IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER QUALITY

2017 ANNUAL DRINKING WATER QUALITY REPORT

FROM

NORTH MIDDLETON AUTHORITY
of

NORTH MIDDLETON TOWNSHIP

240 CLEARWATER DRIVE
CARLISLE, PA 17013
(717) 243-8269

PWSID No. 7210049

WATER CONSERVATION REMINDER

Please remember it is everyone's responsibility to do his or her part to conserve our most precious resource, WATER!

Water Conservation Tips for Everyone: The average person uses about 62 gallons of water every day; the majority of water is used for laundry, toilet flushing and showering, followed by faucet use and leaky fixtures.

Try these water conservation tips and save water and money:
Replace an old toilet with a new 1.6 gallon-per-flush model. This can save 7,900 to 21,700 gallons of water per year.
Repair dripping faucets and leaking toilets (flapper valves are usually the cause). Repairs can save 10 gallons of water per person per day. A faucet dripping at one drop per second wastes 2700 gallons of water per year.
Wash clothes and dishes only when you have a full load. When replacing an older machine, consider high efficiency models, which use an average of 30% less water and 40-50% less energy. Install low-flow, water-efficient showerheads and faucets and save 1-to-7.5 gallons per minute. Taking a quick shower can save an average of 20 gallons of water.
Turn off the water when brushing your teeth or shaving to save more than 5 gallons of water per day.

For more water conservation tips visit the DEP website at www.state.pa.us

Please do your part to help conserve our most precious resource, Water!!

2017 ANNUAL WATER QUALITY REPORT

North Middleton Authority
of
North Middleton Township

Public Water Supply Identification Number 7210049

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.)**

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 contact E. Lee Koch at 717-243-8269. Safe water is vital to our community. And we want our valued customers to be informed about their water supply. We have regular Water Authority meetings on the third Thursday of every month at the North Middleton Authority Administration Offices located at 240 Clearwater Drive, Carlisle, PA at 3:00 P.M. The public is welcome to attend.

North Middleton Authority, South Middleton Township Municipal Authority and Middlesex Township Municipal Authority have entered into agreements whereas, North Middleton Authority purchases water from both South Middleton Township Municipal Authority and Middlesex Township Municipal Authority to serve portions of North Middleton Township. You reside or work within one of several locations within North Middleton Township, which is provided drinking water from these intermunicipal cooperative agreements.

This report contains information on the source water supply from the South Middleton Township Municipal Authority, PWSID#7210050, Middlesex Township Municipal Authority PWSID#7210063 and within the distribution system of North Middleton Authority PWSID#7210049.

SOURCES OF WATER:
The water sources within the South Middleton Township Municipal Authority consist of three groundwater wells. Well No.1 draws from the Tomstown Aquifer, was developed in 1972 and is located across from Pittsburg Plate Glass (PPG), Well No. 2 draws from the Elbrook Aquifer, was developed in 1975 and is located one mile west of Boiling Springs, south of PA Route 174, and Well No. 3 draws from the Rockdale Run Aquifer, was developed in 1985 and is located across from the Forest Meadows development off Rockledge Drive, southwest of Carlisle.

In July of 2010 Middlesex Township Municipal Authority began using its own permitted groundwater supply. **Well No. 1** which is located west of South Middlesex Road draws from the Rockdale Run Aquifer Formation and was constructed in the spring of 2004.

North Middleton Authority, South Middleton Township Municipal Authority and Middlesex Township Municipal Authority routinely monitor the quality of drinking water in accordance with Federal and State laws. All sources of drinking water are subject to potential contamination by compounds that are naturally occurring or man made. The compounds or 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 contaminant and/or compounds. Their presence however, does not necessarily indicate that the water poses a health risk.
To help you understand this better we have prepared a series of tables to illustrate the detection levels of only the positive compounds and/or contaminants found throughout the monitoring period of January 1st to December 31st, 2017. The State allows us to monitor for some contaminants less then once per year because the concentrations of these contaminants do not change frequently. Some of the data is from prior years in accordance with the Safe Drinking Water Act. Data from prior years have been noted on the sampling results tables.

The table(s) may contain some terms or abbreviations you might not be familiar with. To help you with these terms we have provided the following definitions:

Action Level (AL) – The concentration of a contaminant that, 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 Maximum Contaminant Level Goals 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 in 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.

Million fibers per liter(MFL)

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

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water.

Parts per billion (ppb) or Micrograms per liter (ug/l)- one part per billion or micrograms per liter .

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million or milligrams per liter.

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

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

SOUTH MIDDLETON TOWNSHIP MUNICIPAL AUTHORITY SOURCE WATER PWSID #7210050 DETECTED SAMPLE RESULTS

Chemical Contaminants								
Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Barium	**2.0**	**2.0**	**0.050**	**0.042-0.050**	**ppm**	**2015**	**No**	**Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits**
Chromium	**100**	**100**	**4.0**	**2.0 – 4.0**	**ppb**	**2015**	**No**	**Discharge from steel and pulp mills; erosion of natural deposits.**

SOUTH MIDDLETON TOWNSHIP MUNICIPAL AUTHORITY DETECTED SAMPLE RESULTS CONTINUED-PWSID#7210050

Chemical Contaminants

Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Nitrite	**1**	**1**	**0.75**	**0 – 0.75**	**ppm**	**2013**	**No**	**Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits**
Nitrate	**10**	**10**	**3.5**	**2.60-3.50**	**ppm**	**2017**	**N**	**Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits**
Radium-228	**5.0**	**0**	**1.2**	**NA**	**Pci/l**	**2014**	**N**	**Erosion of natural deposits**
Tetra-chloroethylene	**5**	**0**	**0.8**	**NA**	**ppb**	**2017**	**No**	**Discharge from factories and dry cleaners**

Entry Point Disinfectant Residual

Contaminant	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	**0.40**	**0.67**	**0.67- 1.49**	**ppm**	**2017**	**No**	**Water additive used to control microbes.**

Unregulated Contaminant Monitoring Rule #3- Starting in 2014 SMTMA tested for unregulated contaminants that don't yet have a drinking water standard set by EPA. The purpose of monitoring for them is to help EPA decide whether the contaminants should have a standard.

