

2011 Annual Water Quality Report



Brownsville
PWS ID: PA5260005

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

A Message from the Pennsylvania American Water President

To Our Valued Customer:

Pennsylvania American Water is proud to be your local water service provider, and I am pleased to share with you good news about the quality of your drinking water. Each year, we provide you with our Annual Water Quality Report – and like so many years prior – you’ll find that we continue to supply water that meets or surpasses all state and federal water quality regulations.

This doesn’t happen by chance. It requires having the right team of experts and technologies in place. Delivering high-quality, reliable water service to your tap around the clock also requires significant investment in our water infrastructure. In 2011 alone, we invested approximately \$282 million in water system improvements, including upgrading treatment facilities and replacing aging water lines that serve your community.

And, because we prudently invest our dollars, *the cost of your tap water is about one penny per gallon*—an exceptional value for a service that is so essential to our daily lives.

Please take the time to review this report. It provides details about the source and quality of your drinking water using the data from water quality testing conducted from January through December 2011. For an electronic copy of this report, visit us online at www.pennsylvaniaamwater.com.

At Pennsylvania American Water, our customers are our top priority, and we are committed to providing you with the highest quality drinking water and service possible now and in the years to come.

Sincerely,

Kathy L. Pape
President, Pennsylvania American Water

About American Water

Pennsylvania American Water, a wholly owned 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 2.2 million people.

Founded in 1886, American Water is the largest investor-owned U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs approximately 7,000 dedicated professionals who provide drinking water, wastewater and other related services to approximately 15 million people in more than 30 states, as well as parts of Canada. More information can be found by visiting www.amwater.com

Our Mark of Excellence

We are once again proud to present our annual water quality report. This edition covers all testing completed from January through December 2011. 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 change, it is our commitment to you to incorporate these changes system-wide 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 need 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 800-565-7292.

Source Water Information

The Monongahela River is the sole source of supply for the Brownsville service area. Pennsylvania American Water maintains treatment facilities on the Monongahela River capable of processing a maximum of 3.1 million gallons of water per day (MGD). The water supply is distributed for residential, commercial, and industrial use.

Protecting Your Water Source

The Pennsylvania Department of Environmental Protection (DEP) and PAW has completed an assessment for the drinking water sources for the Brownsville System. No man-made contaminants have been detected in the surface water supply. The water sources are considered most vulnerable to the following activities (although not associated with any detected chemicals): transportation corridors, boating, barge traffic, salt storage, auto repair, utility substations, power plants, combined sewer outfalls, and run-off from non-point sources such as residential developments, farms and abandoned mines.

A copy of the completed Source Water Assessment may be viewed by calling the local office of the Pennsylvania DEP at 412-442-4000. PAW encourages you to take an active part in protecting your water supply by participating in local activities as they occur in your local 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://www.epa.gov/safewater/lead>.

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 55 ppm to 186 ppm, or 3.2 to 10.9 grains per gallon of water.

How much sodium is in your water?

The sodium level from water leaving the treatment plant in July of 2011 was 72.7 mg/L.

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

Water in the distribution system averages 7.5 pH units. A pH of 7.0 is considered neutral, neither acidic nor basic.

Is there fluoride in your water?

PAW does not add fluoride to the water in the Brownsville system.

SOC (Synthetic Organic Compounds)?

A group of Synthetic Organic Compounds (SOC) were collected quarterly in 2011 at the Brownsville water system entry point in compliance with PADEP regulation. There were no detects on any of these quarterly samples. This group includes both regulated pesticides and herbicides.

ABOUT A PENNY

Did you know that you pay about a penny for a gallon of tap water?

We invest millions of dollars each year in our treatment and distribution facilities to ensure that you receive quality, reliable water service around the clock. At the same time, you pay about a penny per gallon. For most customers, the water bill is the lowest utility bill they pay each month.

That's an exceptional value.

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

Partnership for Safe Drinking Water Program

In 2000, the Brownsville Water Treatment Plant was awarded the prestigious Director's Award under the Partnership for Safe Water program, which is administered by the U.S. EPA, 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 our employees have maintained those standards every year through 2011. Statewide, there are currently only 32 water treatment facilities that have achieved this national award for 10 years or greater, 27 of which, or 84%, are Pennsylvania American Water treatment plants.



How to Contact Us

Additional copies of this report can be obtained by calling our Customer Service Department at 1-800-565-7292. Electronic copies of this document can be obtained by visiting our website, www.pennsylvaniaamwater.com, selecting the 'Ensuring Water Quality' tab, then selecting 'Water Quality Reports' and choosing the report for your service area. Additional information can be gathered by calling our Customer Service Department or by viewing the following information on the Internet:

Pennsylvania American Water

www.pennsylvaniaamwater.com

Pennsylvania Department of Environmental Protection

www.dep.state.pa.us

United States Environmental Protection Agency

www.epa.gov/safewater

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

Centers for Disease Control and Prevention

www.cdc.gov

American Water Works Association

www.awwa.org

Substances Expected to be in Drinking Water

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations also 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 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 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 may also come from gas stations, urban stormwater 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 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.

