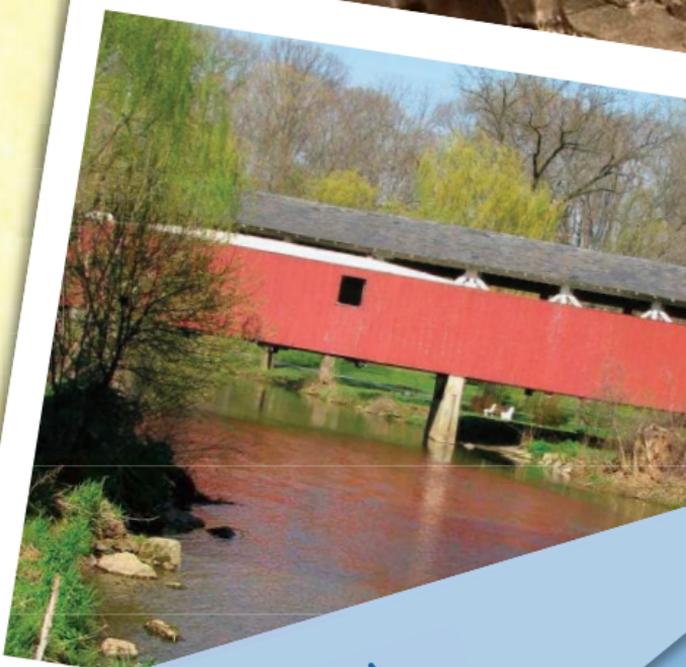
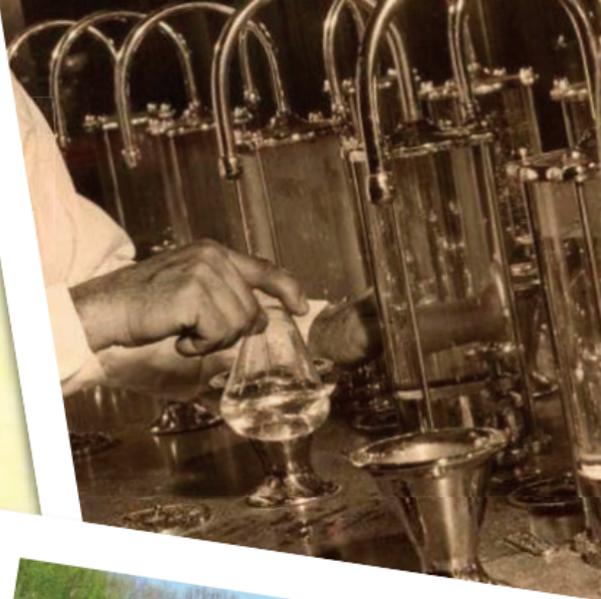


# Drinking Water Quality Report

2012



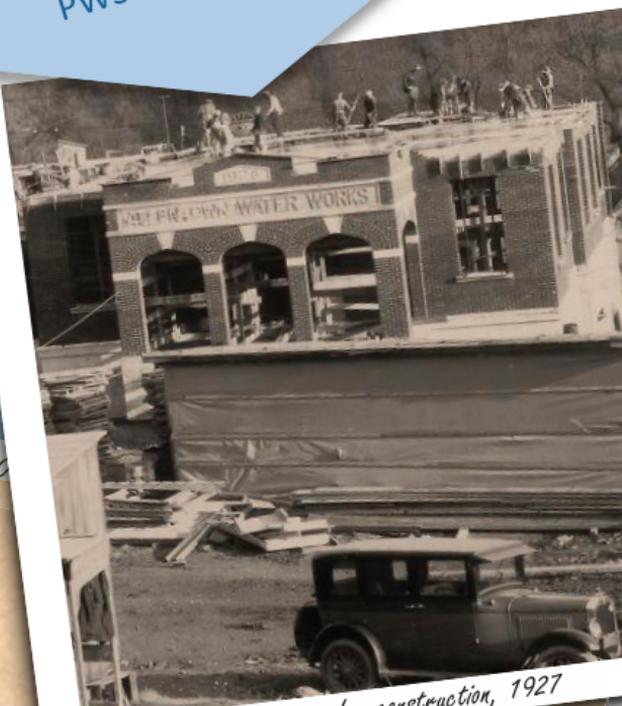
City of Allentown, PA  
Bureau of Water Resources  
PWSID #3390024

