						
Barium Test results Yr. 2020	N	0.02	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper Test results Yr. 2020 Result at 90 th Percentile	N	0.05 No samples exceeded the action level	ppm	1.3	AL= 1.3	Corrosion of household plumbing systems; erosion of natural deposits
Cyanide Test results Yr. 2020	N	1.1	ppb	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Lead Test results Yr. 2020 Result at 90 th Percentile	N	1.5 No samples exceeded the action level	ppb	0	AL= 15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen) Test results Yr. 2020	N	1.1	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Disinfection Byproducts:						
TTHM Total Trihalomethanes Test results Yr. 2020	N	Range = 34 - 137 Highest LRAA = 77	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids Test results Yr. 2020	N	Range = 35 - 71 Highest LRAA = 52	ppb	N/A	60	By-product of drinking water disinfection

For Total Haloacetic Acids (HAA5s) and Total Trihalomethanes (TTHMs), which are disinfection byproducts, compliance is based on a Locational Running Annual Average (LRAA), calculated at each monitoring location. The LRAA calculation is based on four completed quarters of monitoring results.

TTHMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Regulated Disinfectants	Level Detected	MRDL	MRDLG
Chlorine Test results Yr. 2020	Range = 0.5 – 1.0 ppm Average = 0.7 ppm	4.0 ppm	4.0 ppm

Chlorine: Water additive used to control microbes.

Our water is drawn from the Delaware River. The New Jersey Department of Environmental Protection (NJDEP) has prepared Source Water Assessment Reports and Summaries for all public water systems. Further information on the Source Water Assessment Program can be obtained by logging onto NJDEP's source water assessment web site at [WWW.state.nj.us/dep/swap](http://www.state.nj.us/dep/swap) or by contacting NJDEP's Bureau of Safe Drinking Water at (609) 292-5550. You may also contact your public water system at 609-386-0307. Burlington City's Source Water Assessment Summary is included. The City diverts all of its drinking water supply from the Delaware River

The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos and synthetic organic chemicals. Our system received a monitoring waiver for synthetic organic chemicals.

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 Burlington City Water Department 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 second to 2 minutes before using water for drinking and 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 or at <http://www.epa.gov/safewater/lead>.

We constantly monitor the water supply for various contaminants. We have detected cryptosporidium in the Delaware River, our water source. We detected this contaminant in four out of ten samples tested. We believe it is important for you to know that cryptosporidium may cause serious illness in 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. These people should seek advice from their health care providers.

We employ an advanced treatment process designed to remove cryptosporidium from our finished water. Tests of our finished water do not indicate the presence of cryptosporidium. We are committed to maintaining expertise in cryptosporidium monitoring and filtration, and to effectively employ the best available technologies necessary to deliver safe drinking water.

DEFINITIONS:

In the "Test Results" table you may find some terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the contaminant is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) or nanogram per liter - one part per trillion corresponds to one minute in 20,000 years, or a single penny in \$100,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in water.

Turbidity - is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is 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 Contaminant Level Goal -The "Goal" (MCLG) is 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.

Drinking Water Sources:

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 mineral, 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 the source water include:

- Microbial contaminants, such as viruses and bacteria, which 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 stormwater 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 stormwater runoff, and septic systems, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater 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 which limit the amount of certain contaminants in water provided by public water systems. Food and drug administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

If you have questions about this report or concerning your water utility, please call Marc Zott – Water Superintendent at 609-386-0307. If you want to learn more, please attend any of our regularly scheduled City Council meetings at the City Hall, 525 High Street. Meetings are held on the first and third Tuesdays of each month at 7:30 p.m. Thank you.

The Burlington City Water Department is following guidelines from the New Jersey Department of Environmental Protection's Self –Assessment of Critical Asset Infrastructure (Plant Security) in response to the September 11, 2001 Terrorist attacks.

Unregulated Contaminant Monitoring:

The Burlington City Water Department monitored for the following unregulated contaminants in 2020. Unregulated contaminants are those for which the US Environmental Protection Agency (EPA) or the New Jersey Department of Environmental Protection (NJDEP) has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA and NJDEP in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted. Per- and polyfluoroalkyl substances (PFAS) are widely found in the environment. EPA has identified a health advisory level for two PFAS analytes, PFOA and PFOS 0.070 ppb either singly or combined, and NJDEP has adopted new drinking water standards (Maximum Contaminant Levels (MCLs)) for PFOA and PFOS of 14 ng/L (ppt) and 13 ng/L (ppt), respectively, as of January 2021. The detected levels of PFOA and PFOS found are below DEP's MCLs.

Contaminant	Level Detected	Units of Measurement	Likely source
(PFOS) Perfluorooctane Sulfonate	Range = ND – 3.5	ppt	Used in the manufacture of fluoropolymers.
(PFOA) Perfluorooctanoic Acid	Range = 2.1 – 3.4	ppt	Used in the manufacture of fluoropolymers.

