



2015 Annual Water Quality Report

New Castle
PWS ID: PA6370034



Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information on 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 share some very good news about the quality of your drinking water. As you read through our Annual Water Quality Report based on testing results between January and December 2015, you will see that we continue to supply water that meets or surpasses all state and federal water quality standards. **Better yet, the price you pay for this high-quality water service remains about one penny per gallon.**

This is an exceptional value when you consider the science, expertise, equipment and technology that go into bringing water from the source and treating it, plus the miles and miles of pipe to deliver clean water to your tap. What's more, our plant operators, water quality experts, engineers and maintenance crews work around the clock to make sure that quality water is

always there when you need it.

Delivering reliable, high-quality water service also requires significant investment to maintain and upgrade aging infrastructure. **In 2015 alone, we invested approximately \$270 million in system improvements across the commonwealth.**

Water is essential for public health, fire protection, economic development and our overall quality of life. This is a responsibility that Pennsylvania American Water employees take very seriously to ensure that quality water keeps flowing not only today but well into the future. Please take the time to review this report with its details about the source and quality of your drinking water. We hope you agree that your water service is worth every penny.

Sincerely,

Kathy L. Pape
President, Pennsylvania American Water



WE CARE ABOUT WATER. IT'S WHAT WE DO.®

Our Mark of Excellence

American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. Marking its 130th anniversary this year, the company employs 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found by visiting www.amwater.com.

Pennsylvania American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 2.3 million people.

We are once again proud to present our annual water quality report. This edition covers all testing completed from January through December 2015. 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 are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. To that end, 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 Shenango River is the sole source of supply for the New Castle service area. Pennsylvania American Water maintains a treatment facility on the Shenango River capable of processing a maximum of 8.4 million gallons of water per day (MGD). The water supply is distributed for residential, commercial, and industrial use.

Protecting Your Water Source

A Source Water Protection Plan (SWPP) was published in April 2012 for the New Castle system. Our water source is considered to be most vulnerable to activities related to NPDES discharges, industrial facilities, stormwater runoff, auto repair facilities, and on-lot waste disposal areas. The steering committee met during 2015 to discuss activities associated with protecting our source. A copy of the completed Source Water Assessment may be obtained by calling the local office of the Pennsylvania DEP at (724) 656-3160. Pennsylvania American Water encourages you to take an active part in protecting your water supply by participating in local activities as they occur in your area.

Other Water Quality Parameters of Interest

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 <http://epa.gov/lead>.



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Does your water contain nitrates?

PAW's normal range of nitrate levels is below the MCL of 10 ppm. Nitrate enters the water supply from fertilizers used on farms and natural erosion of deposits in the watershed. Levels above 10 ppm are a health risk for infants under six months of age and can cause blue baby syndrome. Check with your physician if you have questions.

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. Hardness levels range from 74 ppm to 166 ppm, or approximately 4 to 10 grains per gallon of water.

How much sodium is in your water?

The sodium level is approximately 21 ppm.

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

Water in the distribution system averages 7.1 pH units. A pH of 7.0 is considered neutral, neither acidic nor basic.

Is there fluoride in your water?

PAW adds fluoride to a level of approximately 0.7 ppm to assist in the prevention of dental cavities.

Partnership for Safe Drinking Water Program



In 2010, the New Castle 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 water utilities for achieving operational excellence by voluntarily optimizing their treatment facility operations and adopting more stringent performance goals than those required by federal and state drinking water standards. We are proud to report that the New Castle system has met the voluntary goals of the program for 15 continuous years.

How to Contact Us

Additional copies of this report can be printed directly from this site (www.amwater.com/ccr/newcastle.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](#)

Safe Drinking Water Hotline: 1-800-426-4791

[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 and DEP prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The FDA and DEP 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 EPA's Safe Drinking Water Hotline.

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.

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 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 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 stormwater runoff, and septic systems.

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

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly-used filtration methods cannot guarantee 100 percent removal. If the organism was detected, current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. The New Castle system is scheduled to begin a second round of sampling for *Cryptosporidium* beginning October 2016.

How to Read This Table

Starting with a **Substance**, read across. **Year Sampled** is usually in 2015, 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.

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



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.

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.

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.

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. The value is compared to the lead and copper action level (AL) to determine whether an AL has been exceeded.

%: means percent

Water Quality Statement

We are pleased to report that during the past year, 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 2015. 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 Treatment Facility

Plant	Substance (units)	Year Sampled	MCLG	MCL	Highest Single Measurement	Compliance Achieved	Typical Source
New Castle Plant	Turbidity (NTU) ¹	2015	NA	TT	0.12	Yes	Soil runoff

¹ All turbidity readings were below the treatment technique requirement of 0.3 NTU in 95% of all samples taken for compliance on a monthly basis.



Regulated Substances - Measured on the Water Leaving the Treatment Facility

Substance (units)	Year Sampled	MCLG	MCL	Highest Amount Detected	Range Low-High	Compliance Achieved	Typical Source
Fluoride (ppm)	2015	2	2	0.9	0.5 – 0.9	Yes	Water additive which promotes strong teeth
Nitrate (ppm)	2015	10	10	0.86	SS	Yes	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Chromium (ppb)	2015	100	100	0.3	ND – 0.3	Yes	Discharge from steel and pulp mills; erosion of natural deposits.

