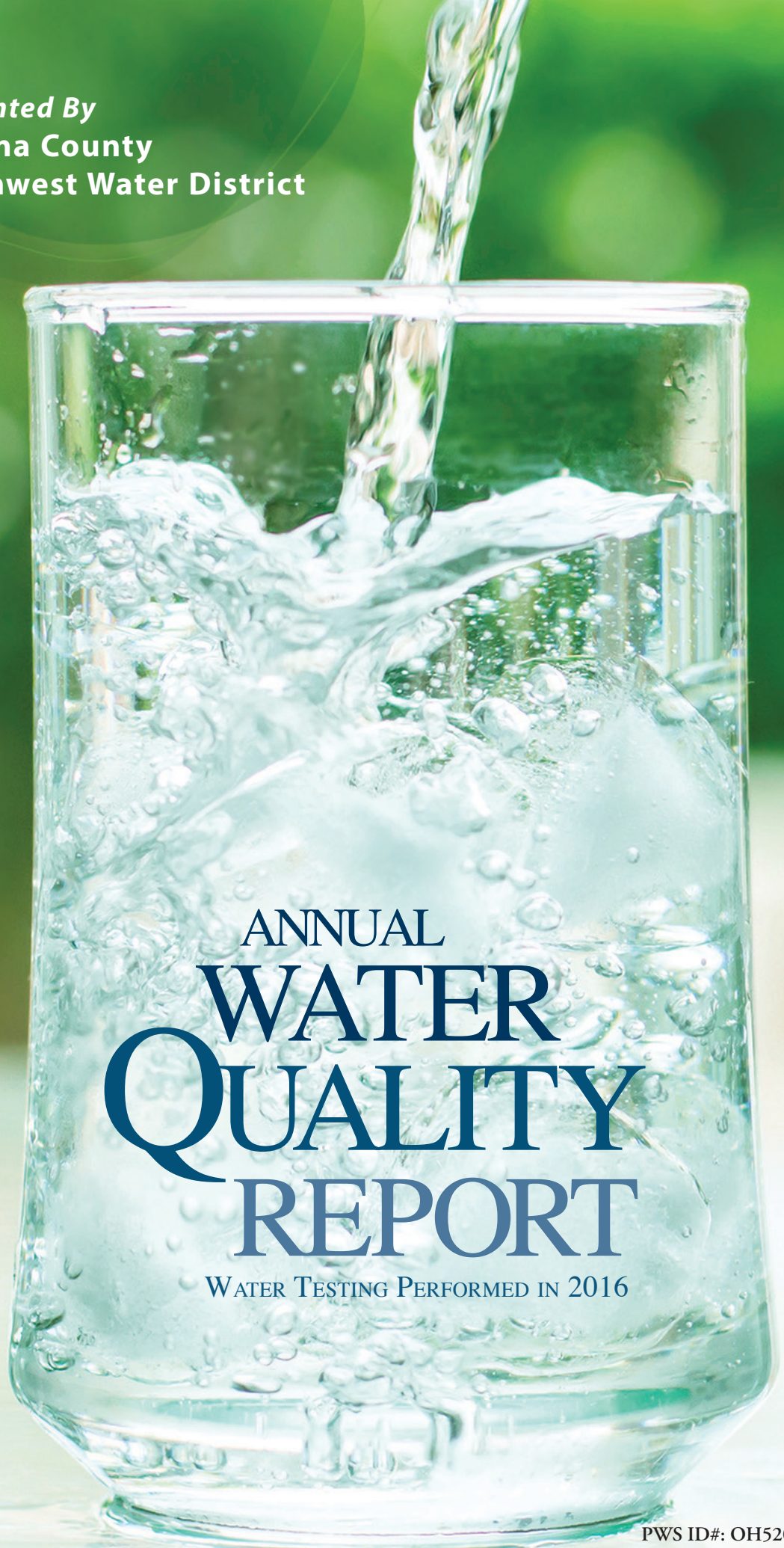




Presented By
**Medina County
Northwest Water District**



ANNUAL
**WATER
QUALITY
REPORT**

WATER TESTING PERFORMED IN 2016

We've Come a Long Way

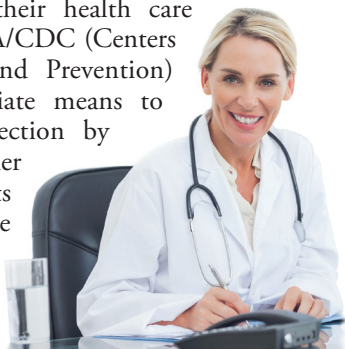
Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

Community Participation

The Medina County Board of Commissioners holds regularly scheduled meetings every Tuesday at 9:30 a.m. at the County Administration Building, 144 N. Broadway, Medina. Information regarding these meetings can be found on the Medina County Meetings and Events Calendar at <http://www.co.medina.oh.us/calendar.html>. The public may also address any drinking water concerns to the Medina County Sanitary Engineering Department Superintendent of Treatment, David Bazilevich, at (330) 723-9585.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Backflow Prevention Program

The Medina County Sanitary Engineering Department Backflow Prevention Program requires that all backflow prevention devices be in proper operating condition and be tested annually by persons certified by the State of Ohio Department of Commerce. Our backflow prevention program requirements are included in our Rules and Regulations. Our Rules and Regulations and Annual Backflow Device Maintenance Form may be downloaded online from our home page at <http://www.sanitaryengineer.co.medina.oh.us>.

If you have any questions regarding backflow prevention or our backflow program, contact Dan Ingraham or Christine Hegarty at our main office at (330) 723-9585.

Source Water Assessment

In 2002, the Ohio EPA conducted a source water assessment for the Avon Lake Regional Water. The plant uses surface water drawn from an intake in Lake Erie. For the purposes of source water assessments in Ohio, all surface waters are considered to be susceptible to contamination. Due to the vast size and dilution capabilities of Lake Erie, the Ohio EPA evaluated Avon Lake's contamination potential based on a critical assessment zone (CAZ), for which it was determined there was no direct source of pollution. The Ohio EPA further determined that undetected contamination would be minimized, due to Avon Lake's Emergency Operation Plan, and that no water-quality violations have been recorded, thanks to Avon Lake's source water analysis. Avon Lake Regional Water treats the water to meet drinking water quality standards. Implementing measures to protect Lake Erie and the Black River can further decrease the potential for water quality impacts. More detailed information is provided in the Drinking Water Assessment Report, which can be obtained by calling the Medina County Sanitary Engineers at (330) 723-9585.