

# Ayersville Water and Sewer District, Defiance Ohio

## 2020 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. The direct link to the source water assessment for the City of Defiance is <http://wwwapp.epa.ohio.gov/gis/swpa/OH2000111.pdf>.

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 at the Ayersville Water and Sewer District Office; 13961 Fruit Ridge Road, Defiance, Ohio.

The District pumped 39,225,900 gallons of water to our customers during 2020, which was up from 2019's distribution of 37,814,800 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; total coliform, monthly; total trihalomethanes & Haloacetic acids, quarterly; and lead, & copper annually. The table on page five 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>, 2020; as well as results from analysis of the Ayersville W&S District's sampling.

The District was in violation for exceeding the maximum contaminant level (MCL) standard of 80 ug/L as established in the Ohio Administrative Code (OAC) section 3745-81-12 for TTHM for the 1<sup>st</sup> Quarter, January 1<sup>st</sup> - March 31<sup>st</sup> of 2020. Compliance with the MCL is based on a locational running annual average (LRAA). The LRAA for TTHM during the First Quarter of 2020-time period was 80.3 ug/L at location DS201 and 83.2 ug/L at location DS202. Second Quarter of 2020-time period was 78.4 ug/L at location DS201 and 80.0 ug/L at location DS202. Third Quarter of 2020-time period was 79.9 ug/L at location DS201 and 78.1 ug/L at location DS202. During Fourth Quarter of 2020-time period the LRAA was 78.4 ug/L at location DS201 and 77.2 ug/L at location DS202. 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 as well as a slow flush program "continuous flushing" 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. A contract has been signed with a local engineering firm an ongoing study is being done to determine the best feasible solution to this issue. We are encouraged that these efforts will show positive change in the near future as it concerns our current TTHM issues.

As of Jan 13<sup>th</sup> 2020 AYERSVILLE, WATER AND SEWER DISTRICT is in violation of the Ohio Administrative Code (OAC) Rules 3745-96-01 through 04 for failure to comply with the CCR requirements. All issues have been resolved and revised Water Quality Report has been reissued to the public as well as on our web page which can be found @ <https://www.ayersvillewsd.com/consumer-confidence-reports/>. Revised Copies sent to public and OEPA on Feb 20<sup>th</sup> 2020.

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 number 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 is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time. As reported in the Table, the Defiance WTP highest recorded turbidity result for 2020 was 0.17 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%. This means all samples in 2020 met compliance for turbidity.

#### **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:**

A public water system is required to collect samples at homes that are a high risk to have elevated lead and copper levels in their water. A public water system is in compliance if the 90<sup>th</sup> percentile is no greater than 15ug/L for lead and 1.3 ppm for copper.

"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>."

Some people who drink water containing fluoride well in excess of the MCL over years could get bone disease, including pain and tenderness of the bones. Children may get mottled or discolored teeth.

On page 3, 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:** is a unit for measuring radioactive concentrations. The curie (Ci) unit is the activity of 1 gram of pure radium 226. Pico is a scientific notation term which **means**  $1 \times 10^{-12}$ . Another unit commonly used for radioactive concentrations is the SI unit Becquerels per meter cubed (Bq/m<sup>3</sup>).

**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 or Trihalomethanes (THM):** are a group of four chemicals that are formed along with other disinfection by products when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water.

**HAA5:** Haloacetic acids (also known as halogenated acetic acids, **HAAs** or **HAA5**) are chemicals that can form as a result of water treatment, when water acidity and temperature are slightly high and treatment chemicals react with organic particles or bromide.

**Microcystins:** Liver toxins produced by a number of cyanobacteria. Total microcystins are the sum of all the variants/congener (forms) of the cyanotoxians microcystin.

**Cyanobacteria:** Photosynthesizing bacteria, also called blue-green algae, which naturally occur in marine and fresh water ecosystems, and may produce cyanotoxians, which at sufficiently high concentrations can pose a risk to public health.

**Cyanotoxians:** Toxin produced by cyanobacteria. These toxins include liver toxins, nerve toxins, and skin toxins. Also sometimes referred to as "algal toxin".

