



# 2008 ANNUAL TAP WATER QUALITY REPORT

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The City of Allentown, Bureau of Water Resources, is pleased to present the 2008 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.

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Este reporte 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 and Schantz Springs. 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.

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 our drinking water treatment plant has recently been recognized for outstanding efforts towards optimizing filter plant turbidity performance. In August 2008, we graciously accepted an Area Wide Optimization Program (AWOP) award from the PA Department of Environmental Protection (PaDEP). Only 15 out of 254 of the contributing filter plants received this recognition and we are pleased to be one of them.



Allentown has monitored both source water and finished water for *Cryptosporidium*. Most recent source water (water that enters the treatment plant) testing has occurred from October 2004 through December of 2006 as part of the recent 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 commonly used filtration methods cannot guarantee 100 percent removal. Our recent 24 month 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, immunocompromised people are at greater risk of developing a life-threatening illness. We encourage immunocompromised 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 other national primary drinking water regulations and are known or anticipated to occur at public water systems. To date we have not detected any of these contaminants in our source water.*

# 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:

- ND** **NON-DETECTS:** Analysis indicates the constituent is not present.
- PPM or MG/L** **PARTS PER MILLION or MILLIGRAMS PER LITER:** One part per million corresponds to a single penny in \$10,000.
- PPB or UG/L** **PARTS PER BILLION or MICROGRAMS PER LITER:** One part per billion corresponds to a single penny in \$10,000,000.
- NTU** **NEPHELOMETRIC TURBIDITY UNIT:** A measure of the clarity of water. Turbidity in excess of 5.0 NTU is just noticeable to the average person.
- AL** **ACTION LEVEL:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- TT** **TREATMENT TECHNIQUE:** A required process intended to reduce the level of a contaminant in drinking water.
- 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 a disinfectant allowed in drinking water. There is convincing evidence that the 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.

**Table 1** lists typical analyses of water plant discharge. Table 2 (p. 5) lists all regulated contaminants that were detected during 2008. 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 2008. The state requires us to monitor for certain parameters on multi-year intervals, so some of the results are greater than one year old. The results greater than one year old are noted on the tables.

# Results

**Table 1 - Typical Analyses of 2008 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>	144	177	213
Total Hardness	grains per gallon	11.0	13.6	16.2
Sodium	ppm	26	28	31
pH	Standard Units	7.38	7.65	7.81
Sulfate	ppm	32	38	44

These analyses had non-detectable results in 2008: Aluminum, Copper, Iron, Manganese, and Silver.

**Table 2 - Detection Summary of Regulated Contaminants for 2008**

<b>PERFORMANCE MONITORING</b>		<b>MCL</b>	<b>MCLG</b>	<b>Highest Single Reading</b>	<b>Lowest Monthly % of samples meeting TT Limits</b>	<b>TT Violation</b>	<b>Likely Source</b>
<b>TURBIDITY, NTU</b>	TT=% SAMPLES <0.3 NTU		n/a	0.070	100%	<b>NO</b>	Soil runoff
Turbidity (cloudiness of the water) is a good indicator of our filtration effectiveness.							
<b>CHLORINE PERFORMANCE MONITORING</b>		<b>MRDL</b>	<b>MRDLG</b>	<b>Average Detect</b>	<b>Range of Detects</b>	<b>MCL Violation</b>	<b>Likely Source</b>
<b>ENTRY POINTS, ppm</b>		4	4	0.87	0.62-1.88	<b>NO</b>	Water additive used to disinfect and control microbes
<b>DISTRIBUTION POINTS, ppm</b>		4	4	<b>Highest Monthly Avg.</b> 0.65	<b>Range of Averages</b> 0.56-0.77	<b>NO</b>	
<b>MICROBIOLOGICAL CONTAMINANTS</b>		<b>MCL</b>	<b>MCLG</b>	<b>Highest % of positive samples collected in any one month</b>		<b>MCL Violation</b>	<b>Likely Source</b>
<b>TOTAL COLIFORM</b>	Presence of >5% of monthly samples		0	< 1%		<b>NO</b>	Naturally present in the environment
<b>INORGANIC AND ORGANIC CONTAMINANTS</b>		<b>MCL</b>	<b>MCLG</b>	<b>Average Detect</b>	<b>Range of Detects</b>	<b>MCL Violation</b>	<b>Likely Source</b>
<b>FLUORIDE, ppm</b>		2	2	0.8	0.59-0.90	<b>NO</b>	Water additive that promotes strong teeth, erosion of natural deposits
<b>HALOACETIC ACIDS, ppb</b>		60	n/a	7.0*	1.7-13.5	<b>NO</b>	By-product of drinking water chlorination
<b>NITRATE, ppm</b>		10	10	4.1	3.2-5.0	<b>NO</b>	Runoff from fertilizer use, septic tank leaching, sewage, erosion of natural deposits
<b>TETRACHLORO-ETHYLENE, ppb</b>		5	0	1.2	0.6-1.9	<b>NO</b>	Discharge from factories and dry-cleaners
<b>TRIHALO-METHANES, ppb</b>		80	n/a	29.0*	9.0-99.9	<b>NO</b>	By-product of drinking water chlorination
<b>LEAD &amp; COPPER RULE</b>							
<b>COMPLIANCE MONITORING</b>		<b>AL</b>	<b>MCLG</b>	<b>90th Percentile</b>	<b>Number of sites above AL</b>	<b>MCL Violation</b>	<b>Likely Source</b>
<b>COPPER** , ppm</b>		1.3	1.3	0.266	3 out of 50	<b>NO</b>	Leaching from wood preservatives, and...
<b>LEAD** , ppb</b>		15	0	8	0 out of 50	<b>NO</b>	Corrosion of household plumbing systems, erosion of natural deposits

\*Compliance based on the running annual average from the most recent four quarters of sampling.

\*\*Lead and Copper results taken in 2007

# Water & 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. 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 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 be 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.

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/)

## 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 Water Drinking Act and the Environmental Laboratory Accreditation Act.

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.

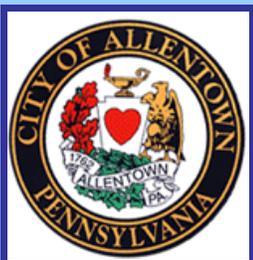
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Additional information about Allentown and other Lehigh Valley water suppliers can be found at:

Lehigh Valley Water Suppliers  
<http://www.lvwater.org>

or by contacting Chris Cope,  
Laboratories Manager, at  
610-437-7641 or  
[cope@allentowncity.org](mailto:cope@allentowncity.org)



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

The City of Allentown Water Resources Bureau is a member of the Partnership for Safe Water, the American Water Association Research Foundation (AWARF), Lehigh Valley Water Suppliers (LVWS) and the Alliance for the Little Lehigh Watershed (ALLW) which is a watershed coalition seeking to protect the water quality of the stream. 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 Water Resources Association of the Delaware River Basin (WRA-DRB), and the Water Environment Federation (WEF).