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 or at www.epa.gov/lead.



Where Does My Water Come From?

Medina County Northwest Water System obtains all of its water from Lake Erie. Our water is treated by Avon Lake Regional Water and purchased through a consortium with Avon Lake Regional Water, Rural Lorain County Water Authority, Medina County, and the City of Medina. Medina County also maintains two emergency connections with the City of Cleveland Division of Water System in Brunswick, Ohio, with one on Boston Road and one on Pearl Road; they were not used during the 2016 calendar year.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call David Ling, our Water Operations Supervisor, at (330) 723-9585.



What type of container is best for storing water?

Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, do not use any container with markings on the recycle symbol showing “7 PC” (code for BPA). You could also consider using stainless steel or aluminum with BPA-free liners.

How much emergency water should I keep?

Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can survive only 1 week without water.

How long can I store drinking water?

The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria before it was filled with tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

How long does it take a water supplier to produce one glass of drinking water?

It could take up to 45 minutes to produce a single glass of drinking water.

How many community water systems are there in the U.S.?

About 53,000 public water systems across the United States process 34 billion gallons of water per day for home and commercial use. Eighty-five percent of the population is served by these systems.

Which household activity wastes the most water?

Most people would say the majority of water use comes from showering or washing dishes; however, toilet flushing is by far the largest single use of water in a home (accounting for 40% of total water use). Toilets use about 4 to 6 gallons per flush, so consider an ultra-low-flow (ULF) toilet, which requires only 1.5 gallons.

