



2017 WATER QUALITY REPORT



Norristown

Public Water Supply ID# PA1460046

Este informe contiene información importante acerca de su agua potable. Haga que traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information about your drinking water. Have someone translate it for you if needed.)

A Message from the Pennsylvania American Water President

Dear Valued Customer:

On behalf of all Pennsylvania American Water employees, I am pleased to report very good news about the quality of your drinking water. This annual Water Quality Report provides the results of local water testing between January and December 2017, and as you will see, we continue to supply your community with water that meets or surpasses all regulatory standards.

Water service from Pennsylvania American Water is an exceptional value. To deliver quality water to your tap, we employ a great deal of science, expertise, technology and infrastructure to bring water from the source, treat it and ensure it is clean and safe. In addition, our plant operators, water quality experts, engineers and maintenance crews work around the clock to make sure reliable water service is always there when you need it.

Delivering high-quality water service also requires significant investment to replace and upgrade aging pipe, equipment and facilities. **In 2017 alone, we invested nearly \$300 million in system improvements across the Commonwealth.**

Water is essential for public health, fire protection, economic development and our overall quality of life. Every Pennsylvania American Water employee takes this responsibility very seriously and works hard to keep water flowing not only today but for the next generation. Please take the time to read this report and learn more about the source and quality of your drinking water.



Sincerely,

Jeffrey L. McIntyre
President, Pennsylvania American Water



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Our Mark of Excellence

With a history dating back to 1886, American Water is the largest and most geographically diverse U.S. publicly traded water and wastewater utility company. The company employs more than 6,900 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 46 states and Ontario, Canada. American Water provides safe, clean, affordable and reliable water services to our customers to make sure we keep their lives flowing. For more information, visit amwater.com and follow American Water on [Twitter](#), [Facebook](#) and [LinkedIn](#).

Pennsylvania American Water, a subsidiary of American Water, is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 2.4 million people.

We are once again proud to present our annual water quality report. This edition covers all testing completed from January through December 2017. Over the years, we have dedicated ourselves to producing drinking water that meets or surpasses all state and federal drinking water standards. We continually strive to adopt new and better methods of delivering the best quality drinking water to you. As regulations and drinking water standards become more stringent, it is our commitment to you to ensure compliance with these standards in an expeditious and cost-effective manner, while maintaining our objective of providing quality drinking water at an affordable price. We remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

For more information about this report, or for any questions relating to your drinking water, please feel free to call our Customer Service Department at 1-800-565-7292.

Source Water Information

The Schuylkill River serves as the raw water supply for the Norristown system. Pennsylvania American Water operates a treatment facility, on the Schuylkill River at Norristown, capable of processing a maximum of 18 million gallons of water per day (MGD). Only about 0.03 percent of the total water was purchased from Aqua-Pennsylvania, and about 0.50 percent was purchased from North Wales Water Authority, which are not represented in this report. The water supply is distributed for residential, commercial, and industrial use.

Protecting Your Water Source

The Pennsylvania Department of Environmental Protection (PA DEP) and Pennsylvania American Water (PAW) performed an assessment for the drinking water sources for the Norristown system in April, 2002. An update to this assessment was completed in 2012 through PA DEP's Source Water Protection Technical Assistance Program. A copy of the completed Source Water Assessment may be obtained by calling PA DEP at (484) 250-5900 or via the DEP website by following the link below:

[Norristown Source Water Assessment Link](#)

We recognize that our best protection comes from customers, residents and businesses within our service area. That's why we've established a proactive public outreach program to help spread the word, including school education and community programs. Annual meetings are scheduled with stakeholders sharing our watershed with the focus on protecting our natural water supplies. Pennsylvania American Water encourages you to take an active part in protecting your water supply by participating in activities as they occur in your local area. If you are interested in learning more about Source Water Protection for your area, please contact the Water Quality Supervisor, Maile Fordham, at 610-334-2822.

Here are a few ideas about how you can help:

Don't Dump: Please be aware, anything you put on the ground, down the drain in your home or into a storm sewer can make its way directly into waterways that may be a source for public water systems. Contact the Montgomery County recycling program at (610) 278-3618 to find out how to properly dispose of household hazardous wastes, including unused prescription medicine.

Care for Your Car: Clean up oil spots left on driveways and parking lots by using cat litter or another absorbent material to soak up the spill and prevent polluting the environment. Sweep up the cat litter and put it in a sealed bag in the trash for disposal



Other Water Quality Parameters of Interest

How hard is your water?

Hardness is a measure of the concentration of two minerals naturally present in water – calcium and magnesium. High hardness levels cause soap not to foam as easily as it would at lower levels. Historically hardness levels range from 90 ppm to 264 ppm, or 5 to 15 grains per gallon of water.

How much sodium is in your water?

The sodium level in the distribution system is approximately 31 ppm.

What is the pH (acidity) range of your water?

Water in the distribution system averages 7.47 pH units. A pH of 7.0 is considered neutral, neither acidic nor basic.

