

# **Ayersville** Water and Sewer District, Defiance Ohio

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## **2016 Annual Drinking Water Quality Report**

The Ayersville Water and Sewer District is pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality 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 surface water taken from the Maumee River and pumped into an up-ground reservoir operated by the City of Defiance.

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 the office at (419) 395-1733. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regular scheduled Board meetings. They are held every month on the third Thursday at 7:00 pm in the Ayersville Water and Sewer District building at 13961 Fruit Ridge Road, Defiance, Ohio.

The District pumped 32,050,285 million gallons of waters to our customers during 2016, which was down from 2015's distribution of 35,282,618 million gallons. The District is a satellite district of Defiance. Therefore, the District is influenced by Defiance's test results. In accordance with the Federal and State laws, we routinely monitor for chlorine, daily; bacteria, monthly; total trihalomethanes, quarterly; and lead and copper, annually. The table on page four shows the results of the Defiance Water Treatment Plant's monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2016; as well as results from analysis of the District's sampling.

The District was in violation for exceeding the maximum contaminant level (MCL) standard of 0.080 mg/L as established in the Ohio Administrative Code (OAC) section 3745-81-12 for TTHM. Compliance with the MCL is based on a locational running annual average (LRAA). The LRAA for TTHM during the Third Quarter of 2016-time period was 0.085 mg/L at location DS201 and 0.087 mg/L at location DS202. During Fourth Quarter of 2016-time period the LRAA was 0.083 mg/L at location DS201. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems and may have an increased risk of getting cancer. TTHMs are a by-product of disinfection and as water sits over time in the District's distribution system, these byproducts can accumulate in your water. Increased flushing can help alleviate this buildup by decreasing the time water sits. Be assured that the District is currently pursuing efforts to address and remedy our TTHM exceedances. The District has fluctuated tower levels in order to get more volume of water flowing in and out of the water tower. The flushing routine of our hydrants has been updated to potentially cause a more thorough flushing of the District's distribution system, at the same time we are coordinating with the City of Defiance's flushing schedule to provide fresher water to be flushed through the system. Long term plans include working with a local engineering firm so that a distribution study can be conducted. We are encouraged that these efforts will show positive change in the near future as it concerns our current TTHM issues.

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. Surface waters are by their nature, susceptible to contamination, and there are numerous potential contaminant sources, including agricultural runoff, oil/gas wells, inadequate septic systems, leaking underground storage tanks, and road and rail crossings. As a result, the surface water supplied to these plants is considered to have a high susceptibility to contamination.

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 water 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, urban storm water runoff, and septic systems; (D) 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 storm water runoff, and septic systems; (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil gas production and mining activities.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA 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 Federal Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

**Microbiological Contaminants:**

Turbidity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. The organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

**Inorganic Contaminants:**

Nitrate. Infants below the age of six months who drink water-containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

**Lead Educational Information:**

"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. Ayersville Water and Sewer District is responsible for providing high quality water drinking water, but cannot control the variety of materials used in plumbing components. When your water has been still/not flowing 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 at (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>."

In the table on page 4, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

**Abbreviated Definitions:**

**AL—Action Level.** The concentration of a contaminant, which if exceeded, triggers treatment or other requirements.

**NA—Not Available.**

**ND—No Detection.**

**TT—Treatment Technique.** Required process intended to reduce the level of a contaminate in drinking water.

**ppm or mg/L—Parts Per Million.** Milligrams per liter or parts per million - or one ounce in 7,350 gallons of water. One part per million corresponds to one minute in two years.

**ppb or ug/L—Parts Per Billion.** Micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water. One part per billion corresponds to one minute in 2,000 years.

**NTU—Nephelometric Turbidity Unity.** A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**pCi/L—Picocuries Per Liter.** Measure of radioactivity in water.

**MCL—Maximum Contaminant Level.** Maximum allowable amount of a contaminant that is allowed in drinking water.

**MCLG--Maximum Contaminant Level Goal.** 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 residual disinfectant level 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 residual disinfectant below which there is no known or expected risk to health.

**RAA—Running Annual Average.**

**TTHM—Total Trihalomethanes.** A by-product of disinfection.

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink two (2) liters of water every day at the MCL level for a lifetime to have a one-in-million chance of having the described health effect.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

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 the drinking than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplant, 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 are an appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

The Ayersville Water and Sewer District operates under a current, unconditioned license from the Ohio EPA. Our Public Water System Identification (PWSID) is OH2000903 and is valid until January 30, 2018.

