Annual Drinking Water Quality Report
Smyrna Water Department
27 S. Market St., Smyrna, DE 19977
PWS ID# DE000657
May 30, 2017
(RE: Calendar Year 2016)

We're pleased to present to you this year's Annual 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 protect our water resources. We are committed to ensuring the quality of your water. **Our water source is groundwater. Our wells draw from the Columbia Aquifer.**

The Department of Natural Resources and Environmental Control in conjunction with the Division of Public Health has conducted a source water assessment. Please contact the person listed below regarding its availability and how to obtain a copy. You may also review this at http://delawaresourcewater.org/assessments. It provides information such as potential sources of contamination. Overall, Smyrna Water has a very high susceptibility to nutrients, a high susceptibility to pathogens, a very high susceptibility to petroleum hydrocarbons, a very high susceptibility to pesticides, a moderate susceptibility to PCBs, a very high susceptibility to other organic compounds, exceeds drinking water standards for metals and, a moderate susceptibility to other inorganic compounds.

If you have any questions about this report or concerning your water utility, please contact **Juan Martinez 302-653-9288.** We want our valued 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 on 1st and 3rd Mondays of each month at 7:00 p.m. in the Town Hall.

Public Health, Office of Drinking Water routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, **2016.** As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In this table 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:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

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

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

Maximum Contaminant Level (MCL) - The "Maximum Allowed" (MCL) 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.

Maximum Contaminant Level Goal (MCLG) - The "Goal"(MCLG) 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.

TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Radioactive Contaminants						
6. Combined radium	N	2.22 1.253-2.22 (2014)	pCi/l	0	5	Erosion of natural deposits
Inorganic Contaminants						
11. Barium	N	0.1243 0.0616 – 0.1243	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine	N	1 0.9-1	ppm	4	4	Water additive used to control microbes
17. Fluoride	N	1.62 0.18-1.62	ppm	0.8 -1.2	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
20. Nitrate (as Nitrogen)	N	5.1 0-5.1	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
22. Selenium	N	1.6 0-1.6	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Nickel	N	0.7 0-0.7	ppb	n/a	100	Naturally occurring
Synthetic Organic Contaminants including Pesticides and Herbicides						
34. Di(2-ethylhexyl) phthalate	N	0.29 0.26-0.29	ppb	0	6	Discharge from rubber and chemical factories
Volatile Organic Contaminants						
75. TTHM [Total trihalomethanes]	N	34.3 0-34.3	ppb	0	80	By-product of drinking water chlorination
Total Haloacetic Acids (HAA5)	N	4 0-4	ppb	60	60	

Secondary Standards						
80. Sodium (Na)	N	14.53 10.7-19.2	ppm	0		
81. Alkalinity (Alk)	N	7.79 0.98-14.2	ppm			
82. pH	N	6.93 6.7-7.5	ppm		6.5 – 8.5	
83. Chloride (Cl)	N	27.6 19.3-36.6	ppm		250	
90. Sulfate	N	26.96 15.1-43.9	ppm			
Manganese	N	4.9 0-4.9	ppb	50	50	Naturally-occurring element that can be found ubiquitously in the air, soil, and water

Contaminant	Violation Y/N	90th Percentile	# Sites Over AL	Units	MCLG	Action Level	Likely Source of Contamination
18. Lead	N	0.12	0	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
15. Copper	N	0.135	0	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

*** All other contaminants were in compliance with the Safe Drinking Water Act.**

As authorized and approved by EPA, the state has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to very significantly from year to year. Some of our data [e.g. for Organic Contaminants], though representative, is more than one year old.

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.

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. **Smyrna 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 (1-800-426-4791 or at www.epa.gov/safewater/lead.

Maximum Contaminant Level Goal (MCLG) & Action Level (AL)

The MCLG for lead is zero and the AL is 15 parts per billion (or 0.015 parts per million). The MCLG is the level of a contaminant in drinking water below which here is no known or expected risk to health. MCLGs allow for a margin of safety. The AL is the concentration of the contaminant which, if exceeded, triggers treatment of other requirements which a water system must follow.

Health effects of Lead

Lead can cause serious health problems if too much enter your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientist have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than health adults. Lead is stored in the bones and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which affect brain development.

Steps you can take to reduce exposure to lead in drinking water:

1. Run your water to flush out lead: If water hasn't been used for several hours, run water for 15 to 30 seconds or until it becomes cold or reaches a steady temperature before using it for drinking or cooking.
2. Use cold water for cooking and preparing baby formula: Lead from the plumbing dissolves more easily into hot water.
3. Do not boil water to remove lead: Boiling water will not reduce lead.
4. Remove debris from plumbing materials: Remove the faucet strainers from all taps and run the water from 3 to 5 minutes. Thereafter, periodically remove the strainers and flush out any debris that has accumulated over time.
5. Identify and replace lead solder: Lead solder (which was commonly used to join copper pipes prior to 1988) appears dull gray and when scratched with a key becomes shiny. A licensed plumber should be able to help with lead solder identification and replacement (if applicable).
6. Have an electrician check your grounding: Check with a licensed electrician if grounding wires from the electrical system can be done so elsewhere (if applicable).
7. Look for alternative sources or treatment of water: You may want to consider purchasing bottled water or a point of use filter device on consumption taps (e.g. kitchen sink).

Additional Information

For additional information, please contact **Smyrna Water Department** at 302-653-9288. For additional information on reducing lead exposure around your home/building and the health effects of lead, visit EPA's website at www.epa.gov/lead or contact your health care provider.

What does this mean?

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water is drinkable at these levels.

We constantly monitor for various constituents in the water supply to meet all regulatory requirements. These past 2 years we did not report the unregulated contaminants in our report. This does not pose a threat to the quality of our water supply. We failed to provide you, our drinking water customers, an annual report that adequately informed you about the quality of our drinking water and the risks from exposure to contaminants detected in our drinking water. The violation was three months and we corrected it by sending the report in October.

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. In order to insure tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations established limits for contaminants in bottled water, which must provide the same protection for public health.

Contaminants that may be present in source water include:

1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operation, and wildlife.
2) Inorganic contaminants, such as salts and metals can be naturally [occurring or result from urban storm water runoff, industrial or domestic wastewater discharge, oil and gas production, mining, or farming.
3) Pesticides and herbicides, which may come from a variety of sources, such as agricultural, urban storm water runoff, and residential uses.
4) 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 storm water runoff, and septic systems.
5) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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. 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.

MCL's are set at very stringent levels. 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.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

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 (800-426-4791).

We at **Smyrna Water Department** work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Please call our office at 653-9288 if you have questions.