Dear Water

The Bu

please

Schreiber's Bridge, early 1900s



Water Filtration Plant, under construction, 1927

*Water Filtration Plant, 1928*



City of Allentown  
1300 MLK, Jr. Drive  
Allentown, PA 18102

*Dear Water Customer,*

The Bureau of Water Resources is pleased to present the 2012 Annual Drinking Water Quality Report. Included are details about where your water comes from, what it contains and how it compares to standards set by the Environmental Protection Agency (EPA) and the PA Department of Environmental Protection (DEP).

Distinguished by the DEP as one of the top performing water filtration facilities in the state, your water plant has received the prestigious Area Wide Optimization Award for the 5<sup>th</sup> year in a row. Our staff is committed to providing the city's residents and municipal customers with drinking water that is safe and of high quality.

State certified operators work around the clock to ensure that the plant is performing at maximum efficiency. Our laboratories are accredited by the PADEP under the Environmental Laboratory Accreditation Act. Your water is monitored constantly from the sources to your home. Once again, we are proud to report that our drinking water has met or exceeded all standards.

Sincerely,  
*The Staff*

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda.

## *Quality Begins at the Source*

The Water Filtration plant treats up to 30 million gallons per day from two surface water sources, the Little Lehigh Creek and Lehigh River, and two ground water sources, Schantz and Crystal Springs.

PADEP Source Water Assessments were conducted in 2004. Our water supply is considered to be at high risk from pollution which may potentially originate from commercial and industrial sources. The Lehigh River was found to be at moderate risk from pollution potentially contributed by roads, residential developments, run-off from strip mines, etc. The assessments are available upon request or can be viewed at <http://www.elibrary.dep.state.pa.us>.

Our lab and the RSVP group (Retired and Senior Volunteer Program) routinely monitor local streams in order to establish trend lines and identify potential problems.

In addition to routine testing of the watershed, Allentown had monitored the Lehigh River for the microbial pathogen, *Cryptosporidium*, between March 2009 and February 2011. Only two detects were present in 24 samples. Monitoring of the Little Lehigh Creek was conducted between 2004 through 2006. Two detects were present in 24 samples. Due to the low concentration of cysts in both sources, the DEP determined that no additional treatment was needed for effective removal.

*Cryptosporidium* must be ingested to cause disease, and it may be spread by means other than drinking water. Ingestion of *Cryptosporidium* may cause an abdominal infection with symptoms including nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take in order to avoid infection.

The City takes additional measures in order to eliminate pathogens and contaminants from your drinking water. A Source Water Protection Plan was developed in order to help protect 98 square miles of watershed. Our system has joined the DEP and American Water Works Association's Distribution Optimization Program. We are striving to provide high quality drinking water from the sources to your homes.

**THANK YOU**  
Our staff would like to thank our retired volunteers (RSVP) for dedicating over 15 years of service to protecting our watershed.

## *Educational Information*

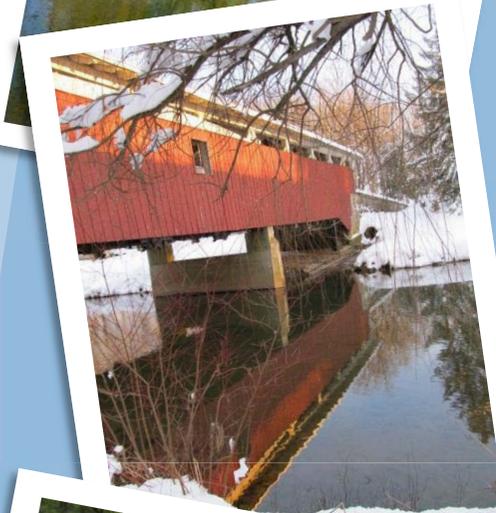
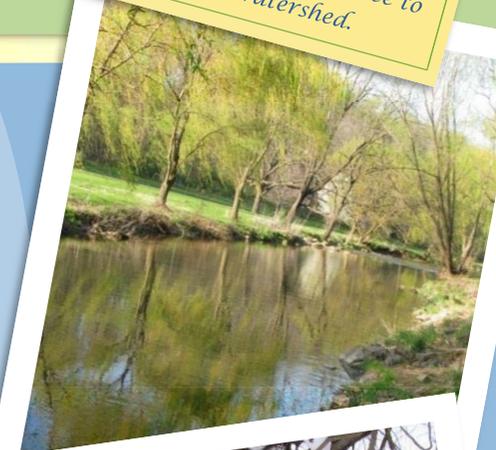
The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or 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 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 run-off and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to assure that tap water is safe to drink, EPA and DEP prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. FDA and DEP 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).



