



# 2009 ANNUAL TAP WATER QUALITY REPORT

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The City of Allentown, Bureau of Water Resources, is pleased to present the 2009 Annual Tap Water Quality Report. This report is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to the Environmental Protection Agency (EPA) and Pennsylvania state standards. Once again we are proud to report that our system has never violated a maximum contaminant level and we have met all EPA and state drinking water health standards. We remain committed to ensuring the quality of your water.

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Este informe contiene información muy importante sobre su agua potable. Si tiene alguna pregunta puede llamar a este teléfono (610) 437-7643

## Source Water Information



The City of Allentown utilizes two surface water sources, the Little Lehigh Creek and the Lehigh River (which is used only as a backup supply) and two groundwater sources which include Crystal Spring and Schantz Spring. A Source Water Assessment of these four sources was completed at various times between 1998 and 2004 by the PA Department of Environmental Protection (PADEP). The assessments describe some potential pollution activities throughout the watershed area(s) in the form of agricultural, commercial, industrial and residential activities. Summary reports of the Assessments are available on the PADEP website at [www.dep.state.pa.us](http://www.dep.state.pa.us) (Keyword: "DEP source water"). Also, in 1998 the Cadmus Group of Waltham, MA completed a Little Lehigh watershed assessment and, more recently in 2004, Camp Dresser and McKee (CDM) completed a Sediment Study on the same area. Copies of these reports are available upon request. In response to these studies, the City of Allentown's Bureau of Water Resources and RSVP (Retired and Senior Volunteer Program) routinely monitor local waterways for the protection of your drinking water.

Allentown has monitored both source water and finished water for Cryptosporidium. Most recent source water testing on the Lehigh River began in March of 2009 and will continue for 24 months as part of the EPA's Long Term 2 Enhanced Surface Water Treatment Rule. Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes Cryptosporidium, the most

The City of Allentown has been a member of the Partnership for Safe Water since 2005. The Partnership is a voluntary cooperative effort between the EPA, American Water Works Association (AWWA) and other drinking water organizations. The goal of this common sense cooperation is to provide a new measure of safety to millions of Americans by implementing prevention programs where legislation or regulation does not exist. The preventative measures are based around optimizing treatment plant performance and thus increasing protection against microbial contamination in your drinking water supply. In addition to this membership, City of Allentown's Water Filtration Plant was also selected to receive a prestigious Area-Wide Optimization Program Award for the second consecutive year. Only 28 out of 247 contributing filter plants in Pennsylvania were honored and we were one of them.



commonly used filtration methods cannot guarantee 100 percent removal. Our 2004 through 2006 monitoring indicates that *Cryptosporidium* is periodically present (only two detects in the 24 samples) in the Little Lehigh Creek, but has NEVER been detected in our finished water.

*Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water. 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. However, immuno-compromised people are at greater risk of developing a life-threatening illness. We encourage immuno-compromised individuals to consult with their doctor regarding appropriate precautions to take to avoid infection. The City of Allentown's water treatment facilities are designed to remove, through filtration, unwanted particles such as *Cryptosporidium*. There is absolutely no evidence indicating that our customers should be concerned with *Cryptosporidium*.

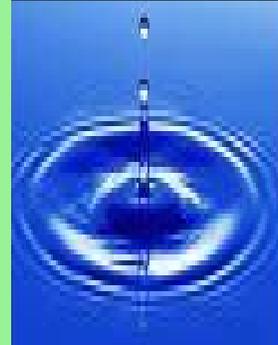


*Due to certain amendments to the Safe Drinking Water Act (SDWA), Allentown has been required by EPA to monitor unregulated contaminants that are not regulated by national primary drinking water regulations, are known or anticipated to occur in public water systems, and may warrant regulation under the SDWA. During this required testing period, the City did not violate any UCMR2 (Unregulated Contaminant Monitoring Rule 2) minimum reporting levels.*

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. 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.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting

## Water & Health





from the presence of animals or from human activity.

