

# 2016 ANNUAL DRINKING WATER QUALITY REPORT

## PWSID #: 1090082 Quakertown Borough Water Department

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

### WATER SYSTEM INFORMATION:

We want you to be informed about your water supply. This report shows our water quality and what it means. If you have any questions about this report or concerning your water utility, please contact: **Steven Crotzer, Water Superintendent at 215-536-5855. Monday through Friday 7:00am. to 3:30pm.**

### SOURCE(S) OF WATER:

Our water sources are derived from a network of eleven operating wells. These wells are located in and around town and are part of a geologic formation known as the Brunswick formation. The Department of Environmental Protection (DEP) has completed a source water assessment for the groundwater sources for this system and has determined that the potential for contamination varies from low to high depending on the location of the well. Information on source water assessments is available on the DEP Web site at [www.depweb.state.pa.us](http://www.depweb.state.pa.us) (DEP keyword "source water").

A Source Water Assessment of our source(s) was completed by the PA Department of Environmental Protection (Pa. DEP). A summary report of the Assessment is available on the Source Water Assessment & Protection Webpage at (<http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/SourceAssessment/default.htm>). Complete reports were distributed to municipalities, water supplier, local planning agencies and PADEP offices. Copies of the complete report are available for review at the Pa. DEP Southeast Regional Office, Records Management Unit at (484) 250-5980.

**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).**

### 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 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 runoff, 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 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 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 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).

## Monitoring Your Water

We routinely monitor for contaminants 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, 2016. 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 dates have been noted on the sampling results table.

Chemical Contaminant	MCL In CCR Units	MCLG	Level Detected	Range of Detections	Units	Violation Y/N	Sources of Contamination
Chlorine (2016) (Distribution)	MRDL = 4	MRDL = 4	0.66	0.46 – 0.83	ppm	No	Water additive used to control microbes
Trihalomethanes (TTHM)	80	80	43.25 <sup>1</sup> 1 <sup>st</sup> Quarter	15.0 – 55.0	ppb	No	By-product of drinking water chlorination
Haloacetic acids five (HAA5)	60	60	11.69 <sup>1</sup> 1 <sup>st</sup> Quarter	3.30 – 22.0	ppb	No	By-product of drinking water chlorination
Arsenic (2016) Entry Points 101,103	10	0	1.78	0 - 2.20	ppb	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
(2014) Entry Points 102,104,105,106,107, 108	10	0	8.10	1.80 - 8.10	ppb	No	
Nitrate (8/17/16)	10	10	0.622	0 - 0.622	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium (2013)	2	2	0.381	0.043 - 0.381	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (2013)	100	100	2.3	0 - 2.3	ppb	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (2013)	2	2	0.29	0.12 - 0.29	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nickel (2013)	0.1	0.1	0.0073	0.0041 - 0.0073	ppm	No	Leaching from metals in contact with drinking water, erosion in the production of steel alloys.
Methyl Tertiary- Butyl Ether (MTBE) (2016)	N/A	N/A	0.00067	0 – 0.00067	ppm	No	MTBE is a member of a group of chemicals commonly known as fuel oxygenates. Oxygenates are added to fuel to increase its oxygen content
Combined Radium (2014)	5	0	5.02	0 – 5.02	pCi/l	No	Erosion of natural deposits
Combined Uranium (2014)	30	0	1.86	1.64 – 1.86	ppb	No	Erosion of natural deposits
Alpha emitters (2014)	15	0	14.1	0 – 14.1	pCi/l	No	Erosion of natural deposits
<b>Entry Point Disinfectant Residual</b>							
Contaminant	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Violation Y/N	Sources of Contamination	
Chlorine (2016) Entry Point 101	0.50	0.48 – 1/9/16 <sup>2</sup>	0.48-1.43	ppm	No	Water additive used to control microbes.	
Entry Points 102-108	0.40	0.05 – 3/6/16 <sup>2</sup>	0.05-1.43		No		

<sup>1</sup> Indicates the highest running annual average calculated during the year 2016.

<sup>2</sup> Although these Minimum Disinfectant Residual Levels are lower than the required level we were able to remain in compliance by reaching the required level within 4 hours.

Microbiological Contaminants					
Contaminant	MCL	MCLG	Highest # of positive samples	Violation Y/N	Sources of Contamination
Total Coliform Bacteria (2016)	More than 1 positive monthly sample	0	1*	No	Naturally present in the environment.

\* We had one positive sample in June. Check samples were immediately collected and they were all negative.

Contaminant	Action Level (AL)	MCLG	90 <sup>th</sup> Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Of TT Y/N	Sources of Contamination
Lead (2016)	15	0	1.8	ppb	0 out of 30	No	Corrosion of household plumbing
Copper (2016)	1.3	1.3	0.52	ppm	0 out of 30	No	Corrosion of household plumbing

### **Notice of Unregulated Contaminant Monitoring Completed - UCMR3**

Our water system completed monitoring for several unregulated contaminants in 2014. Unregulated contaminants are those that do not yet have a drinking water standard set by the EPA. The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should be regulated. The table below details the unregulated contaminants that were detected in the water system.

<b><u>Unregulated Contaminants</u></b>					
Substance (units)	Year Sampled	MCL / MCLG	Average Amount Detected	Range Low - High	Typical Source
Molybdenum (ppb)	2014	Not Regulated	7.48	2.3 – 37	Naturally-occurring element found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide used as a chemical reagent
Strontium (ppb)	2014	Not Regulated	2130	885 – 4960	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Chlorate (ppb)	2014	Not Regulated	511	141 – 1330	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
Chromium Total (ppb)	2014	Not Regulated	0.34	0.2 – 1.4	Discharge from steel and pulp mills; erosion of natural deposits.
Chromium 6 or Hexavalent Chromium (ppb)	2014	Not Regulated	0.16	0.03 – 0.41	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
Vanadium (ppb)	2014	Not Regulated	0.69	0.36 – 0.88	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
1,4 – Dioxane (ppb)	2014	Not Regulated	0.09	0.07 – 0.11	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos
Perfluorononanoic acid (ppb)	2014	Not Regulated	0.034	0.032 – 0.035	Manmade chemical; used in products to make them stain, grease, heat and water resistant

**HEALTH EFFECTS: Arsenic:** *While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.*

**Violations:** We had No violations in 2016.

**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. The Quakertown Borough Water Department 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>.

**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 addition of a disinfectant is necessary for control of microbial contaminants.

***Minimum Residual Disinfectant Level*** – The minimum level of residual disinfectant required at the entry point to the distribution system.

***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 contaminants.

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

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

***ppm*** = parts per million, or milligrams per liter ( $\text{mg/L}$ )

***ppq*** = parts per quadrillion, or picograms per liter

***N/A*** = Not Applicable