## Monitoring Your Water...

In order to protect public health, we are required to test for nearly 100 chemicals, called Primary contaminants, each year. Additionally, performance indicators, such as chlorine and turbidity, are measured continuously in order to ensure proper treatment at the plant. Some chemicals may be monitored for less than once per year because their concentrations do not change frequently. Unless noted, the following table shows the results of only those contaminants which were detected from January 1<sup>st</sup> – December 31<sup>st</sup>, 2012.

DETECTION SUMMARY OF PRIMARY CONTAMINANTS						
CONTAMINANT	MCLG	MCL	YOUR WATER	RANGE OF DETECTS	VIOLATION	POSSIBLE SOURCES
<b>ORGANIC &amp; INORGANIC CONTAMINANTS</b>						
Arsenic (ppb) (October 2011)	0	10	1.5	1.4 - 1.5	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.0351	0.0323 – 0.0351	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	100	100	3.7	NA (1 Detect)	No	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm)	2	2	0.622	0.369 – 0.662	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids (ppb)	NA	60	17.9	4.4 – 26.6	No	By-product of drinking water chlorination
Mercury (ppb)	2	2	0.189	0.154 – 0.189	No	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (ppm)	10	10	4.68	4.34 – 4.68	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (ppb)	50	50	3.4	3.0 – 3.4	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Tetrachloroethylene (ppb)	0	5	1.120	0.820 – 1.120	No	Discharge from factories and dry cleaners
Total Trihalomethanes (ppb)	NA	80	42.5	10.9 – 66.3	No	By-product of drinking water chlorination
<b>UNREGULATED CONTAMINANTS</b>						
Metachlor ethane sulfonic acid (ppb) (January 2009)	NA	NA	0.41	0.37 - 0.44	No	Acetanilide degradate. Monitoring required per EPA; state limits considered
<b>LEAD &amp; COPPER</b>						
	MCLG	AL	90th PERCENTILE	# SITES ABOVE AL	VIOLATION	POSSIBLE SOURCES
Lead (ppb) (June 2010)	0	1.5	8.8	1 out of 50	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm) (June 2010)	1.3	1.3	0.265	0 out of 50		Corrosion of household plumbing systems; erosion of natural deposits; Leaching from wood preservatives
<b>CHLORINE (ppm)</b>						
	MRDLG	MRDL	YOUR WATER	RANGE OF DETECTS	VIOLATION	SOURCE
Distribution System	4	4	0.78	0.04 – 1.64	No	Water additive used to control microbes
Entry Points	MinRDL = 0.40		Minimum 0.54	0.54 – 1.10		
<b>MICROBIOLOGICAL CONTAMINANTS</b>						
	MCLG	MCL	HIGHEST % OF POSITIVE SAMPLES IN ANY ONE MONTH		VIOLATION	POSSIBLE SOURCE
Total Coliform Bacteria	0	5% of monthly samples	<1%		No	Naturally present in the environment
<b>TURBIDITY (NTU)</b>						
	MCLG	MCL	YOUR WATER	VIOLATION	POSSIBLE SOURCES	
*Highest single reading (September 2012)	0	TT= 1 NTU for a single measurement TT= at least 95% of monthly samples ≤ 0.3 NTU	0.085* 100%	No	Soil runoff; used as an indicator of filter performance	

## Definition Key

**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.

**MinRDL (Minimum Residual Disinfectant Goal):** The minimum level of residual disinfectant required at the entry point to the distribution system.