Is there fluoride in your water?

Pennsylvania American Water does not add fluoride to your water supply.

Is there lead in your water?

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. Pennsylvania American Water 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 or at:

[U.S. Environmental Protection Agency Web Page on Lead](#)

Pennsylvania American Water is currently updating our customer records to identify homes with lead service lines. If you have a lead service line or suspect you have a lead service line, please contact Maile Fordham at 610-292-3586 to schedule a free evaluation of your service line.

Partnership for Safe Drinking Water Program

Phase IV Presidents Award

In 2015, the Norristown Plant was awarded the prestigious Presidents Award under the Partnership for Safe Water program. This award has more stringent performance requirements and recognizes treatment plants that achieve the Partnership's rigorous individual filter effluent turbidity standards and are working to full optimization.

Fifteen Year Director's Award



In 2001, the Norristown System was awarded the prestigious Director's Award – Treatment under the Partnership for Safe Drinking Water Program. The program is administered by the U.S. Environmental Protection Agency, the Pennsylvania Department of Environmental Protection, and other water related organizations. The award honors utilities for achieving operational excellence by voluntarily optimizing their treatment facility operations and adopting more stringent performance goals that those required by federal and state drinking water standards.

How to Contact Us

Additional copies of this report can be printed directly from this site (<http://www.amwater.com/ccr/norristown.pdf>)

Questions can be presented to our Customer Service Department at 1-800-565-7292. Added information can be gathered by viewing the following links on the Internet:

[Pennsylvania American Water Web Page](#)

[Pa. Department of Environmental Protection Web Page](#)

[United States Environmental Protection Agency Web Page](#)



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Safe Drinking Water Hotline: (800) 426-4791

[Center for Disease Control and Prevention Web Page](#)

[American Water Works Association Web Page](#)

Substances Expected to be in Drinking Water

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. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Pennsylvania American Water's treatment processes are designed to reduce any such substances to levels well below any health concern and the processes are controlled to provide maximum protection against microbial and viral pathogens which could be naturally present in surface and groundwater. 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 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 may 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 EPA's Safe Drinking Water Hotline at (800) 426-4791.

The source of drinking water (both tap water and bottled water) includes 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, 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 may 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 may also come from gas stations, urban storm water runoff, and septic systems.

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the US. Although Cryptosporidium can be removed through commonly-used filtration methods, U.S. EPA issued a rule in 2006 that requires water systems with higher Cryptosporidium levels in their source water to provide additional treatment and to periodically sample the source water to ascertain current Cryptosporidium levels. The Norristown System monitored for Cryptosporidium in its source water in 2005 and 2006, and sample results did not show a need to provide additional treatment at our plant. A second round of Cryptosporidium sampling began in 2015 and was completed in 2017. The average level of Cryptosporidium found in the source water for the Norristown System was 0.110 oocysts, indicating a slight change in the characteristics of the source water since 2006. However, results between 0.075 oocysts/L and 1.0 oocysts/L require plants to increase the level of treatment for Cryptosporidium. PAWC will be making upgrades to the disinfection system at our Norristown treatment plant to address the increase in Cryptosporidium in our source water and to meet regulatory requirements.

Chloramine Disinfection

Monochloramine is a PA DEP and EPA approved alternative disinfectant to free chlorine for water disinfection. Monochloramine minimizes the formation of regulated disinfection by-products and improves the taste and odor of your



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water. The Norristown water system has successfully used monochloramine treatment in its facility for over 20 years. There are two groups of people who need to take special care with chloraminated water: kidney dialysis patients and fish owners. Monochloramine, like chlorine, must be removed from water used in the kidney dialysis process and from water that is used in fish tanks or ponds. Please consult with your physician on any health-related questions or local pet store on recommended disinfectant removal products.

How to Read This Table

Starting with a **Substance**, read across. **Year Sampled** is usually in 2017 or year prior. **MCL** shows the highest level of substance (contaminant) allowed. **MCLG** is the goal level for that substance (goal may be set lower than what is allowed). **Highest Amount Detected** represents the measured amount (less is better). **Range** tells the highest and lowest amounts measured. A **Yes** under **Compliance Achieved** means the amount of the substance met government requirements. **Typical Source** tells where the substance usually originates.

Non-regulated substances are measured, but maximum allowed contaminant levels have not been established by the government. These contaminants are shown for your information.

Definitions of Terms Used in This Report

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

Minimum Residual Disinfectant Level: The minimum level of residual disinfectant required at the entry point to the distribution system.

MRDL (Maximum Residual Disinfectant Level): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): 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 contamination.

NA: Not applicable

ND: Not detected

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of the water.

pCi/L (picocuries per liter): Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).

ppm (parts per million): One part substance per million parts water, or milligrams per liter.

ppb (parts per billion): One part substance per billion parts water, or micrograms per liter.

SS: Single sample

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

%: means percent.

90th Percentile: The highest concentration of lead or copper in tap water that is exceeded by 10 percent of the sites sampled during a monitoring period. This value is compared to the lead and copper action level (AL) to determine whether an AL has been exceeded.