Based on the results of our *Cryptosporidium* monitoring, no additional treatment will be required by the new US EPA regulation.

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 (800-426-4791).

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. Brownsville has successfully used chloramine in its system supplied by our treatment facility since March 2011. 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.

How to Read This Table

Starting with a **Substance**, read across. **Year Sampled** is usually in 2011 or year prior. **MCL** shows the highest level of each substance (contaminant) allowed. **MCLG** is the goal level for that substance (goal may be set lower than what is allowed). **Maximum 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.

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: No detection

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 or mg/L (parts per million): One part substance per million parts water, or milligrams per liter.

ppb or µg/L (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.

>: - means greater than.

<: - means less than.

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 2011. 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	MCL	MCLG	Highest Single Measurement	Compliance Achieved	Typical Source	
Brownsville Station	NTU	2011	TT	NA	0.14 ¹	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	Maximum Amount Detected	Range Low-High	Compliance Achieved	Typical Source	
Barium (ppm)	2011	2	2	0.029	NA	Yes	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Nitrate (ppm)	2011	10	10	0.42	NA	Yes	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
Chlorine Measured on Water Leaving the Treatment Plant								
Chlorine (ppm) ¹	Violation Y/N	MRDL	MRDLG	Minimum Disinfectant Residual	Range	Typical Source		
Brownsville Treatment Plant	N	4	4	0.2	0.6 to 1.3	Water additive used to control microbes		
¹ Monitored continuously at treatment plant and the lowest daily reading is reported to regulatory agency each month.								
Total Organic Carbon Removal								
Substance (units)	Year Sampled	TT	Percent Removal Required	Range of Percent Removal Achieved ¹	Compliance Achieved	Typical Source		
Total Organic Carbon (TOC) (% removal) ¹	2011	Meet EPA Removal Requirements	35	18 ¹ to 46	Yes	Naturally decaying vegetation		
¹ In months that the percent achieved was below required, there was no exceedance of the MCL because PAW met alternative compliance criteria as required by the PA Safe Drinking Water Act. 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. There are several compliance criteria that can be used to meet this requirement. The Brownsville plant met the treatment technique for TOC removal in 2011.								
Bacterial Results (from the Distribution System)								
Substance (units)	Year Sampled	MCL	MCLG	Highest Number of Positive Samples	Compliance Achieved	Typical Source		
Total Coliforms (number of positive samples)	2011	2 positive samples during the month	Zero bacteria	0	Yes	Naturally present in the environment		
Tap Water Samples: Lead and Copper Results								
Substance (units)	Year Sampled	Action Level	MCLG	Max ¹ Results	Number of Samples	90th Percentile	Number of Samples Above Action Level	Typical Source
Lead (ppb)	2010	15	0	7	32	1	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	2010	1.3	1.3	0.338	32	0.132	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
¹ Maximum result of required individual distribution samples collected.								
Other Compounds (Measured in the Distribution System)								
Substance (units)	Year Sampled	MCL/MRDL	MCLG/MRDLG	Results	Range Low-High	Compliance Achieved	Typical Source	
Uranium (µg/L)	2011	30	0	ND	SS	Yes	Erosion of natural deposits	
Gross Alpha (pCi/L)	2003	8	0	0.0	0.0	Yes	Decay of natural and man-made deposits	
Total Trihalomethanes (ppb)	2011	80	NA	66.2 ³	27.8 to 104.3 ¹	Yes	By-product of drinking water chlorination	
Haloacetic Acids (ppb)	2011	60	NA	27.0 ³	26.4 to 30.6 ¹	Yes	By-product of drinking water chlorination	
Total Chlorine Residual (ppm) ²	2011	4	4	1.70 ⁴	0.59 to 1.70	Yes	Added as a disinfectant to the treatment process	
¹ Range represents sampling at individual sample points. ² MRDL (maximum residual disinfectant level) applies. Routine samples were collected monthly with the results from all locations averaged each month. ³ Highest annual running average for individual sample points. ⁴ Highest monthly average for individual sample points.								
Other Compounds - Entry Point and Distribution System Data								
Substance (units)	Year Sampled	Average	Range (Low-High)	Comment				
Chromium 6 or Hexavalent Chrome (ppb)	2011	0.01	ND to 0.06	Chromium 6 is not currently regulated as an individual contaminant. PAW voluntarily performed monitoring based on recommendations from the Environmental Protection Agency.				