**MRDL (Maximum Residual Disinfectant Level):** 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 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 contamination.

**NA (Not Applicable):** Results or information does not apply.

**NTU (Nephelometric Turbidity Unit):** A measure of water clarity.

**ppm, mg/L (Parts per million or milligrams per Liter):** One ppm or mg/L corresponds to one penny in \$10,000.

**ppb, µg/L (Parts per billion, or micrograms per Liter):** One ppb or µg/L corresponds to one penny in \$10,000,000.

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

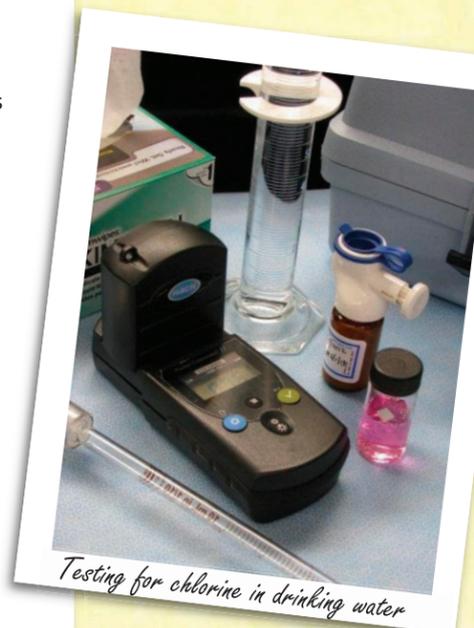
## AVERAGE RESULTS OF TYPICAL & SECONDARY CONTAMINANT ANALYSES

CONTAMINANT, UNITS	MCL	YOUR WATER
Alkalinity, ppm as CaCO <sub>3</sub>	>55	182
Aluminum, ppm	0.2	0.108
Chloride, ppm	250	67.1
Color, Color Units	15	0.5
Corrosivity, Langelier Index	Non-corrosive	0.242
Foaming Agents, ppm	0.5	Non-detect
Iron, ppm	0.3	0.00304
Manganese, ppm	0.05	0.000300
Odor, T.O.N	3	Non-detect
pH, SU	>7.2	7.73
Silver, ppm	0.1	0.000151
Sodium, ppm	NA	34.7
Sulfate, ppm	250	38.80
Total Dissolved Solids, ppm	500	397
Total Hardness, grains per gallon	NA	14.0
Zinc, ppm	5	0.0073

Secondary contaminants are associated with the aesthetic qualities of drinking water. You would be able to notice a change in color, smell or taste if a secondary contaminant MCL was exceeded.

## Lead from Home Plumbing

In June of 2010, water sampled from the homes of 50 residents was tested for the presence of lead and copper. Results met federal and state standards. 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. The City of Allentown 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>.



Testing for chlorine in drinking water

In 2012, the City's Laboratory Technicians conducted more than 27,500 tests on source, plant and distribution water samples. Over 100 samples per month are collected and analyzed from pipes throughout the city.

## *Special Health Concerns*

The presence of a contaminant does not necessarily mean that your drinking water poses a health threat. However, it is important to note that 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 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

## *We Value Your Opinion*

Please offer your suggestions at City Council meetings which are held at 7:30 p.m. on the first and third Wednesday of each month in the Council Chambers of City Hall. If a problem arises with your drinking water, we have implemented a notification system which will automatically dial your telephone number. You may register a cell or unlisted number by calling 1-866-484-3264. In order to sign up online or to obtain additional information about the Water Resources team and our efforts to serve you, visit <http://www.allentownpa.gov>. Please help us to protect our most valuable, natural resource by reporting any pollution activity evident in the watershed or storm sewer system. If you have any questions regarding this report, contact Angela DiBuo, Laboratories Manager, at 610-437-7682. Thank you.

## *Our Memberships*

PA Assoc. of Accredited Environmental Laboratories  
Water Works Operators' Association of Pennsylvania  
American Water Association Research Foundation  
Partnership for Safe Water  
Lehigh Valley Water Suppliers  
Water Environment Federation  
American Public Works Association  
American Water Works Association  
Pennsylvania Water Environmental Association