

# **2005 Water Quality Report**

## **Shillington Municipal Authority**

### **PWSID 3060067**

We're very pleased to provide you with this year's 2005 Water Quality Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water.

Este informe contiene informacion muy importante sobre su agua de beber. Traduzcalo o hable con alguien que lo entienda bien.

#### **OVERVIEW:**

We are a consecutive system, meaning we purchase all our water from the Western Berks Water Authority which is treated surface water from the Tulpehocken Creek. Within our system, we test for lead, copper, total coliform, total trihalomethanes and haloacetic acids and are pleased to report that our water meets all Federal and State requirements. This report also shows the water quality from our supplier and what it means.

In 2002, the Philadelphia Water Department, working under contract for the Pennsylvania Department of Environmental Protection, completed a Source Water Assessment for the Western Berks Water Authority. This Assessment evaluated potential contaminant threats to the raw water sources used by the Western Berks Water Authority and the susceptibility of the sources to these threats. The following items were identified as the top three concerns:

1. Nitrate and pesticide contamination from agricultural runoff.
2. Bacterial and chemical contamination from discharges of sewage treatment plants and industrial sources.
3. Contamination from roadway accidents and urban runoff.

The Western Berks Water Authority is concerned about protecting its water source. Current treatment processes ensure that raw water from the Tulpehocken Creek becomes finished water that meets all Federal and State drinking water standards. A copy of the Source Water Assessment report is available for review by contacting the Western Berks Water Authority at (610) 678-4400.

If you have any questions about this water quality report or concerning your water utility, please contact Michael D. Mountz, Borough Manager at (610) 777-1338 for any questions concerning the Shillington Municipal Authority. Any questions regarding the water source and/or treatment may be addressed to Gary Rhoads, Western Berks Water Authority Operations Manager at (610) 678-4400. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of the regularly scheduled Borough Council meetings held the second Thursday of each month beginning at 7:30 p.m. in the Borough's Police/Municipal Building or the Western Berks Water Authority meetings held the first Wednesday of each month at 11:30 a.m. at the treatment plant located at 91 Water Road, Sinking Spring.

The Shillington Municipal Authority routinely monitors for constituents in your drinking water according to Federal and State laws. The following tables show the results of our monitoring for the period of January 1 to December 31, 2005. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. The tables indicate the month/year of the most recent samples for those constituents not tested for during the report year.

#### **KEY TO TABLES:**

In the following tables, 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:

***Non-Detects (ND)*** - laboratory analysis indicates that the contaminant is not present at a detectable level.

***Parts per million (ppm) or Milligrams per liter (mg/l)*** - one part per million corresponds to one minute in two years or a single penny in \$10,000.

***Parts per billion (ppb) or Micrograms per liter*** - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

***Picocuries per liter (pCi/L)*** - picocuries per liter is a measure of the radioactivity in water.

***Nephelometric Turbidity Unit (NTU)*** - nephelometric turbidity unit is a measure for the cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

***Action Level*** – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**Maximum Contaminant Level (MCL)** - The “Maximum Allowed” is 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.

**Maximum Contaminant Level Goal (MCLG)** - The “Goal” is 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.

**Maximum Residual Disinfectant Level (MRDL)** - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** - 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.

**MNR** - Monitoring not required, but recommended.

**Na** - Not applicable

TEST RESULTS						
Inorganic Contaminants						
Contaminant (Unit of)	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm) (a)	N	1.41	0.17-14.1	4	2*	Erosion of natural deposits; water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen) (ppm) (a)	N	6.03	3.1-6.03	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Disinfection By-Products						
Chloramine (as C12)(mg/L) (a)	N	3	0.3-3	4	4	Water additive used to control microbes. (c)
Haloacetic Acids(5) (ppb)	N	54	0-54	Na	60	By-product of drinking water chlorination

Contaminant (Unit of)	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)	N	54	6-54	Na	80	By-product of drinking water chlorination
Total Organic Carbon (a) (b) (% removal)	N	35	Na	Na	TT	Naturally occurring organic matter

**Footnotes:**

\* EPA's MCL for fluoride is 4 ppm. However, our state has set a lower MCL to better protect human health.

(a) Western Berks Water Authority samples

(b) A "Percent Removal" is specified with regard for Total Organic Carbon. This percent removal is determined by the amount of alkalinity in the raw water source. Given the levels of alkalinity in our raw water the Western Berks Water Authority's required percent removal range is 15% or 25% (depending on water chemistry). Percent removal achieved by Western Berks Water Authority is 27.78% and 50%.

(c) The Western Berks Water Authority uses chloramines instead of free available chlorine residual due to the length of its transmission main and the distribution systems of its consecutive systems.

