

2017



Annual Drinking Water Quality Report

MUHLENBERG TOWNSHIP AUTHORITY

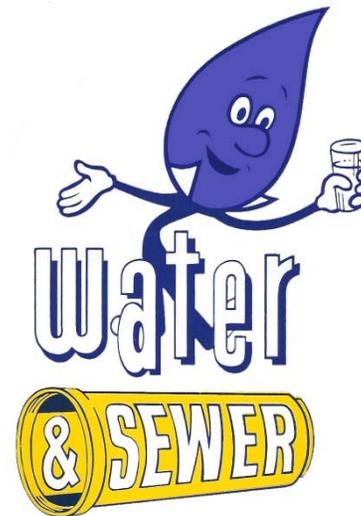
2840 Kutztown Road • Reading, PA 19605

PWSID #3060038

We are pleased to present to you this year's Annual Drinking Water Quality Report. This Report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and to protect our water resources.

Sources of Water:

All of our water supply is from nine (9) deep groundwater wells located throughout Muhlenberg Township. The existing water system includes five (5) booster pumping stations, six (6) storage reservoirs, and about 112 miles of transmission and distribution mains. The Authority system serves portions of Muhlenberg Township (including the former Borough of Temple), and portions of Laureldale Borough and Alsace Township. Public water supply is provided to approximately 8,943 customers with an average water demand of about 3.15 million gallons. We are committed to ensuring the quality of your water, and the Muhlenberg Township Authority works around the clock to provide top quality water to every tap.



Need More Information?

If you have any questions about this Report or concerning your water utility, please contact:

Jeff Calpino
General Manager
(610) 929-4709

If you want to learn more, please attend any of our regularly scheduled meetings.

They are held at 7:00 p.m. on the first Thursday after the first Monday of each month at the Township office.

Know the Health Risks

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or man-made. 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.

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. The Food and Drug Administration and DEP regulations establish limits for contaminants in bottled water which must provide the same protection for public health. 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 or visiting the EPA Office of Water website at www.epa.gov/OGWDW. MCLs 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 at 1-800-426-4791.

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.

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 services lines and home plumbing. Muhlenberg Township Authority 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>.

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 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 byproducts 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.



Impurities Detected by the Muhlenberg Township Authority

The Muhlenberg Township Authority routinely monitors for constituents in your drinking water according to federal and state laws. This table shows monitoring results for the period of January 1 to December 31, 2017. This table shows only the contaminants that were detected and the levels at which they were detected. There were many other contaminants that were not detected in the samples collected for analysis.

Remember that the presence of certain constituents does not necessarily pose a health risk. All drinking water may be reasonably expected to contain at least small amounts of some constituents. As you can see by the Table, our system had no exceedances. We're proud that our drinking water meets or exceeds Federal and State requirements.

Contaminant (Unit of Measure)	MTA Highest Level Detected	MTA Range of Detected Levels	Highest Level Allowed (MCL)	EPA MCLG (EPA Goal)	Source of Contamination	Violation Y/N
Inorganic Contaminants						
Nitrate (as Nitrogen)	5.93 ppm	1.39 - 5.93 ppm	10 ppm	10 ppm	Runoff from fertilizers; erosion of natural deposits.	N
Disinfectant By-Products						
Chlorine, Distribution System	0.832 ppm (a.)	0.580 - 0.832 ppm (a.)	4 ppm	4 ppm	Water additive used to control microbes.	N
Haloacetic Acids (HAA5)	7.0 ppb	0 - 35 ppb	60 ppb	N/A ppb	By-product of drinking water disinfection.	N
Heterotrophic Bacteria (Plate Count)	2100	0 - 2100	N/A	0	Naturally present in the environment.	N
Total Trihalomethanes (TTHMs)	16.0 ppb	3.0 - 51.1 ppb	80 ppb	N/A ppb	By-product of drinking water chlorination.	N
Radiological Contaminants (3/2014)						
Combined Radium (pCi/L)	2.2	0 - 2.2	5	0	Erosion of natural deposits.	N
Entry Point Disinfectant Residual						
Contaminant (Unit of Measure)	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Date of Lowest Value	Source of Contamination	Violation Y/N
Chlorine (ppm), Location 101	0.40	0.80 ppm	0.80 - 0.81 ppm	3/10/2016	Water additive used to control microbes.	N
Chlorine (ppm), Location 102	0.60	0.68 ppm	0.68 - 0.74 ppm	9/21/2016	Water additive used to control microbes.	N
Chlorine (ppm), Location 105	0.50	0.65 ppm	0.65 - 0.96 ppm	3/16/2016	Water additive used to control microbes.	N
Chlorine (ppm), Location 106	0.60	0.68 ppm	0.68 - 1.01 ppm	6/12/2016	Water additive used to control microbes.	N
Chlorine (ppm), Location 110	0.60	0.68 ppm	0.68 - 0.98 ppm	4/21/2016	Water additive used to control microbes.	N
Chlorine (ppm), Location 111	0.60	0.75 ppm	0.75 - 0.84 ppm	3/10/2016	Water additive used to control microbes.	N
Chlorine (ppm), Location 112	0.60	0.72 ppm	0.72 - 0.99 ppm	12/7/2016	Water additive used to control microbes.	N
Chlorine (ppm), Location 113	0.40	0.52 ppm	0.52 - 0.98 ppm	6/16/2016	Water additive used to control microbes.	N

