



An Essential Utilities Company

2022 Water Quality Report*

Bristol Division, PWSID# PA1090001

*Este informe contiene información importante acerca de su agua potable.
Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.*

About Your Drinking Water

Aqua Pennsylvania, Inc. (Aqua) is pleased to provide you with important information about your drinking water in this 2022 Water Quality Report for the Bristol Division (public water supply ID: PA1090001). The report summarizes the quality of water Aqua provided in 2022—including details about water sources, what the water at your tap contains, and how it compares to standards set by regulatory agencies. Although the report lists only those regulated substances that were detected in your water, we test for more than what is reported. This report is only a summary of our testing during 2022. If you have any questions about the information in this report, please call 610.645.4248 or visit our website at AquaWater.com.

Sources of Supply

Your drinking water comes from the Delaware River and wells. A source water assessment for the Delaware River was completed by the Pennsylvania Department of Environmental Protection (DEP) and more recently for the wells. The assessment found that overall, the sources were found to have a moderate risk of significant contamination. Information on the source water assessment is available on the DEP Web site at www.dep.pa.gov (DEP keyword "Source Water Assessment Summary Reports"). Copies of the complete report are available for review at the DEP Southeast Regional Office, Records Management Unit, 484.250.5900.

The sources of drinking water (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 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, 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 storm 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, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, 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 that limit the amount of certain contaminants in water provided by public water systems. FDA 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 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 800.426.4791.

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 microbial contaminants are available from the Safe Drinking Water Hotline at 800.426.4791.

Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.

The following table lists contaminants that were detected during 2022 (unless otherwise noted) in your water system. The table provides the average of the sources used to supply the Division, as well as minimum and maximum observed levels of regulated contaminants. The state allows monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data below, though representative, are more than one year old.

Aqua Pennsylvania, Inc., Bristol Division, PWSID#: PA1090001

Contaminants	Average Detection	Range of Detections	MCL	MCLG	Sample Date	Violation Y/N	Major Sources in Drinking Water
Turbidity	100%	100% - 100%	TT	NA	2022	N	Soil runoff
Values above are % meeting plant performance level. 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. The Treatment Technique (TT) requirement is 95% of samples must be less than or equal to 0.3 NTU.							
Inorganic Contaminants							
Barium, ppm	0.03	NA	2	2	2022	N	Erosion of natural deposits
Nitrate, ppm	1.7	1.2 – 2.2	10	10	2022	N	Fertilizers; septic tanks, sewage; erosion of natural deposits
Volatile Organic Contaminants							
Xylenes, ppm	0.00019	ND - 0.0005	10	10	2022	N	Discharge from petroleum factories; Discharge from chemical factories
Disinfectant Residual - Values below reflect results from routine monthly distribution sampling at multiple sites. Disinfection is accomplished using chloramination and residual disinfectant is measured as total chlorine.							
Total chlorine, ppm	2.3	1.9 – 2.6	MRDL = 4	MRDLG = 4	2022	N	Water additive used to control microbes
Disinfectants and Disinfection Byproducts -- Compliance for Haloacetic Acids and Total Trihalomethanes is based on a locational running annual average of quarterly samples. The range shows the highest and lowest result for individual samples.							
Chlorite, ppm (distribution)	0.2	ND – 0.5	1	0.8	2022	N	Byproduct of drinking water chlorination
Chlorite, ppm (entry point 101)	0.4	0.1 – 0.7	1	0.8	2022	N	
Haloacetic acids, ppb	20	2 – 50	60	NA	2022	N	
Total Trihalo-methanes, ppb	19	6 – 42	80	NA	2022	N	

Contaminants	Entry Point #	Minimum Disinfectant Residual Required	Lowest Level Detected	Range of Detections	Sample Date	Violation Y/N	Major Sources in Drinking Water
Entry Point Disinfectant Residual- PA Ground Water Rule: This rule requires that no well station operate below specific minimum free chlorine levels for more than 4 hours.							
Total Chlorine, ppm	101	0.2	1.03	1.03 – 3.2	2022	N	Water additive used to control microbes
Chlorine Dioxide, ppm	101	NA ^(a)	ND	ND – 0.19	2022		
Free Chlorine, ppm	102	0.4	0.78	0.78 – 3.1	2022		

(a) Chlorine dioxide does not have a minimum disinfectant residual; however, the maximum limit is 0.8 mg/L.