<b>ADDITIONAL TEST RESULTS</b>						
<b>Lead and Copper Rule</b>						
Contaminant (Unit of)	Violation Y/N	Level Detected	Range	Action Level (AL)	MCLG	Likely Source of Contamination
Copper(ppm) 9/2004	N	0.237	(d)	1.3	1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb) 9/2004	N	2	(d)	15	0	Corrosion of household plumbing systems; Erosion of natural deposits

**Footnotes:**

(d) None of the 30 samples we collected exceeded the action level

<b>ADDITIONAL TEST RESULTS</b>					
<b>Contaminant (Unit of)</b>	<b>Violation Y/N</b>	<b>No. of Positive Samples/Month</b>	<b>MCL</b>	<b>MCLG</b>	<b>Likely Source of Contamination</b>
Total Coliform Bacteria	N	NP	≥ 5% monthly samples are positive	0	Naturally present in the environment

**Footnotes:**

**NP** = No Bacteria Present

<b>ADDITIONAL TEST RESULTS</b>							
<b>Microbiological Contaminants</b>							
<b>Contaminant (Unit of)</b>	<b>Violation Y/N</b>	<b>Your Water</b>	<b>Range</b>		<b>MCL = (TT)</b>	<b>MCLG</b>	<b>Likely Source of Contamination</b>
			<b>Low</b>	<b>High</b>			
Turbidity (NTU) (a)	N	100% of samples <0.3	0.04	0.17	≤0.3	Na	Soil runoff
<b>Radioactive Contaminants</b>							
<b>Contaminant</b>	<b>Violation Y/N</b>	<b>Level Detected</b>		<b>MCL</b>	<b>MCLG</b>	<b>Likely Source of Contamination</b>	
Alpha emitters (pCi/L) (a)	N	0.5		15	0	Erosion of natural deposits	
Radium (combined 226-228) (pCi/L) (a)	N	0.8		5	0	Erosion of natural deposits	

**Footnotes:**

(a) Western Berks Water Authority samples

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

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.

As you can see by the tables, our system has not exceeded a maximum contaminant level. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through monitoring and testing that some constituents have been detected.

The Western Berks Water Authority collects samples in both the spring and fall to analyze for the presence of giardia and cryptosporidium in both the raw and finished waters. Neither of these protozoan parasites was detected in the Western Berks system during the times of those samples.

On October 10, 2005, the Shillington Municipal Authority did not meet treatment requirements. We routinely monitor your water for disinfectant residual concentration. This tells us whether we are effectively disinfecting the water supply. A water sample taken on October 10, 2005 showed a disinfectant residual concentration of less than 0.02 mg/l. This is below the required standard of 0.02 mg/l and constitutes a breakdown in continuous disinfection. There is an increased chance that the water may have contained disease-causing organisms. No coliform bacteria was found in any of the samples. We are required to sample 10 sampling points each month. Only one of the samples was a non-detect. The results of all subsequent samples have been satisfactory.

We were notified that we were in violation for failing to inform the public about this sample that did not meet the requirements. Therefore, we published a notice in the *Reading Eagle* regarding this violation.

The Western Berks Water Authority failed to collect a required annual sample for analysis of 21 organic compounds. Once this was realized, a sample was collected on January 6, 2006 as a late replacement for the missed sample. Not a single one of the organic compounds was present in the water in a detectable level nor have any been for the years an annual water supply report has been required. Steps have been taken to ensure the sampling and reporting of these tests on a timely basis.

Western Berks Monthly Reports (SDWA-1, SDWA-5 and SDWA-S) for the reporting of entry point chlorine residuals, monthly filter plant performance and distribution system chlorine residuals respectively submitted for the month of July were received by PaDEP in Harrisburg after the August 10<sup>th</sup> deadline. The July 2005 report was received by the PaDEP on August 11<sup>th</sup>. Reports are now being submitted on-line to preclude any reoccurrence of this type.

#### **Additional Health Information:**

All sources of drinking water are subject to potential contaminants that are naturally occurring or man made. Those contaminants can be microbes, organic or inorganic chemicals, or radioactive materials. All 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 at 1-800-426-4791.

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 from human activity.

In order to ensure that tap water is safe to drink, EPA prescribes 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 which must provide the same protection for public health.

MCL's are set at very stringent levels for health effects. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

**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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).**

The Shillington Municipal Authority, the Shillington Borough Council and all Shillington employees work diligently to provide you with quality drinking water. We are proud to share this report with you indicating that we have again achieved an outstanding record in meeting the Safe Drinking Water Program requirements during 2005. As always, we are constantly striving to provide you, the consumer, with excellent water. You are encouraged to contact us with any suggestions you feel may benefit us with this effort.

Additional information can be obtained at the following web sites:

[www.wbwa.org](http://www.wbwa.org) - for information on the Western Berks Water Authority system

[www.waterdata.com](http://www.waterdata.com) - for water quality data for community water systems through the United States

[www.epa.gov/safewater/](http://www.epa.gov/safewater/) - EPA's drinking water web site