Lead and Copper Rule (8/2016) **

Contaminant (Unit of Measure)	Detection Range	90 th Percentile	Action Level	EPA MCLG	# of Sites Above AL of	Source of Contamination	Violation Y/N
Copper (ppm)	0.006 - 0.418	0.131	1.3	0	0 of 30	Corrosion of pipes, geology, wood preservative.	N
Lead (ppm)	0 - 0.065	0.002	0.015	0	1 of 30	Geology, corrosion.	N

** The 90th percentile results were reported for Copper and Lead as the Highest Detected Levels. Lead and Copper are regulated using a Treatment Technique which requires systems to control the corrosiveness of their water. The Action Level serves as a trigger for water systems to take additional treatment steps if exceeded in more than 10% of tap water samples.

(a.) Monthly average values.

Definitions

In the tables in this report 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:

Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL - Maximum Contaminant Level

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.

mg/l - Milligrams per liter or Parts per million (ppm)

One milligram per liter corresponds to one minute in two years or a single penny in \$10,000.

ug/l - Micrograms per liter or Parts per billion (ppb)

One microgram per liter corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

MCLG - Maximum Contaminant Level Goal

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.

MRDL - Maximum Residual Disinfectant Level

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.

MRDLG - Maximum Residual Disinfectant Level Goal

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.

pCi/l - Picocuries per liter

Picocuries per liter is a measure of the radioactivity in water.

Level 1 Assessment

A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment

A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Treatment Technique (TT)

A required process intended to reduce the level of a contaminant in drinking water.

Emergency Notification Service

In an effort to provide more reliable communications with our customers, the Authority utilizes an Emergency Notification Service provided by SwiftReach Networks, Inc. In the event of an emergency that impacts our water system, the SwiftReach system will make phone calls to impacted customers. We encourage all customers to add their contact information to our system to ensure that we can communicate important information related to your water system to you in a timely manner. You can do so by visiting our website at www.muhenberg.org and clicking on the SwiftReach Logo.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.)



Undetected Impurities Tested for by Muhlenberg Township Authority

Inorganic Contaminants (2015)

Antimony
Arsenic
Asbestos (2013)
Barium
Beryllium
Cadmium
Chromium
Cyanide, Free
Fluoride
Mercury
Nickel
Nitrite
Selenium
Thallium

Volatile Organic Contaminants

1,1 - Dichloroethylene
1,1,1 - Trichloroethane
1,1,2 - Trichloroethane
1,2 - Dichloroethane
1,2 - Dichloropropane
1,2,4 - Trichlorobenzene
Benzene
Carbon Tetrachloride
Chlorobenzene
cis-1,2 - Dichloroethylene
Dichloromethane
Ethylbenzene
o-Dichlorobenzene
para-Dichlorobenzene
Styrene
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
Vinyl Chloride
Xylenes, Total

Synthetic Organic Contaminants

1,2 - Dibromo,3-chloroprop
2,3,7,8-TCDD (Dioxin)
2,4-D
2,4,5-TP Silvex
Alachlor
Atrazine
Benzo(a)pyrene
Carbofuran
Chlordane
Dalapon
Di(2-Ethylhexyl) Adipate
Di(2-Ethylhexyl) Phthalate
Dinoseb
Diquat
Endothal
Endrin
Ethylene Dibromide
Glyphosate
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Lindane
Methoxychlor
Oxymal (Vydate)
PCB's
Pentachlorophenol
Piclorem
Simazine
Toxaphene

Radiological Contaminants

Gross Alpha (2014)
Combined Uranium (2011)

* All contaminants are not sampled every year. Those contaminants which were not sampled in 2017 are noted with the last year of sampling in the table above.