

2014 ANNUAL DRINKING WATER QUALITY REPORT
Warwick Township Municipal Authority
“Lititz” Water System
PWSID# 7360116

*(This report contains very important information about your drinking water. Translate it, or speak with someone who understands it.)
Este informe contiene informacion muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.*

WATER SYSTEM INFORMATION

This report shows our water quality and what it means. **If you have any questions about this report or concerning your water utility, please call the Warwick Township Municipal Authority (“WTMA”) office at (717) 627-2379.** We want you to be informed about your water supply and are pleased to present this year’s Annual Drinking Water Quality Report detailing the services we deliver to you every day. If you want to learn more, please attend any of our regularly scheduled meetings, held on the third Tuesday of each month at 7 p.m. at the Warwick Township Municipal Building, 315 Clay Road, Lititz, PA. **You can also visit www.warwicktownship.org and click on “sewer/water” for information about the Authority and your water supply and/or sanitary sewer service.**

SOURCES OF WATER

The 3,130 connections to WTMA’s Lititz Water System are supplied by groundwater purchased from Lititz Borough through an Intermunicipal Agreement. The water enters the WTMA system through 13 entry points. The Borough’s water system is operated by Severn Trent Environmental Services, Inc. which prepares some of the statistics contained in this report, identified by (LB) next to the contaminant. The Lititz Borough water supply consists of several wells located in Lititz Borough and Warwick Township.

WTMA continues its efforts to protect your drinking water through its Wellhead Protection Program which was approved by the PA DEP in 2002. The Wellhead Protection Committee consists of representatives of municipal and county government and agencies, local businesses and interested citizens. The group meets annually to discuss the status of existing programs and to suggest additional ways in which we can protect our precious resource. Due to the success of its “Ag-Management” Program, WTMA has been invited to share the results of this innovative partnership with others through forums such as Pennsylvania Municipal Authorities Association, PA DEP, and SRBC Seminars. The Ag-Management Program owes a large portion of its success to the outstanding cooperation provided by our farming partners.

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

MONITORING AND TREATMENT

The Lititz Water System is routinely monitored for contaminants in your drinking water according to federal and state laws. The following tables show the monitoring results for the period of **January 1 to December 31, 2014.** 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 date has been noted on the sampling results table.

WTMA is required to randomly test water throughout our distribution system. Jean Kruis of Owl Hill Laboratories

collects and tests these samples on behalf of WTMA. We appreciate your cooperation in allowing Ms. Krus to draw water at your property should she knock at your door. Do not hesitate to ask her for identification. Please call the office if you have any questions. Thank you.

DEFINITIONS AND ABBREVIATIONS

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL) - 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 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 the addition of disinfectant is necessary for control of microbial contaminants.

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

Non-Detectable (ND) - Analysis for a particular contaminant was performed but was not detected as the concentration was below the reporting detection limit.

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

Secondary Contaminants - Contaminants such as taste, color and odor are not considered to present a risk to human health at the SMCL. Since these contaminants are not health threatening at the SMCL, public water systems only need to test for them on a *voluntary* basis.

Secondary Maximum Contaminant Levels (SMCL) - EPA has established National Secondary Drinking Water Regulations that set non-mandatory water quality standards. They are established only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations.

Secondary Maximum Contaminant Level Goal (SMCLG) - The EPA has not established goals for the SMCL. EPA believes that if these contaminants are present in your water at levels above these standards, the contaminants may cause the water to appear cloudy or colored, or to taste or smell bad. This may cause a great number of people to stop using water from their public water system even though the water is actually safe to drink. Secondary standards are set to give public water systems some guidance on removing these chemicals to levels that are below what most people will find to be noticeable.

mg/L - milligrams per liter

mfl - millions of fiber per liter

mrem/year - millirems per year (a measure of radiation absorbed by the body)

ppq - parts per quadrillion or picograms per liter

ppm - parts per million

ppb - parts per billion or micrograms per liter ($\mu\text{g/L}$)

ppt - parts per trillion or nanograms per liter

pCi/L picocuries per liter (a measure of radioactivity)

MICROBIOLOGICAL CONTAMINANTS						
Contaminant (Unit of measurement)	Violation Y/N	Maximum Level Detected	Range	MCLG	MCL or MRDL	Likely Source of Contamination
Turbidity (NTU) Combined Filter Effluent 2014	N	0.090	0.015 to 0.090 (a)	n/a	TT=at least 95% of monthly samples \leq 0.3 NTU	Soil runoff
Maximum Turbidity (NTU) Single Filter Effluent 2014	N	0.360	0.020 to 0.360 (a)		TT=all samples must be \leq 1.0 NTU for a single measurement	
Maximum Turbidity (NTU) Entry Point 2014	N	0.065	0.025 to 0.065 (a)		TT=at least 95% of monthly samples \leq 0.3 NTU	

Total Coliform Presence (No. col./100 ml) 2014	N	0	0 (b)	0	1 Positive Monthly Sample	Naturally present in the environment
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INORGANIC CONTAMINANTS

Contaminant (Unit of measurement)	Violation Y/N	Maximum Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb) 2008 – 2012 Due 2015	N	<0.003	<0.001 to <0.003	0	10	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes;
Fluoride (ppm) 2010 - 2014	N	0.87	0.69 to 0.87	2	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen) (ppm) 2014	N	9.27	5.95 to 9.27	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (ppm) 2014	N	<0.10	<0.10	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Asbestos – Distribution System 2013 Due 2022	N	<0.20	<0.09 to <0.20	0	7 mfl	Decay of asbestos cement in water mains; erosion of natural deposits
Chemical Contaminant	Action Level	MCLG	90th Percentile Value	Range of Detections	Units	Sample Date
Copper	1.3	1.3	1.1	0.131 to 1.20	ppm	2013
Lead	15	0	3.1	ND to .0039	ppb	2013