What are PFOA and PFOS?

Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) are per- and polyfluoroalkyl substances (PFAS), previously referred to as perfluorinated compounds, or PFCs, that are man-made and used in industrial and commercial applications. PFOA was used as a processing aid in the manufacture of fluoropolymers used in non-stick cookware and other products, as well as other commercial and industrial uses based on its resistance to harsh chemicals and high temperatures. PFOS is used in metal plating and finishing as well as in various commercial products. PFOS was previously used as a major ingredient in aqueous film forming foams for firefighting and training, and PFOA and PFOS are found in consumer products such as stain resistant coatings for upholstery and carpets, water resistant outdoor clothing, and grease proof food packaging. Although the use of PFOA and PFOS has decreased substantially, contamination is expected to continue indefinitely because these substances are extremely persistent in the environment and are soluble and mobile in water. More information can be found at: [https://www.state.nj.us/dep/wms/bears/docs/2019-4-15-FAQs_PFOA-PFOA-websites-OLA%204-24-19SDM-\(003\).pdf](https://www.state.nj.us/dep/wms/bears/docs/2019-4-15-FAQs_PFOA-PFOA-websites-OLA%204-24-19SDM-(003).pdf)

Burlington City Water Department- PWSID # NJ0305001

Burlington City Water Department is a public community water system consisting of 1 surface water intake.

This system's source water comes from the Delaware River.

This system can purchase water from the following water system: Burlington Township Water Department.

Susceptibility Ratings for Burlington City Water Department Source

The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report.

The seven contaminant categories are defined at the bottom of this page. DEP considered all surface water highly susceptible to pathogens, therefore all intakes received a high rating for the pathogen category. For the purpose of Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

Sources	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection Byproduct Precursors		
	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Surface water intakes - 1	1			1				1			1			1				1			1	1		

Pathogens: Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.

Nutrients: Compounds, minerals and elements that aid growth, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.

Volatile Organic Compounds: Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.

Pesticides: Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.

Inorganics: Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.

Radionuclides: Radioactive substances that are both naturally occurring and man-made. Examples include radium and uranium.

Radon: Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information go to <http://www.nj.gov/dep/rpp/radon/index.htm> or call (800) 648-0394.

Disinfection Byproduct Precursors: A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.

IMPORTANT INFORMATION ABOUT OUR DRINKING WATER

Our water system violated drinking water standards this past year, **of which you were notified**. Even though these were not emergencies, as our residents, you have a right to know what happened and what we did to correct the situations.

Our water system installed corrosion control treatment to prevent lead and/or copper in the pipes from dissolving into the water. During 01/01/2020 – 6/30/2020 and monitoring period, we failed to meet treatment technique requirements for our corrosion control treatment system on 4/9/2020 for pH. Test results for 4/9/2020 showed a pH of 7.01 and did not meet the optimal Water Quality Parameter (WQP) control value of 7.2 set by the State for 15 days in the 6-month monitoring period, and our water system cannot be outside the value set by the State for nine days or more. Adjustments were made to the pH levels of the finished water. We resolved the problem within 15 days and returned to compliance on 4/23/2020.

During the 7/1/2020 – 12/31/2020 monitoring period, we failed to consistently meet treatment technique requirements for our corrosion control treatment system. WQP results did not meet the optimal WQP controls set by the State for nine or more days.

On 11/26/2020 a continuous pH monitoring system was installed at the treatment plant to monitor pH levels.

You may have heard the word “pH” used to describe drinking water quality, but do you know what it means? pH is a measurement of electrically charged particles in a substance. It indicates how acidic or alkaline (basic) that substance is. The pH scale ranges from 0 to 14.

- Acidic water has a pH lower than 7. The most acidic substances have a pH of 0. Battery acid falls into this category.
- Alkaline water has a pH of 8 or above. The most alkaline substances, such as lye, have a pH of 14.
- Pure water has a pH of 7 and is considered “neutral” because it has neither acidic nor basic qualities.

The US Environmental Protection agency (EPA) oversees the monitoring for public drinking water quality across the United States. pH isn’t a quality that falls under EPA regulation because it’s considered an aesthetic quality of water, however, the agency recommends that municipal drinking water suppliers keep their water supply at a pH 6.5 – 8.5

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 Burlington City Water Department 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 second to 2 minutes before using water for drinking and 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 or at <http://www.epa.gov/safewater/lead>.

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.

Special Note:

Our system uses surface water and is required to continuously monitor the residual disinfectant level. We failed to submit April 2020 chlorine results on time which resulted in violation. The results were submitted on April 15, 2020 and we returned to compliance on that date.

Special Note:

Our system uses surface water and is required to continuously monitor the residual disinfectant level. We failed to submit August 2020 chlorine results on time which resulted in violation. The results were submitted on September 30, 2020 and we returned to compliance on that date.

These samples were taken and submitted correctly. We believe NJDEP inadvertently posted the results late.