



An Essential Utilities Company

2022 Water Quality Report*

Main System, PWSID#: PA1460073

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

About Your Drinking Water- Aqua Pennsylvania, Inc. is pleased to provide you with important information about your drinking water in this 2022 Water Quality Report for the Main System (public water supply ID PA1460073). 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 between the hours of 8:30 AM to 4:30 PM Monday to Friday (check hours) or visit our website at AquaWater.com.

Sources of Supply – Your drinking water comes from eight surface water sources and several groundwater sites (wells). Source water assessments were completed for the Chester, Ridley, Crum, Pickering, Perkiomen, and Neshaminy Creeks, the Schuylkill River, and wells in the Main System. The sources, overall, have a moderate risk of significant contamination. A status report of source water assessments is available on the Pennsylvania Department of Environmental Protection (DEP) website at www.dep.pa.gov (DEP keyword "Source Water Assessment Summary Reports"). Complete reports were distributed to municipalities, water suppliers, local planning agencies, and DEP offices. Copies of the complete reports are available for review at the DEP Southeast Regional Office, Records Management Unit, 484.250.5900.

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, 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. Radon is not regulated in drinking water. It is a radioactive gas that you cannot see, taste, or smell. Most radon enters homes directly from underground - not from the water supply. Radon can dissolve in water and can be released into air from tap water, but this is generally a small source of radon in indoor air.

To ensure that tap water is safe to drink, the Environmental Protection Agency prescribes regulations that limit the amounts of certain contaminants in water provided by public water systems. U.S. Food & 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. 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. U.S. EPA/Centers for Disease Control 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.

The following table lists contaminants that were detected during 2022 in your water system. The table provides the average for the sources used to supply the Main System, as well as minimum and maximum observed levels of regulated contaminants.

| Contaminants | Average Detection | Range of Detections | MCL | MCLG | Sample Date | Violation Y/N | Major Sources in Drinking Water |
|--|-------------------|-------------------------|-------------------|------|-------------|---------------|---|
| Turbidity, % meeting | 100% | 99.9% - 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 | | | | | | | |
| Antimony, ppb | 0.08 | ND – 0.48 | 6 | 6 | 2022 | N | Erosion of natural deposits |
| Arsenic, ppb | 1.31 | 1.2 – 1.5 | 10 | 0 | 2022 | N | |
| Barium, ppm | 0.06 | 0.05 – 0.08 | 2 | 2 | 2022 | N | |
| Chromium, ppb | 0.3 | ND – 2 | 100 | 100 | 2022 | N | |
| Fluoride, ppm | 0.1 | ND – 0.62 | 2 | 2 | 2022 | N | Erosion of natural deposits; water additive to promote strong teeth |
| Nitrate, ppm | 2.9 | ND – 4.7 ^(a) | 10 | 10 | 2022 | N | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Radiological Contaminants | | | | | | | |
| Combined radium, pCi/L | 0.1 | ND – 1.60 | 5 | 0 | 2020 | N | Erosion of natural deposits |
| Gross alpha, pCi/L | 0.6 | ND – 5.0 | 15 | 0 | 2020 | N | |
| Gross beta particles, pCi/L | 0.5 | ND – 4.03 | 50 ^(b) | 0 | 2020 | N | |
| Volatile Organic Contaminants | | | | | | | |
| cis-1,2-Dichloroethylene, ppb | 0.03 | ND – 0.5 | 70 | 70 | 2022 | N | Discharge from industrial chemical factories |
| Tetrachloroethylene, ppb | 0.44 | ND – 2.5 | 5 | 0 | 2022 | N | Discharge from factories and dry cleaners |
| Trichloroethylene, ppb | 0.05 | ND – 1.6 | 5 | 0 | 2022 | N | Discharge from metal degreasing sites and other factories |
| Unregulated Volatile Organic Contaminants | | | | | | | |
| 1,2,3-Trichloropropane, ppb ^(c) | 0.05 | 0.03 – 0.08 | NA | NA | 2022 | N | Used as a solvent and to produce other chemicals; found in pesticides |

- (a) 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 for advice from your health care provider.
- (b) EPA considers 50 pCi/L to be the level of concern for beta particles
- (c) Samples were collected from one location (entry point 112) in the Main system.

| Contaminants | Average Detection | Range of Detections | MCL | MCLG | Sample Date | Violation Y/N | Major Sources in Drinking Water |
|--|-------------------|---------------------|----------|-----------|-------------|---------------|--|
| 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 | 2.07 | 1.83 – 2.45 | MRDL = 4 | MRDLG = 4 | 2022 | N | Water additive used to control microbes |
| Disinfection Byproducts - For haloacetic acids and total trihalomethanes, compliance is based on a locational running annual average (LRAA) of quarterly test results, not a single sample result. | | | | | | | |
| Chlorite, ppm | 0.34 | 0.23 - 0.51 | 1 | 0.8 | 2022 | N | Byproduct of drinking water chlorination |
| Haloacetic acids, ppb | 22 | ND – 55 | 60 | NA | 2022 | N | Byproduct of drinking water disinfection |
| Total Trihalomethanes, ppb | 32 | 1 - 60 | 80 | NA | 2022 | N | |