South Middleton Township Municipal Authority Detected Unregulated Contaminants

Contaminant	MCL in CCR Units	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Hexavalent Chromium	**NA**	**0.53**	**0.18-0.53**	**ppb**	**2014**	**NA**	**Odorless and tasteless metallic element, found naturally in rocks, plants, soil and volcanic dust.**
Strontium	**1500**	**440**	**74-440**	**ppb**	**2014**	**NA**	**Alkaline earth metal similar to calcium and barium**
Vanadium	**NA**	**0.25**	**0.20-0.25**	**ppb**	**2014**	**NA**	**Found in small quantities in soils and rocks**

MIDDLESEX TOWNSHIP MUNICIPAL AUTHORITY SOURCE WATER PWSID# 7210063

DETECTED SAMPLE RESULTS

Chemical Contaminants

Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Asbestos (MFL)	**7 MFL**	**7 MFL**	**0.0**	**N/A**	**MFL**	**2014**	**No**	**Decay of asbestos cement water mains; Erosion of natural deposits.**
Chromium	**100**	**100**	**3.5**	**N/A**	**ppb**	**2015**	**No**	**Discharge from steel and pulp mills; erosion of natural deposits**
Barium	**2**	**2**	**0.037**	**N/A**	**ppm**	**2015**	**No**	**Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits**
Nitrate	**10**	**10**	**7.6**	**7.1 – 7.6**	**ppm**	**2017**	**No**	**Runoff from fertilizer use; leaching from septic tanks sewage; erosion of natural deposits.**
Fluoride	**2**	**2**	**0.1**	**NA**	**ppm**	**2015**	**No**	**Erosion of natural deposits**

Entry Point Disinfectant Residual

Contaminant	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	**0.60**	**0.88**	**0.88 – 1.24**	**ppm**	**2017**	**N**	**Water additive used to control microbes**

Violations: Middlesex Authority was required to collect samples for Synthetic Organic Chemicals (SOC) at Well #1 during the 1st , 2nd and 3rd quarters of 2017. The authority's contracted laboratory did not collect a SOC sample in the 3rd quarter of 2017, which is a Tier 3 Violation. The required sampling has been rescheduled for the 3rd quarter of 2018.

NORTH MIDDLETON AUTHORITY DISTRIBUTION SYSTEM ANALYSIS PWSID#7210049

DETECTED SAMPLE RESULTS PWSID#7210049

Lead and Copper

Contaminant	Action Level (AL)	MCLG	90th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead	**15**	**0**	**9.0 (a)**	**ppb**	**0 of 20**	**No**	**Corrosion of household plumbing.**
Copper	**1.3**	**1.3**	**0.191 (a)**	**ppb**	**0 of 20**	**No**	**Corrosion of household plumbing.**

Chemical Contaminants

Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Total Haloacetic Acids Five	**60**	**N/A**	**35.59**	**15.7-42.2**	**ppb**	**2017**	**No**	**By-product of drinking water chlorination**
Total Trihalomethanes	**80**	**N/A**	**51.55**	**16.9-67.8**	**ppb**	**2017**	**No**	**By-product of drinking water chlorination**
Chlorine (Distribution)	**MRDL=4**	**MRDLG=4**	**.67**	**.67-1.32**	**ppm**	**2017**	**No**	**Water additive used to control microbes.**

Footnotes: (a) Lead and Copper values from 2016. Next testing cycle is 2019.

North Middleton Authority staff mistakenly reported a distribution check sample to the drinking water reporting system in November 2017. This is noted as a reporting error and has been corrected.

The North Middleton Authority staff took the November 2017 quarterly samples for Trihalomethanes and Haloacetic Acids on the incorrect date the sampling plan calls for, which resulted in a failure to meet the sampling plan. The results of the samples were within normal tolerances for Trihalomethanes and Haloacetic Acids and are included in the tables of this report.

North Middleton Authority staff took the February 2018 quarterly samples for Trihalomethanes and Haloacetic Acids on the incorrect date the sampling plan calls for, which resulted in a failure to meet the sampling plan. The results of the samples were within normal tolerances. Because of the action of the Authority staff you have right to know this occurred.

EDUCATIONAL INFORMATION:

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 800-426-4791.

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 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:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
(D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
(E) 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 prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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. North Middleton 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 at *http://www.epa.gov/safewater/lead*.

Water Hardness

Dissolved harmless minerals in water, such as calcium or magnesium, are responsible for that white residue in your coffeepot or on your showerhead. South Middleton Township Municipal Authority and Middlesex Township Municipal Authority's water is considered hard due to the amount of dissolved calcium and magnesium in our water source.

OTHER INFORMATION:

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 advice from your health care provider.

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).

If you have questions or would like additional information regarding this report please call our office at (717) 243-8269.