Contaminants that may be present include the following:

**Microbial contaminants**, such as viruses and bacteria that 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, 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 the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA promulgates regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Other contamination such as lead and copper may be caused from household plumbing sources. 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 and website provided at left.

**More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791) or visit: [www.epa.gov/safewater/](http://www.epa.gov/safewater/)**

## Definitions

Below you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following definitions:

<b>ND</b>	<b>NON-DETECTS:</b> Analysis indicates the constituent is not present.
<b>PPM or MG/L</b>	<b>PARTS PER MILLION or MILLIGRAMS PER LITER:</b> One part per million corresponds to a single penny in \$10,000.
<b>PPB or UG/L</b>	<b>PARTS PER BILLION or MICROGRAMS PER LITER:</b> One part per billion corresponds to a single penny in \$10,000,000.
<b>NTU</b>	<b>NEPHELOMETRIC TURBIDITY UNIT:</b> A measure of the clarity of water. Turbidity in excess of 5.0 NTU is just noticeable to the average person.
<b>AL</b>	<b>ACTION LEVEL:</b> The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
<b>TT</b>	<b>TREATMENT TECHNIQUE:</b> A required process intended to reduce the level of a contaminant in drinking water.
<b>MCL</b>	<b>MAXIMUM CONTAMINANT LEVEL:</b> 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.
<b>MCLG</b>	<b>MAXIMUM CONTAMINANT LEVEL GOAL:</b> 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.
<b>MRDL</b>	<b>MAXIMUM RESIDUAL DISINFECTANT LEVEL:</b> The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.
<b>MRDLG</b>	<b>MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL:</b> The level of a drinking water disinfectant below which there is no known or expected risk to health.

**Table 1** lists typical analyses of water plant discharge. Table 2 (p. 6) lists all regulated contaminants that were detected during 2009. All contaminants tested for, but with results below the detection limit, are not listed in any of the tables. Unless noted, the data in all of the tables were generated from sampling done in the year 2009. The state requires us to monitor for certain parameters on multi-year intervals, so some of the results are greater than one year old. Results greater than one year old are noted on the tables.

## Results

**Table 1 - Typical Analyses of 2009 Water Plant Discharge**

<u>Routine Analysis</u>	<u>Units</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Alkalinity	mg/L as CaCO <sub>3</sub>	108	175	213
Total Hardness	grains per gallon	11.9	14.2	15.7
Sodium	ppm	27	31	32
pH	Standard Units	7.40	7.64	7.84
Sulfate	ppm	35	38	48

These additional analyses had non-detectable results in 2009: Copper, Iron, Manganese, and Silver.

