2015 Annual Water Quality Report

Hershey
PWS ID: PA7220017

PENNSYLVANIA AMERICAN WATER

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo tradúzca 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 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, President American Water

AT ABOUT A PENNY PER GALLON WATER IS A GREAT VALUE™

Our Mark of Excellence

Founded in 1886, American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs approximately 6,400 dedicated professionals who provide drinking water, wastewater and other related services to an estimated 14 million people in more than 45 states and parts of Canada. More information can be found by visiting www.amwater.com.

Pennsylvania American Water, a subsidiary of American Water (NYSE: AWK), is the largest water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 2.1 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 Swatara and Manada Creeks are the sources of supply for the Hershey service area. Pennsylvania American Water maintains a treatment facility that is capable of processing a maximum of 11 million gallons of water per day (MGD). In addition, we maintain an interconnection with the Lebanon City water system in Annville. We typically purchase approximately 1% of our daily needs from Lebanon City. This assures an adequate supply of water in the event of a fire in that area.

The water supply is distributed for residential, commercial, and industrial use.

Protecting Your Water Source

The Pennsylvania Department of Environmental Protection (DEP) and Pennsylvania American Water completed an assessment for the drinking water sources for the Hershey System in 2011. The water sources are considered most vulnerable to urban runoff and agricultural activities. Annual meetings are scheduled with stakeholders sharing our watershed with the focus on protecting our natural water supplies.

A copy of the completed Source Water Assessment may be obtained by following the link below or by calling the Pennsylvania DEP at (717) 705-4732. 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, Justin Brame, at 717-533-5627 extension 2.

Hershey System Source Water Assessment

Other Water Quality Parameters of Interest

Is there lead in your water?

Although we regularly test lead levels in your drinking water, it is possible that lead and/or copper levels at your home are higher because of materials used in your plumbing. If you are concerned about elevated levels, run your faucet for 30 seconds to 2 minutes before using your water; use cold water for cooking, drinking, or making baby formula; use low lead containing faucets; and when replacing or working on pipes, use lead-free solder. Lead-based solders are illegal in Pennsylvania. Pennsylvania American Water remains in full compliance with all of the requirements dealing with lead in drinking water.

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 66 ppm to 216 ppm, or 4 to 13 grains per gallon of water.

How much sodium is in your water?
The sodium level is approximately 27 ppm.

What is the pH (acidity) range of your water?
Water in the distribution system averages 7.7 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. Lebanon City adds fluoride to maintain a level near 0.7 ppm. A small portion of Lebanon City water enters the Hershey system.

Partnership for Safe Drinking Water Program

The Hershey System became the 4th Pennsylvania American Water System to receive the prestigious Presidential Award in recognition of its exceptional treatment under the Partnership for Safe Drinking Water Program. The Systems also maintained the Directors award for the 17th consecutive year. This 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. We are proud to report that the Hershey System has met and exceeded the voluntary goals of the program.

How to Contact Us

Additional copies of this report can be printed directly from this site (www.amwater.com/ccr/hershey.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

U.S. Environmental Protection Agency Web Page

Center for Disease Control and Prevention

American Water Works Association Web Page

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

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
1-800-426-4791.

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 1-800-426-4791.

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 also may 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 systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. The Hershey system monitored for *Cryptosporidium* in its raw source water in 2007 and sample results do not show a need to provide additional treatment. We began the second round of Cryptosporidium sampling in the 4th quarter of 2015. We will continue to monitor the source water in 2016 to confirm these results.

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 for advice from your health care provider.

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. 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

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). **Amount Detected** represents the measured amount (less is better). **Range** shows the highest and lowest amounts measured. A **Yes** under **Compliance Achieved** means the amount of the substance met government requirements. **Typical Source** shows where the substance usually originates.

Unregulated 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.

• **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 levels (AL) to determine whether an AL has been exceeded.

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, is more than one year old. Although all of the substances listed below are under the Maximum Contaminant Levels (MCL) set by 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 Clarity of the Water at the Treatment Facility

Plant	Substance (units)	Year Sampled	MCL	MCLG	Highest Single Measurement	Compliance Achieved	Typical Source
Hershey	Turbidity (NTU) [1]	2015	TT	NA	0.06	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	MCL	MCLG	Highest Amount Detected	Range Low - High	Compliance Achieved	Typical Source
Nitrate (ppm)	2015	10	10	3.4	0.5 – 3.4	Yes	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Atrazine (ppb)	2015	3	3	0.0001	ND – 0.0001	Yes	Runoff from herbicide used on row crops.

Entry Point Disinfection Residual - Measured on Water Leaving the Treatment Facility

Substance (units)	Year Sampled	Minimum Disinfectant Residual Level Required by DEP	Lowest Amount Detected	Range Low - High	Compliance Achieved	Typical Source
Chlorine (ppm)	2015	0.2	1.0	1.0 – 3.0	Yes	Water additive used to control microbes

Total Organic Carbon Removal - Measured in 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	15 - 25	29 - 39	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	MCL	MCLG	Highest Percentage Detected per Month	Compliance Achieved	Typical Source
Total Coliform Bacteria	2015	No more than 5.0% of the monthly samples tested can be positive	Zero Bacteria	1.9	Yes	Naturally present in the environment

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

Substance (units)	Year Sampled	Action Level	MCLG	Number of Samples Taken	90th Percentile	Number of Samples Above Action Level	Compliance Achieved	Typical Source
Lead (ppb)	2013	15	0	30	5	1	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	2013	1.3	1.3	30	0.15	0	Yes	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Other Compounds - Measured in the Distribution System

Substance (units)	Year Sampled	MCL	MCLG	Average Results	Range [4] Low - High	Compliance Achieved	Typical Source
Total Trihalomethanes (ppb) [3]	2015	80	NA	35	19 – 56	Yes	By-product of drinking water chlorination
Haloacetic Acids (HAA5) (ppb) [3]	2015	60	NA	19	8 – 24	Yes	By-product of drinking water disinfection

[3] Highest localized running annual average for individual sample points
[4] Range represents sampling at individual sample points

Disinfectant Residual - Measured in the Distribution System

Substance (units)	Year Sampled	MRDL	MRDLG	Highest Result	Range Low - High	Compliance Achieved	Typical Source
Chlorine (ppm)	2015	4	4	2.6	1.0 – 2.6	Yes	Water additive used to control microbes

Notice of unregulated contaminant monitoring completed

Our water system completed monitoring for several unregulated contaminants. 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 customers, you have a right to know that these data are available. The table included below details unregulated contaminants that were detected in this water system. If you are interested in discussing these results, please contact Water Quality Supervisor Justin Brame at 717-533-5627.

Unregulated Substances – Measured on Water Leaving the Treatment Facility and in the Distribution System

Substance (units)	Year Sampled	MCL / MCLG	Sample Location	Average Amount Detected	Range Low - High	Use or Environmental Source
Chlorate (ppb)	2014	Not Regulated	Treatment Facility	126	ND – 190	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
			Distribution System	102	68 – 170	
Chromium 6 or Hexavalent Chromium (ppb)	2014	Not Regulated	Treatment Facility	0.15	0.05 – 0.43	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
			Distribution System	0.25	0.12 – 0.46	
Strontium (ppb)	2014	Not Regulated	Treatment Facility	79	26 – 132	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
			Distribution System	115	87 – 140	
Vanadium (ppb)	2014	Not Regulated	Treatment Facility	2.65	2.5 – 2.8	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst

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.

AT ABOUT A PENNY PER GALLON WATER IS A GREAT VALUE™

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

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