Test Results

Our water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents only those substances that were detected; our goal is to keep all detects below their respective maximum allowed levels. The Ohio EPA allows us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

Please note that in 2016, Medina County had an unconditioned license issued by the Ohio EPA to operate the Medina County Northwest Water System.

REGULATED SUBSTANCES									
				Medina County Northwest Water District		Avon Lake Regional Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium ¹ (ppm)	2016	2	2	NA	NA	0.032	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine ¹ (ppm)	2016	[4]	[4]	0.99	0.19–1.51	1.51	1.15–1.58	No	Water additive used to control microbes
Fluoride (ppm)	2016	4	4	NA	NA	1.04	0.48–1.23	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] ² (ppb)	2016	60	NA	29.45	14.9–39.7	18.2	12.1–22.3	No	By-product of drinking water disinfection
Nitrate (ppm)	2016	10	10	NA	NA	0.99	0.10–0.99	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] ² (ppb)	2016	80	NA	60.07	24.24–83.52 ³	38.6	23.7–49.8	No	By-product of drinking water disinfection
Total Organic Carbon [TOC] ⁴ (ppm)	2016	TT	NA	NA	NA	1.0	1.0–1.85	No	Naturally present in the environment
Turbidity ⁵ (NTU)	2016	TT	NA	NA	NA	0.18	0.03–0.18	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2016	TT = 95% of samples meet the limit	NA	NA	NA	100	NA	No	Soil runoff
Tap water samples were collected for lead and copper analyses from sample sites throughout the community.									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE	
Copper (ppm)	2015	1.3	1.3	0.0818	<0.05–0.94	0/34	No	Corrosion of household plumbing systems; Erosion of natural deposits	
Lead (ppb)	2015	15	0	<5.0	<5.0–46.2	1/34 ⁶	No	Corrosion of household plumbing systems; Erosion of natural deposits	

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Medina County Northwest Water District		Avon Lake Regional Water		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Chlorate (ppb)	2015	7.3	0–58.8	NA	NA	Agricultural defoliant or desiccant; Disinfection by-product; Used in production of chlorine dioxide
Chromium, Hexavalent (ppb)	2015	0.16	0.044–0.35	0.11	0.069–0.15	Industrial activities; Naturally occurring
Chromium [Total] (ppb)	2015	0.27	0–0.53	NA	NA	Naturally present in the environment
Mercury (ppb)	2015	NA	NA	0.88	0–0.88	Naturally present in the environment
Molybdenum (ppb)	2015	1.39	1.2–1.9	1.07	0–1.6	Naturally present in the environment
Strontium (ppb)	2015	188	160–240	127.25	0–179	Naturally present in the environment
Vanadium (ppb)	2015	0.18	0–0.33	0.14	0–0.30	Naturally present in the environment

¹The contaminant level found is the highest compliance value based on a running annual average. This average includes results from 2015 & 2016.

²Disinfection by-products are the result of providing continuous disinfection of your drinking water. They form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection by-products are grouped into two categories: Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s). The U.S. EPA sets standards for controlling the levels of disinfectants and disinfectant by-products in drinking water, including both TTHMs and HAA5s.

³Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their livers, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

⁴The value reported under Amount Detected for Total Organic Carbon (TOC) is the lowest ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. This removal ratio is calculated as the ratio between the actual TOC removal and the TOC rule removal requirements and other parameters. A value of at least one (1) indicates that the water system is in compliance with TOC removal requirements.

⁵Turbidity is a measure of the cloudiness of water and 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 above, the Avon Lake WTP highest recorded turbidity result for 2016 was 0.18 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.

⁶One sample was detected above the AL at 46.2 ppb.

⁷Monitoring unregulated contaminants helps the U.S. EPA to determine where certain contaminants occur, and whether it needs to regulate those contaminants.

Definitions

AL (Action Level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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