

2008 ANNUAL DRINKING WATER QUALITY REPORT ***MUHLENBERG TOWNSHIP AUTHORITY*** ***READING, PENNSYLVANIA***

Water Authority

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. We are committed to ensuring the quality of your water.

If you have any questions about this report or the Muhlenberg Township Authority water system, please contact Bob Walborn (Authority Manager) at (610) 929-4709. We want our customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held at 2:00 p.m. on the first Thursday after the first Monday of each month at the Authority office, 2840 Kutztown Road, Reading, Pennsylvania. **In addition, we encourage customers to visit our award-winning website at www.muhlenberg.org.**

Water Supply System

All of our water supply is from thirteen (13) 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 about 15,200 people in Muhlenberg Township (including the former Borough of Temple), 4,500 people in Laureldale Borough, and 100 people in Alsace Township. Public water supply is provided to about 8,009 domestic, 589 commercial, 46 industrial, and 44 public metered customers. Average daily demand is about 3.9 million gallons.

In order to ensure that your tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water supply systems.

Potential Contaminants

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.

Contamination Potential

All sources of drinking water are subject to potential contamination by constituents that are naturally-occurring or manmade. 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 (800-426-4791) or visiting the EPA Office of Water website at www.epa.gov/OGWDW.

Vulnerability

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 EPA's Safe Drinking Water Hotline (800-426-4791).

Monitoring

The Muhlenberg Township Authority routinely monitors for constituents in your drinking water according to federal and state laws. Table 1 shows monitoring results for the period January 1 to December 31, 2008. 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.

Because the Authority is not required to sample for all contaminants every year, the data shown in Table 1 are for the most recently collected sample for each contaminant. For example, samples for radionuclides were last collected in 2005, and samples for lead and copper were last collected in 2007. The values shown in Table 1 for radionuclides and lead and copper are, therefore, from 2005 and 2007, respectively. 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.

Health Effects

Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than 6 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.

Total Coliform Bacteria: Coliforms are bacteria that are present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present. Coliforms were found in more samples than allowed, and this was a warning of potential problems.

Definitions

Throughout this report you will find some terms and abbreviations with which you might not be familiar. 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 that 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.
- *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.
- *Nephelometric Turbidity Unit (NTU)* - A measure of the clarity of water. Turbidity in excess of 5 NTUs is just noticeable to the average person.
- *Non-Detect (ND)* - Laboratory analysis indicates the constituent is not present.
- *Not Applicable (n/a)* - Does not apply.
- *Parts per billion (ppb) or Micrograms per liter (ug/l)* - One part per billion corresponds to 1 minute in 2,000 years, or a single penny in \$10,000,000. 1,000 ppb = 1 ppm.
- *Parts per million (ppm) or Milligrams per liter (mg/l)* - One part per million corresponds to 1 minute in 2 years, or a single penny in \$10,000. 1 ppm = 1,000 ppb.
- *Picocuries per liter (pCi/l)* - Measurement of the natural rate of disintegration of radioactive contaminants.
- *Treatment Technique (TT)* - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- *<* - Less than the value indicated.

TABLE 1 - DETECTED PRIMARY CONTAMINANTS

Contaminant (Unit of measurement)	Violation Y/N	Level Detected	Range	MCLG/MRDLG	MCL/MRDL	Likely Source of Contamination
Total Coliform Bacteria (number of monthly samples positive)	Y	2 (a.)	0 to 2	0	1	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present. Coliforms were found in more samples than allowed, and this was a warning of potential problems.
Chlorine (Distribution System) (ppm)	N	0.54 (b.)	0.29 to 0.54 (b.)	4	4	Water additive used to control microbes.
Combined Radium (pCi/L) (2005 Data)	N	1.35	0 to 2.6	0	5	Erosion of natural deposits.
Copper (ppm) (2007 Data)	N	0.17 (c.)	(d.)	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Gross Alpha (pCi/L) (2005 Data)	N	6.8	4.4 to 6.8	0	15	Erosion of natural deposits.
Haloacetic Acids (HAA5) (ppb)	N	0.75	0 to 2.0	0	60	Byproduct of drinking water chlorination.
Lead (ppb) (2007 Data)	N	4 (c.)	(d.)	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits.
Nitrate (as Nitrogen)(ppm)	N	5.52	1.35 to 5.69	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Trichloroethylene (ppb)	N	1.0	0 to 1.0	0	5	Discharge from metal degreasing sites and other factories.
TTHMs (Total trihalomethanes)(ppb)	N	4.8	0 to 12.0	0	80	Byproduct of drinking water chlorination.
Uranium (ppb) (2005 Data)	N	2.35	2.09 to 2.53	0	30	Erosion of natural deposits.

- (a.) Two samples positive in June.
All other months had zero positive samples.
- (b.) Monthly average values.

- (c.) Level Detected value shown is the 90th percentile value.
- (d.) No samples out of 30 samples taken exceeded the Action Level (AL).

About our Total Coliform Bacteria Violation: In 2008, our water system violated a drinking water standard for the presence of coliform bacteria in more samples than allowed. We routinely monitor for coliform bacteria, the presence of which provides a warning of potential problems in our system. In June 2008, we took 30 samples to test for the presence of coliform bacteria. Two of these samples tested positive. Drinking water standards require that no more than one sample per month may be positive for coliform bacteria in our system. As required by PADEP, we published a notice of this violation in the newspaper at the time, with an explanation of what happened and what you, as a customer, should do. We regret this violation. We will continue to monitor for total coliform bacteria, as well as chlorine residuals, as part of our efforts to ensure that this problem has been corrected.

Notice of Monitoring Violation: We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During the first quarter of 2008 (January to March 2008), we did not complete the required monitoring for volatile organic chemicals (VOCs) at entry point 105 (Well 6), and therefore cannot be sure of the quality of our drinking water with regards to these contaminants during that time. On March 9, 2008 a mechanical failure of the well pump prevented us from collecting the required sample from Well 6 prior to the March 31, 2008 deadline. The required samples were collected on April 7, 2008, after pump repairs were completed. The results of those samples and all other samples collected in 2008 indicate VOC concentrations that meet safe drinking water standards.

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Lead in Drinking Water

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 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 (800-426-4791) or the EPA website at www.epa.gov/safewater/lead.

Summary

In order to ensure the quality of your tap water, the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water supply systems. Standards are set in two (2) categories. Primary standards relate to public health. Secondary standards relate to aesthetic qualities, such as taste, odor, and color.

The Muhlenberg Township Authority works around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water resources, which are the heart of our community, our way of life, and our children's future.

Landlords, apartment managers, businesses, schools, and others are encouraged to share this 2008 Annual Drinking Water Quality Report with all water consumers at their respective locations. We thank you for your cooperation in distributing this important information.

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

Muhlenberg Township Authority Public Water System
Identification Number: 3060038.