Water Quality Statement

We are pleased to report that during calendar year 2017, the water delivered to your home or business complied with all state and federal drinking water requirements. For your information, we have compiled a list in the table below showing what substances were detected in your drinking water during 2017. The Pennsylvania DEP allows us to monitor for some contaminants less than once per year because the concentration of the contaminants does not change frequently. Some of our data, though representative, are more than one year old. Although all of the substances listed below are under the



Maximum Contaminant Levels (MCL) set by the U.S. Environmental Protection Agency and the Pennsylvania DEP, we feel it is important that you know exactly what was detected and how much of each substance was present in the water.

Water Quality Results

Turbidity – A Measure of the Clarity of the Water at the Norristown Treatment Facility

Plant	Substance (units)	Year Sampled	MCL	MCLG	Highest Single Measurement	Compliance Achieved	Typical Source
Norristown	Turbidity (NTU) ¹	2017	TT	NA	0.82 ²	Yes	Soil runoff

¹Turbidity is a measure of the cloudiness of the water.

²On October 30, 2017, the Norristown Water Treatment Plant experienced a pre-treatment issue that caused turbidity to spike over 0.3 NTU. The cause of the turbidity event was due to increased organic loading in the source water, compounded by a rain event on October 29.

Total Organic Carbon Removal - Measured at Norristown Treatment Facility

Substance (units)	Year Sampled	TT	Range of Percent Removal Required	Range of Percent Removal Achieved ³	Compliance Achieved	Typical Source
Total Organic Carbon (TOC) (% removal)	2017	Meet EPA Removal Requirements	25	41-44	Yes	Naturally present in the environment

³Adequate removal of TOC may be necessary to control the unwanted formation of chlorinated by-products. Naturally occurring organic matter present in the source water can react with the disinfectants used at the treatment facility to form these by-products.

Entry Point Disinfectant Residual - Measured on the Water Leaving Norristown Treatment Facility

Substance (units)	Year Sampled	Minimum Disinfectant Residual Required By DEP	Lowest Level Detected	Range Low - High	Compliance Achieved	Typical Source
Total Chlorine (ppm)	2017	0.2	1.04	1.04 - 2.86	Yes	Water additive used to control microbes

Regulated Substances - Measured on the Water Leaving the Norristown Treatment Facility

Substance (units)	Year Sampled	MCL	MCLG	Highest Amount Detected	Range Low - High	Compliance Achieved	Typical Source
Atrazine (ppb)	2017	3	3	0.1	0 – 0.1	Yes	Runoff from herbicide used on row crops
Nitrate (ppm)	2017	10	10	2.82	SS	Yes	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Disinfectant Residual - Measured in the Distribution System

Substance (units)	Year Sampled	MRDL	MRDLG	Highest Amount	Range Low - High	Compliance Achieved	Typical Source
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				Detected			
Total Chlorine (ppm)	2017	4	4	2.05	1.25 – 2.05	Yes	Added as a disinfectant to the treatment process

Bacteria Test Results - Measured in the Distribution System

Substance (units)	Year Sampled	MCL	MCLG	Highest Percentage Detected per Month	Compliance Achieved	Typical Source
Total Coliform (% of positive samples)	2017	No more than 5.0% of the monthly samples can be positive	Zero bacteria	3	Yes	Naturally present in the environment
<i>E. coli</i>	2017	0	0	1 ⁴	Yes	Human and animal fecal waste

⁴In December 2017, an *E. coli*-positive sample was detected in the distribution system. The location was resampled within 24 hours, along with additional nearby sites. All samples tested negative for bacteria. As a result, we were not in violation of the *E. coli* MCL.

Tap Water Samples: Lead and Copper Results - Measured in the Distribution System

Substance (units)	Year Sampled	Action Level	MCL G	Number of Samples Taken	90th Percentile	Number of Samples Above Action Level	Compliance Achieved	Typical Source
Lead (ppb)	2016	15	0	55	2	1	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	2016	1.3	1.3	55	0.3	1	Yes	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Other Regulated Compounds - Measured in the Distribution System

Substance (units)	Year Sampled	MCL	MCLG	Results ⁵	Range Low – High ⁶	Compliance Achieved	Typical Source
Total Trihalomethanes (ppb)	2017	80	NA	71	25 - 113	Yes	By-product of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	2017	60	NA	33.8	11 – 67	Yes	By-product of drinking water chlorination

⁵ Highest annual running average for individual sample points

⁶ Range represents sampling at individual sample points.



Unregulated Compounds - Measured on the Water Leaving the Norristown Treatment Facility

Substance (units)	Year Sampled	Average	MCL/MCLG	Range Low – High	Typical Source
Total Perfluorinated Compounds (ppt)	2017	6.2	Not regulated	6.0 – 6.5	Manufactured compounds used to make products resistant to staining, grease and water such as cookware, carpeting, clothing and food packaging. Can also be found in firefighting materials.