**Table 2 - Detection Summary of Regulated Contaminants for 2009**

PERFORMANCE MONITORING		MCL	MCLG	Highest Single Reading	Lowest Monthly % of samples meeting TT Limits	TT Violation	Likely Source
TURBIDITY, NTU	TT=95% SAMPLES <0.3 NTU		n/a	0.068	100%	NO	Soil runoff
Turbidity (cloudiness of the water) is a good indicator of our filtration effectiveness.							
CHLORINE PERFORMANCE MONITORING		MRDL	MRDLG	Average Detect	Range of Detects	MCL Violation	Likely Source
ENTRY POINTS, ppm		4	4	0.82	0.58-1.28	NO	Water additive used to disinfect and control microbes
DISTRIBUTION POINTS, ppm		4	4	Highest Monthly Avg. 0.62	Range of Averages 0.56-0.69	NO	
MICROBIOLOGICAL CONTAMINANTS		MCL	MCLG	Highest % of positive samples collected in any one month		MCL Violation	Likely Source
TOTAL COLIFORM		Presence in >5% of monthly samples	0	< 1%		NO	Naturally present in the environment
INORGANIC AND ORGANIC CONTAMINANTS		MCL	MCLG	Average Detect	Range of Detects	MCL Violation	Likely Source
FLUORIDE, ppm		2	2	0.74	0.66-0.81	NO	Water additive that promotes strong teeth, erosion of natural deposits
The City of Allentown has been adding fluoride since 2000.							
HALOACETIC ACIDS, ppb		60	n/a	13.3*	4.4-23.6	NO	By-product of drinking water chlorination
NITRATE, ppm		10	10	4.5	4.3-4.59	NO	Runoff from fertilizer use, septic tank leaching, sewage, erosion of natural deposits
TETRACHLORO-ETHYLENE, ppb		5	0	1.0	0.5-1.4	NO	Discharge from factories and dry-cleaners
TRIHALO-METHANES, ppb		80	n/a	30.5*	9.54-58.3	NO	By-product of drinking water chlorination
UNREGULATED CONTAMINANTS		MCL	MCLG	Average Detects	Range of Detects	MCL Violation	
METOLACHLOR ETHANE SULFONIC ACID, ppb (Acetanilide Degradate)			not regulated	0.4	0.37-0.44	NO	EPA requires monitoring of this contaminant while Federal and State limits are considered.
LEAD & COPPER RULE							
COMPLIANCE MONITORING		AL	MCLG	90th Percentile	Number of sites above AL	MCL Violation	Likely Source
COPPER** , ppm		1.3	1.3	0.266	3 out of 50	NO	Leaching from wood preservatives, and...
LEAD** , ppb		15	0	8	0 out of 50	NO	Corrosion of household plumbing systems, erosion of natural deposits

\*Compliance based on running annual average calculations.

\*\*Lead and Copper results taken in 2007

## Public Input & Information

Please call our office if you have any questions (610-437-7643). The City of Allentown is staffed with state-certified operators who work around the clock to provide top quality water to every tap. Our laboratories are certified by PADEP under the Safe Drinking Water Act and the Environmental Laboratory Accreditation Act.

The Bureau of Water Resources is currently implementing an automatic phone dialing system to meet PADEP's Public Notification Rule that will go into effect this year. This rule is intended to ensure consumers will always know if there is a problem with their drinking water. Additional information will be publicly announced in the near future.

We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. Please respect the quality of these waters by reporting any dumping of hazardous materials or other pollution into storm sewers directly or anywhere in the immediate watershed area to:

**911** if the action is in progress,

**610-437-7681** upon suspicion, or

**610-437-7751** for non-emergencies on weekends, evenings, and holidays.

The City of Allentown has City Council meetings on the first and third Wednesdays of every month. The meetings are at 7:30PM, and take place in the City Council Chambers in City Hall. Council Chambers are handicap accessible. The meetings allow for the public to voice any concerns they may have pertaining to our water system.

**SHARE THIS REPORT...OWNERS OF MULTIPLE FAMILY DWELLINGS, COMMERCIAL BUSINESSES, PUBLIC HOUSING, OR SIMILAR SITUATIONS ARE ENCOURAGED TO POST AND/OR DISTRIBUTE THIS REPORT. ADDITIONAL COPIES ARE AVAILABLE FROM WATER RESOURCES AND CAN BE OBTAINED AT CITY HALL OR BY CALLING 610-437-7643.**



Additional information about Allentown and other Lehigh Valley water suppliers can be found at:

<http://www.allentownpa.gov>,

<http://www.lvwater.org>

or by contacting Chris Cope, Laboratories Manager, at 610-437-7641 or

[cope@allentowncity.org](mailto:cope@allentowncity.org)



The City of Allentown Water Resource Bureau is a member of the Partnership for Safe Water, the American Water Association Research Foundation (AWARF) and the Lehigh Valley Water Suppliers (LVWS). The City's Water Resources staff are members of the American Water Works Associations (AWWA), the Pennsylvania Association of Accredited Environmental Laboratories (PaAAEL), the Pennsylvania Water Environmental Association (PWEA), the Water Works Operators' Association of Pennsylvania (WWOAP), the American Public Works Association (APWA), and the Water Environment Federation (WEF).

<http://www.allentownpa.gov>  
Ed Pawlowski, Mayor