

Drinking Water Quality Report 2011

City of Allentown, PA



The Bureau of Water Resources

is pleased to present the 2011 Annual Drinking Water Quality Report. Included are details about where your water comes from and how it compares to federal and state standards. Our staff is committed to providing the city's residents and municipal customers with drinking water that is safe and of high quality. We achieve this goal by meeting or exceeding standards set by the Environmental Protection Agency (EPA) and the PA Department of Environmental Protection (DEP). Once again, we are proud to report that our system has met all standards. The Water Filtration Plant is staffed by state certified operators who work around the clock to ensure your safety. Our laboratories are accredited by the PADEP under the Environmental Laboratory Accreditation Act. Recognized for the 4th year in a row, the water plant has been awarded the prestigious Area Wide Optimization Award. Its processes are working at maximum efficiency. 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.

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

Drinking Water Sources

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 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 can be viewed at <http://www.elibrary.dep.state.pa.us> or are available upon request. 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.

Contaminant Monitoring

We routinely monitor for contaminants in your drinking water according to federal and state laws. The presence of a contaminant does not necessarily mean that your drinking water poses a health threat. 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).

Cryptosporidium

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.



Monitoring Your Water

The following tables show the results of our monitoring from January 1st – December 31st, 2011. The state allows us to monitor for some contaminants less than once per year because the concentrations of these chemicals do not change frequently. Data collected in prior years is noted on the tables.

DEFINITIONS

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 Level	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	Parts per million or milligrams per liter (mg/L)	One part per million corresponds to one penny in \$10,000.
ppb	Parts per billion or micrograms per liter (µg/L)	One part per billion corresponds to one penny in \$10,000,000.
TT	Treatment Technique	A required process intended to reduce the level of contamination in drinking water.

Table 1. Average Results of Typical and Secondary Contaminant Analyses of Water Plant Discharge

CONTAMINANT	UNITS	MCL	YOUR WATER	SOURCES
Alkalinity	ppm as CaCO ₃	> 55	168	These 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 standard MCL was exceeded.
Aluminum	ppm	0.2	0.073	
Chloride	ppm	250	69	
Color	Color Units	15	0.4	
Corrosivity	Langelier Index	Non-corrosive	0.17	
Iron	ppm	0.3	0.0008	
pH	SU	> 7.2	7.74	
Silver	ppm	0.1	0.0005	
Sodium	ppm		36	
Sulfate	ppm	250	40	
Total Dissolved Solids	ppm	500	382	Non-detectable results: Foaming agents, odor and Manganese
Total Hardness	grains per gallon		13.3*	
Zinc	ppm	5	0.0081	

* This result is the answer to our most frequently asked question. It is used for home softener programming. Due to high mineral content, our water is considered “hard” as opposed to “soft”. The white ring around the coffee pot is mostly Calcium Carbonate picked up by water flowing through limestone. This scale helps to protect your pipes from corrosion.



Table 2. Detection Summary of Regulated Contaminants



Contaminant	MCLG/ MRDLG	MCL, TT MRDL, AL	Your Water	Range of Detects	Violation	Sources
ORGANIC & INORGANIC CONTAMINANTS						
Arsenic (ppb)	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	0.0384	0.0357 - 0.0384	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	3.5	3.4 - 3.5	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2	2	0.771	0.582 - 0.771	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories
Haloacetic Acids (ppb)	NA	60	14.4	3.62 - 34.97	No	By-product of drinking water chlorination
Nitrate (ppm)	10	10	5.12	2.83 - 5.12	No	Run-off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. See notation.
Selenium (ppb)	50	50	2	NA 1 Detect	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Tetrachloroethylene (ppb)	0	5	1.650	0.840 - 1.650	No	Discharge from factories and dry cleaners
Total Trihalomethanes (ppb)	NA	80	29.0	8.11 - 51.55	No	By-product of drinking water chlorination
UNREGULATED CONTAMINANTS						
Metolachlor ethane sulfonic acid (ppb) (January 2009)	NA	NA	0.41	0.37 - 0.44	No	Acetanilide degradate Monitoring required per EPA; state limits considered
LEAD & COPPER						
Lead (ppb) (June 2010)	0	15	90th Percentile 8.8	# Sites Above AL 1 of 50	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm) (June 2010)	1.3	1.3	90th Percentile 0.265	# Sites Above AL 0 of 50	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
CHLORINE (ppm)						
Distribution System	4	4	0.78	0.03 - 1.13	No	Water additive used to control microbes
Entry Points	MinRDL = 0.40		Minimum 0.51	0.51 - 1.18		
MICROBIOLOGICAL CONTAMINANTS						
Total Coliform Bacteria	0	5% of monthly Samples	Highest % positives in any one month <1%		No	Naturally present in the environment
TURBIDITY						
Turbidity (NTU)	0	1 for single reading	0.075		No	Soil run-off; used as an indicator of filter performance
Highest single reading (February 2011)		TT = at least 95% of monthly samples <0.3 NTU	100%			

* 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

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>.

Non-detects

The following regulated contaminants were monitored for in 2011 and were not detected: 30 Synthetic Organic Compounds (including Dioxin and PCB's), Asbestos and Combined Uranium.

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 run-off, 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 run-off 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 prescribes 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).

The City of Allentown,

Bureau of Water Resources

is a member of the Partnership for Safe Water, the American Water Association Research Foundation and the Lehigh Valley Water Suppliers. Our staff are members of the American Water Works Association, the Pennsylvania Association of Accredited Environmental Laboratories, the Pennsylvania Water Environmental Association, the Water Works Operators' Association of Pennsylvania, the American Public Works Association, and the Water Environment Federation.



Allentown
City without limits.

Public Input

Held on the first and third Wednesday of each month, City Council meetings begin at 7:30 p.m. 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 on line 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.

CITY OF ALLENTOWN

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Ed Pawlowski, Mayor