Please call our office if you have any questions. We work around the clock at the District to provide top quality water to every tap. We ask that all our customers help us in protecting our water sources. Water nourishes the seed of our community's health and well-being.

**David R. Wright/District Manager**  
**Ayersville Water and Sewer District**  
**13961 Fruit Ridge Rd.**  
**Defiance, Ohio 43512**  
**(419) 395-1733**

City of Defiance Test Results 2016							
Contaminants (Units)	MCLG	MCL	Level Found	Range of Detection	Violation Yes/No	Year Sampled	Typical Sources of Contaminants
<b>Bacteriological</b>							
Turbidity (NTU)	N/A	TT	0.22	0.01-0.22	No	2016	Soil Water Runoff
Turbidity (% Samples meeting standard)	N/A	TT=95%	100%	100%	No	2016	
Total Coliform Bacteria (TC)	0	1	0	0%	No	2016	Naturally present in the environment
Microcystins (ppb)	*	N/A	0	0	No	2016	Produced by some naturally occurring cyanobacteria, also known as blue-green algae, which under certain conditions (i.e., high nutrient concentration and light intensity) may produce microcystins.
*0.3 AL for children under 6 and sensitive populations 1.6 for children 6 and older and adults							
Total Organic Carbon (TOC)	TT	N/A	2.25	1.9-2.9	No	2016	Naturally present in the environment
The value reported under "Level Found" for TOC is the lowest ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.							
<b>RadioActive Contaminants</b>							
Combined Radium 226/228 (pCi/L)	0	5	2.50	2.50	No	2014	By-product of drinking water chlorination Water additive used to control microbes.
<b>Inorganic Contaminants</b>							
Fluoride (ppm)	4	4	1.10	0.80-1.24	No	2016	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	3.05	0.69-3.05	No	2016	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium (ppm)	2	2	0.048	0.0480	No	2016	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Synthetic Organic Contaminants including Pesticides & Herbicides							
Atrazine (ppb)	3	3	0.15	0.11-0.22	No	2016	Runoff from herbicide used on row crops.
Simazine (ppb)	4	4	<0.05	<0.05	No	2016	Runoff from herbicide used on row crops.
Volatile Organic Contaminants							
Total Trihalomethanes (TTHM) (ppb)	N/A	80	70.4	36.8-88.3	No	2016	By-product of drinking water chlorination
Haloacetic Acid (HAA5) (ppb)	N/A	60	30.4	15.1-41.2	No	2016	By-product of drinking water chlorination
Residual Disinfectants							
Total Chlorine (ppm)	MRDLG=4.0	MRDL=4.0	0.85	0.8-1.0	No	2016	Water additive used to control microbes.
Lead and Copper							
Contaminants (Units)	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Year Sampled	Typical Sources of Contaminants	
Lead	15 ppb	1	<2	No	2016	Corrosion of household plumbing systems; Erosion of natural deposits.	
	1 out of 31 samples was found to have lead levels in excess of the lead action level of 15ppb						
Copper	1.3 ppm	0	0.0473	No	2016	Corrosion of household plumbing systems; Erosion of natural deposits.	
	0 out of 31 samples were found to have copper levels in excess of the Action Level of 1.3 ppm.						
Ayersville Water and Sewer District Test Results 2015							
Contaminants (units)	MCLG	MCL	Level Found	Range of Detection	Violation Yes/No	Year Sampled	Typical Sources of Contaminants
Microbiological Contaminants							
Total Coliform Bacteria	0	1	0	0	No	2016	Naturally present in the environment
Residual Disinfectants							
Total Chlorine (ppm)	MRDL=4	MRDL=4	0.97	0.5-1.3	No	2016	Water additive used to control microbes.
Volatile Organic Contaminants							
Total Trihalomethanes (TTHM) (ppb)	N/A	0.08 mg/L	87.0	37.4 - 115	Yes	2016	By-product of drinking water chlorination
Haloacetic Acid (HAA5) (ppb)	N/A	60	28.8	20.1 - 35	No	2016	By-product of drinking water chlorination
Lead and Copper							
Contaminants (Units)	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Year Sampled	Typical Sources of Contaminants	
Lead	15 ppb	0	7.4	No	2014	Corrosion of household plumbing systems; Erosion of natural deposits.	
	0 out of 31 samples were found to have lead levels in excess of the lead action level of 15ppb						
Copper	1.3 ppm	0	0.058	No	2014	Corrosion of household plumbing systems; Erosion of natural deposits.	
	0 out of 31 samples were found to have copper levels in excess of the Action Level of 1.3 ppm.						