DISINFECTANTS & DISINFECTANT BY-PRODUCTS

Contaminant (Unit of measurement)	Violation Y/N	Maximum Level Detected	Range	MCLG	MCL or MRDL	Likely Source of Contamination
TTHM [Total trihalomethanes] (ppb) 2014	N	7.7	7.7 to 0.86	0	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5) (ppb) 2014	N	<2.3	<2.3 to <1.2	0	60	By-product of drinking water chlorination
Distribution (Max Res) Chlorine (as Cl2) (ppm) 2014	N	0.87	0.02 to 0.87	4	4	Water additive used to control microbes.

OTHER ORGANIC CONTAMINANTS						
Contaminant (Unit of measurement)	Violation Y/N	Maximum Level Detected	Range	MCLG	MCL or MRDL	Likely Source of Contamination
Synthetic Organic Chemicals (SOCs) (ppb) 2014	N	ND	All SOCs tested including Atrazine were below detection limits	Various concentrations depending on chemical	Various concentrations depending on chemical	Potential residue from pesticides, herbicide, insecticide, discharge from chemical factories, discharge from petroleum factories
Atrazine (SOC) (ppb) 2014	N	<.0003	<0.0003 to <0.0003	.003	.003	Runoff from herbicides used in row crops
Volatile Organic Chemicals (VOCs) (ppb) 2014	N	ND	All VOCs tested were below detection limits	Various concentrations depending on chemical	Various concentrations depending on chemical	Potential discharge from industrial chemical factories, petroleum factories, textile-finishing factories, pharmaceutical factories, rubber/plastic factories, dry cleaners
SECONDARY CONTAMINANTS						
Contaminant (Unit of measurement)	Violation Y/N	Maximum Level Detected	Range	SMCLG	SMCL	Noticeable Effects Above the SMCL
Total Dissolved Solids (ppm) 2014	N	454	364 to 454	NA	500	Hardness; Deposits; Colored Water; Staining; Salty Taste

RADIONUCLIDES						
Contaminant (Unit of measurement)	Violation Y/N	Maximum Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Combined Uranium 2011 Due 2020	N	<1	<1	0	20.1	Erosion of natural deposits
Gross Alpha 2014 Due 2023	N	<3.0 +/-2.4 pCi/L to <3.0 +/-2.4 pCi/L	<3.0 +/-2.4 pCi/L to <3.0 +/-2.4 pCi/L	0	15 pCi/L	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation
Radium 226 2014 Due 2023	N	<0.98 +/- 0.06	<0.98 +/- 0.06 to <0.98 +/- 0.06	0	5 pCi/L	Erosion of natural deposits
Radium 228 2014 Due 2023	N	<0.90 +/- 0.33 pCi/L	<0.90 +/- 0.33 pCi/L to <0.90 +/- 0.33 pCi/L	0	5 pCi/L	Erosion of natural deposits

In 2014 there was 100% compliance of the turbidity limits.

- (a) In 2014 there was 100% compliance with the total coliform limit. There was no total coliform present.
- (b) In 2013, no samples exceeded the action level. There was 100% compliance with the copper limits. Testing will be conducted again in 2016.
- (c) In 2013, no samples exceeded the action level. There was 100% compliance with the lead limits. Testing will be conducted again in 2016.

***During the fourth quarter of 2013, we overlooked the requirement to sample for TTHMs in WTMA's "Lititz" water distribution system. First Quarter, 2014 samples for TTHMs were taken on February 18, 2014 with no violation detected. Because the test was not taken during the fourth quarter, we cannot report with certainty the highest level of the contaminant during that period.

Notice:

While the nitrate levels were below the MCL of 10 ppm, the quarterly samples did show the nitrate levels ranged between 5.95 ppm to 9.27 ppm. The 9.27 ppm reading was analyzed on January 14, 2014 and we believe the operator grabbing the sample may have mistakenly collected a raw water sample in an entry point sample bottle. Routine in-house unofficial lab results showed entry point nitrate results during January 2014 ranged from 5.6 mg/L – 7.8 mg/L. The Department of Environmental Protection was notified on January 31, 2014 and a second sample was analyzed on February 4, 2014 with a result of 6.26. We continue to monitor the nitrate levels leaving the plant on a daily basis. 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.

INFORMATION ABOUT LEAD

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. WTMA 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>.

A Source Water Assessment of the Lititz Borough wells, which supply water to the Lititz Borough Water Treatment Plant, was completed in July 2004 by the PA DEP. The Assessment has found that the wells are potentially most susceptible to industrial, residential and agricultural activities, accidental spills along roads and railways, auto repair shop activities, and dairy/egg laying operations. Overall, the Lititz Run Watershed has a medium to high risk of significant contamination. You can obtain a copy of the report's Executive Summary by contacting the WTMA office.

WHAT THIS MEANS

*As you can see under the 'violations' heading in the first table, the "Lititz" water system had **no** violations in 2014. We have learned through monitoring and testing that a very small amount of a few constituents have been detected. All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or man-made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. MCL's are set at very stringent levels for health effects. The EPA has determined that your water is safe at these levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two 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. Lititz Borough and Warwick Township Municipal Authority are proud that your drinking water meets or exceeds all Federal and State requirements.*

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 materials, and can pick up substances resulting from the presence of animals or from 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 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 ensure 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 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 (800) 426-4701.