**PFAS:** Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals applied to many industrial, commercial and consumer products to make them waterproof, stain resistant, or nonstick. PFAS are also used in products like cosmetics, fast food packaging, and a type of firefighting foam called aqueous film forming foam (AFFF) which are used mainly on large spills of flammable liquids, such as jet fuel. PFAS are classified as contaminants of emerging concern, meaning that research into the harm they may cause to human health is still ongoing.

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 you & 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, conditioned license from the Ohio EPA. The conditions require us to address ongoing violations. Our Public Water System Identification (PWSID) is OH2000903 and is valid until January 30, 2022. Please call our office if you have any questions on these conditions or violations. 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.



**Eric Wenzinger Manager/ORC WS2-20087068-20**  
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**Defiance, Ohio 43512**  
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Detected Regulated Contaminants Table City of Defiance							
Contaminants (Units)	MCLG	MCL	Level Found	Range of Detection	Violation Yes/No	Year Sampled	Typical Sources of Contaminants
<b>Microbiological Contaminants</b>							
Turbidity (NTU)	N/A	TT	0.17	0.01-0.17	No	2020	Soil Water Runoff
Turbidity (% Samples meeting standard)	N/A	TT=95 %	100%	100%	No	2020	
Total Organic Carbon (TOC)	TT	N/A	2.3	1.9-2.5	No	2020	Naturally present in the environment
The value reported under "Level Found" for TOC is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to							
<b>Inorganic Contaminants</b>							
Fluoride (ppm)	4	4	1.04	0.69-1.17	No	2020	Erosion of natural deposits; Water additive which promotes strong teeth
Nitrate (ppm)	10	10	1.97	0.117-1.97	No	2020	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium (ppm)	2	2	0.0490	0.0490	No	2020	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
<b>Volatile Organic Contaminants</b>							
Total Trihalomethanes (TTHM) (ppb)	N/A	80	91.4	40.7-112.4	Yes	2020	By-product of drinking water chlorination
Haloacetic Acid (HAA5) (ppb)	N/A	60	27.0	12.6-35.2	No	2020	By-product of drinking water chlorination
<b>Residual Disinfectant</b>							
Total Chlorine (ppm)	MRDLG=4.0	MRDL=4.0	1.57	0.90-2.10	No	2020	Water additive used to control microbes.
<b>Lead &amp; Copper</b>							
Contaminants	Action Level	Individual Results over AL	90% of test samples were less than	Violation	Year Sampled	Typical Source Of Contamination	
Lead (ppb)	15	N/A	<2.0	No	2020	Corrosion of household plumbing systems; Erosion of natural deposits.	
1 out of 60 samples were found to have lead levels in excess of the Action Level of 15 ppb.							
Copper (ppm)	1.3	N/A	0.036	No	2020	Corrosion of household plumbing systems; Erosion of natural deposits.	
0 out of 60 samples were found to have copper levels in excess of the Action Level of 1.3 ppm.							
<b>Synthetic Organic Contaminants including Pesticides &amp; Herbicides</b>							
Atrazine (ppb)	3	3	0.25	0.07-0.59	No	2020	Runoff from herbicide used on row crops.
Simazine (ppb)	4	4	<0.05	<0.05	No	2020	Runoff from herbicide used on row crops.

Detected Regulated Contaminants Table Ayersville Water and Sewer District 2020							
Contaminants (units)	MCLG	MCL	Level Found	Range of Detection	Violation Yes/No	Year Sampled	Typical Sources of Contaminants
<b>Microbiological Contaminants</b>							
<b>Residual Disinfectants</b>							
Total Chlorine (ppm)	MRDLG=4	MRDL=4	1.0205	0.8096-1.1822	No	2020	Water additive used to control microbes.
<b>Volatile Organic Contaminants</b>							
Total Trihalomethanes (TTHM)(ppb)	N/A	80	88.30	52.30 – 99.2	Yes	2020	By-product of drinking water chlorination
Haloacetic Acid (HAA5)(ppb)	N/A	60	28.38	18.7 – 33	No	2020	By-product of drinking water chlorination
<b>Lead and Copper</b>							
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 (ppb)	15 ppb	N/A	<2.0	No	2020	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 (ppm)	1.3 ppm	N/A	0.032	No	2020	Corrosion of household plumbing systems; Erosion of natural deposits.	