Cryptosporidium is a microbial parasite found in waters throughout the United States. During monitoring of raw surface water sources (prior to treatment), 334 samples were collected in 2016 and 2017. The average concentration of *Cryptosporidium* oocysts was not detected. The range of samples collected during the monitoring period was ND - 0.2 oocysts per liter. As a frame of reference, the lowest category of risk has been set by EPA as an average concentration of less than 0.075 per liter. Results from 2016 and 2017 support the low-risk category.

| Contaminants | Entry Point # | Minimum Residual Level Required | Lowest Level Detected | Range of Detections | Sample Date | Violation Y/N | Major Sources in Drinking Water |
|--|------------------------------|---------------------------------|-----------------------|---------------------|-------------|---------------|---|
| Entry Point Disinfectant Residual | | | | | | | |
| Total Chlorine, ppm | 112, 115, 116, 117, 136, 138 | 0.2 | 0.65 | 0.65 – 3.24 | 2022 | N | Water additive used to control microbes |
| Free Chlorine, ppm | 107, 111, 123, 125, 132, 137 | 0.4 | 0.01 (d) | 0.01 – 3.18 | 2022 | N | |
| | 114 | 0.45 | 0.01 (d) | 0.01 – 3.11 | 2022 | N | |
| | 126 | 0.51 | 0.01 (d) | 0.01 – 3.07 | 2022 | N | |
| | 135 | 0.54 | 0.32 (d) | 0.32 – 2.63 | 2022 | N | |
| | 105, 110 | 0.7 | 0.01 (d) | 0.01 – 2.38 | 2022 | N | |
| | 106 | 0.8 | 0.01 (d) | 0.01 – 2.75 | 2022 | N | |
| Chlorine Dioxide, ppm | 138 | NA (e) | 0 | 0 – 0.43 | 2022 | N | |

(d) Disinfectant levels did not drop below the required minimum residual level for more than 4 hours.

(e) Chlorine Dioxide is used to supplement disinfection.

| 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 | Plant ID | Range of % Removal Required | Range of % Removal Achieved | Number of Quarters Out of Compliance | Sample Date | Violation (f) Y/N | Sources of Contamination |
| TOC | 313 | 35 | 27.3 – 60.0 | 0 | 2022 | N | Naturally present in the environment |
| | 314 | 25 - 35 | 10.7 - 59.6 | 0 | 2022 | N | |
| | 315 | 25 - 45 | 17.9 - 56.0 | 0 | 2022 | N | |
| | 335 | 25 - 45 | 34.5 - 71.8 | 0 | 2022 | N | |
| | 339 | 25 - 45 | 31.8 - 100.0 | 0 | 2022 | N | |

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

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

| Lead and Copper Results | | | | | | | | |
|-------------------------|-----------------|-------------------------|--------------------------------|--------------|------|-------------|---------------|---------------------------------|
| 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 | 0.197 | 53 | 0 | 1.3 | 1.3 | 2022 | N | Corrosion of household plumbing |
| Lead, ppb | 3.4 | 53 | 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 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 800-426-4791 or at www.epa.gov/safewater/lead.

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 | 77.5 | 30- 290 | NA |
| Total Organic Carbon, ppb | 2908 | ND - 6500 | NA |
| Entry Point Samples | | | |
| Manganese, ppb | 2.1 | ND - 32 | NA |
| Distribution Samples | | | |
| Bromochloroacetic Acid, ppb | 3.26 | 0.34 - 7.49 | NA |
| Bromodichloroacetic Acid, ppb | 3.80 | 0.51 – 8.79 | NA |
| Chlorodibromoacetic Acid | 0.64 | ND – 2.92 | NA |
| Dibromoacetic Acid, ppb | 0.57 | ND – 3.15 | NA |
| Dichloroacetic Acid, ppb | 10.30 | 0.40 – 23.9 | NA |
| Monobromoacetic Acid, ppb | 0.07 | ND – 0.87 | NA |
| Monochloroacetic Acid, ppb | 0.17 | ND – 3.88 | NA |
| Trichloroacetic Acid, ppb | 13.9 | 0.62- 27.1 | NA |

Voluntary PFAS (Forever Chemicals) Entry Point Sampling from 2022

| Name | Chemical Name | Range of Detections (ppt) |
|-------|---|---------------------------|
| PFOA | Perfluorooctanoic acid | ND-11 |
| PFOS | Perfluorooctane sulfonate | ND-13 |
| PFBS | Perfluorobutane sulfonic acid and Perfluorobutane sulfonate | ND-8.6 |
| PFHxS | Perfluorohexanesulfonic acid | ND-7.5 |
| PFNA | Perfluorononanoic acid | ND-11 |

Notes: For additional information, please refer to our website: AquaWater.com/pfas
This data represents entry points that were sampled during calendar year 2022.
Treatment has been installed in the Main System to reduce PFAS.
ND = Not Detected

Notes:

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

Fluoride: Fluoride might help prevent tooth decay for children but can be harmful in excess. Customers in the Main System receive water mostly from unfluoridated supplies, but some areas receive fluoridated water. Operational testing in the distribution system indicates that some customers in the Main System receive water with fluoride up to 0.7 ppm. For more information about fluoride in your tap water, call Aqua at 610.645.4248 or visit our website at AquaWater.com. This information might 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).

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.

pCi/L, picoCuries/Liter: A unit of concentration for radioactive contaminants.

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

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

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 chloramines, 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.

*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.