Disinfectant Residual - Measured on the Water Leaving the Treatment Facility

Substance (units)	Minimum Disinfectant Residual Required by DEP	Lowest Amount Detected	Range Low-High	Sample Date	Compliance Achieved	Typical Source
Chlorine (ppm)	0.2	0.93	0.93 – 2.5	2015	Yes	Water additive to control microbes

Total Organic Carbon Removal - Measured Within the Treatment Facility

Substance (units)	Year Sampled	TT	Range of Percent Removal Required	Range of Percent Removal Achieved	Compliance Achieved	Typical Source
Total Organic Carbon (TOC) (% removal) ²	2015	Meet EPA Removal Requirements	25 - 35	44 - 82	Yes	Naturally present in the environment

² Adequate 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.

Bacterial Results - Measured in the Distribution System

Substance	Year Sampled	MCLG	MCL	Highest Percentage of Positive Samples Per Month	Compliance Achieved	Typical Source
Total Coliform Bacteria	2015	Zero bacteria	No more than 5% of the monthly samples can be positive	3.33	Yes	Naturally present in the environment

Disinfectant Levels - Measured in the Distribution System

Substance (units)	Year Sampled	MRDLG	MRDL	Highest Amount Detected	Range Low - High	Compliance Achieved	Typical Source
Total Chlorine Residual (ppm)	2015	4	4	1.8	1.4 – 1.8	Yes	Added as a disinfectant to the treatment process to control microbes



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

Substance (units)	Year Sampled	Action Level	MCLG	Number of Samples	90th Percentile	Number of Samples Above Action Level	Typical Source
Lead (ppb)	2013	15	0	30	2	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	2013	1.3	1.3	30	0.18	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Other Compounds - Measured in the Distribution System

Substance (units)	Year Sampled	MCLG	MCL	Average Results ³	Range Low - High ⁴	Compliance Achieved	Typical Source
Total Trihalomethanes (TTHM) (ppb)	2015	NA	80	34	25 – 51	Yes	By-product of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	2015	NA	60	10	2 - 18	Yes	By-product of drinking water disinfection

³ Highest running annual average for individual sampling points.

⁴ Range represents sampling at individual sample points.

Notice of Unregulated Contaminant Monitoring Completed - UCMR3

Our water system completed monitoring for several unregulated contaminants in 2015. Unregulated contaminants are those that do not yet have a drinking water standard set by the EPA. The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should be regulated. As our customer, you have a right to know that this data is available. If you are interested in examining the results, please contact Kristy Donaldson, Water Quality Supervisor, at (724) 652-4684 x 3. The table below details the unregulated contaminants that were detected in the water system.

Other Non-Regulated Substances – Measured on the Water Leaving the Treatment Facility

Substance (units)	Year Sampled	MCL/MCLG	Average Amount Detected	Range Low – High	Typical Source
Chromium 6 or Hexavalent Chromium (ppb)	2015	Not Regulated	0.11	0.08 – 0.12	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation.
Strontium (ppb)	2015	Not Regulated	87	72 – 97	Naturally-occurring element: historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Molybdenum (ppb)	2015	Not Regulated	1	ND - 1	Naturally-occurring element found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide used as a chemical reagent.



Chlorate (ppb)	2015	Not Regulated	23	ND - 23	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide.
1,4-Dioxane (ppb)	2015	Not Regulated	0.11	ND – 0.11	Used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos.
Bromochloromethane (ppb)	2015	Not Regulated	0.06	ND – 0.06	Used as a fire-extinguishing fluid, an explosive suppressant, and as a solvent in the manufacturing of pesticides.

Other Non-Regulated Substances - Measured on the Water in the Distribution System

Substance (units)	Year Sampled	MCL/MCLG	Average Amount Detected	Range Low - High	Typical Source
Chromium 6 or Hexavalent Chromium (ppb)	2015	Not Regulated	0.19	0.09 – 0.24	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation.
Strontium (ppb)	2015	Not Regulated	94	80 – 112	Naturally-occurring element: historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Vanadium (ppb)	2015	Not Regulated	0.15	ND – 0.3	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.

Chloramine

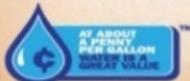
Chloramine is a PA DEP and federally-approved alternative to free chlorine for water disinfection. Chloramine minimizes the formation of disinfection by-products. Another benefit of the use of chloramine is improved taste of the water as compared with free chlorine. Beginning in December 2014, New Castle successfully implemented the use of chloramine in its system supplied by our treatment facility. Chloramine is also used by many other water utilities nationally. Chloramine has the same effect as chlorine for typical water uses. Chloramine, similarly to water treated with free chlorine, must be removed from water used in kidney dialysis and fish tanks or aquariums. Treatments to remove chloramine are different than treatments for removing chlorine. Please contact your physician or dialysis specialist for questions pertaining to kidney dialysis water treatment. Contact your pet store or veterinarian for questions regarding water used for fish and other aquatic life.





**There's a lot more
to your water bill
than just water.**

When you turn on the tap, it's easy to see what your water bill buys. What's not as easy to see is what it takes to bring that water to your home. The miles of pipeline hidden below the ground. The facilities that draw water from the source. The plant where it's treated and tested. The scientists, engineers, and maintenance crews working around the clock to make sure that water is always there when you need it. Your water payments are helping to build a better tomorrow by supporting needed improvements that will keep water flowing for all of us—today and well into the future. All for about a penny a gallon.



**WE CARE ABOUT WATER. IT'S WHAT WE DO.
FIND OUT WHY YOU SHOULD, TOO, at amwater.com.**

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