Tap water samples were collected from homes in the service area for lead and copper testing.

Lead and Copper	90th Percentile	Total Number of Samples	Samples Exceeding Action Level	Action Level	MCLG	Sample Date	Violation Y/N	Major Sources in Drinking Water
Copper, ppm	0.15	39	0	1.3	1.3	2022	N	Corrosion of household plumbing
Lead, ppb	ND	39	0	15	0	2022	N	

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. Aqua 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 cold water 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 or at <http://www.epa.gov/safewater/lead>.

Total Organic Carbon (TOC) during 2022 - For Total Organic Carbon removal, compliance is based on a running annual average of monthly results, not a single result.					
Contaminant	Range of % removal required	Range of percent removal achieved	Number of quarters out of compliance	Violation Y/N	Sources of Contamination
TOC	35 - 45	17.4 ^(b) - 53.3	0	N	Naturally present in the environment

(b) Compliance is determined by a running annual average, computed quarterly.

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every 5 years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWS). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. These data serve as a primary source of occurrence and exposure information that the agency uses to develop regulatory decisions. If a PWS monitoring for UCMR4 finds contaminants in its drinking water, it must provide the information to its customers in this annual water quality report. Below is a table of the results of our UCMR4 monitoring in 2018. All other contaminants tested during UCMR4 were Not Detected.

Unregulated Contaminants Detected During 2018			
Unregulated Contaminant	Average Detection	Range of Detections	MCL
Raw Samples (untreated)			
Bromide, ppb	22.5	20 - 30	NA
Total Organic Carbon, ppb	3150	2900 - 3400	NA
Entry Point Samples			
Manganese, ppb	1.0	0.5 – 2.0	NA
Quinoline, ppb	ND	ND – 0.02	NA
Distribution Samples			
Bromochloroacetic acid, ppb	2.4	0.9 – 4.1	NA
Bromodichloroacetic acid, ppb	3.0	0.6 – 5.3	NA
Chlorodibromoacetic acid	0.4	ND - 0.5	NA
Dibromoacetic acid, ppb	0.4	ND – 0.8	NA
Dichloroacetic acid, ppb	12.3	0.8 – 21.6	NA
Trichloroacetic acid, ppb	17.8	ND – 37.7	NA

Voluntary PFAS (Forever Chemicals) Most Recent Entry Point Sampling from 2018

Name	Chemical Name	Range of Detections (ppt)
PFOA	Perfluorooctanoic acid	3.5-17
PFOS	Perfluorooctane sulfonate	ND-14
PFBS	Perfluorobutane sulfonic acid and Perfluorobutane sulfonate	ND-6.8
PFHxS	Perfluorohexanesulfonic acid	ND-3.3
PFNA	Perfluorononanoic acid	ND-3.6

Notes: For additional information, please refer to our website: [AquaWater.com/pfas](https://www.aquawater.com/pfas)
 A treatment system will be installed at the Edgely Wellfield in 2024, to reduce PFOA and PFOS levels.
 ND = Not Detected

Notes:

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements.

Fluoride: Fluoride may help prevent tooth decay if administered properly to children but can be harmful in excess. Customers in the Bristol division receive water from unfluoridated supplies. For more information about fluoride in your tap water, call Aqua at 610.645.4248 or visit our website at AquaWater.com. This information may be helpful to you, your pediatrician or your dentist in determining whether fluoride supplements or treatment are appropriate.

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 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 contaminants.

NA: Not applicable.

ND: Not detected.

Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

NTU: Nephelometric turbidity unit (cloudiness of water).

Running Annual Average (RAA): The average of all monthly or quarterly samples for the last year at all sample locations.

Turbidity: Monitored as a measure of treatment efficiency for removal of particles. Plant Performance Level: 0.3 NTU.

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

ppt: A unit of concentration equal to one part per trillion.

ppb: A unit of concentration equal to one part per billion.

ppm: A unit of concentration equal to one part per million.

PWSID: Public water supply identification number.

*This notice contains required or recommended regulatory language, and nothing herein is, is intended as, nor should be construed as, a promise of or contract for payment or reimbursement of expenses incurred for any action you take on account of this notice.