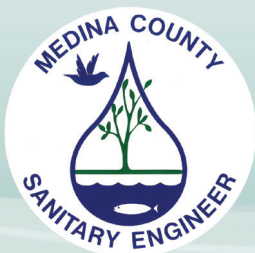
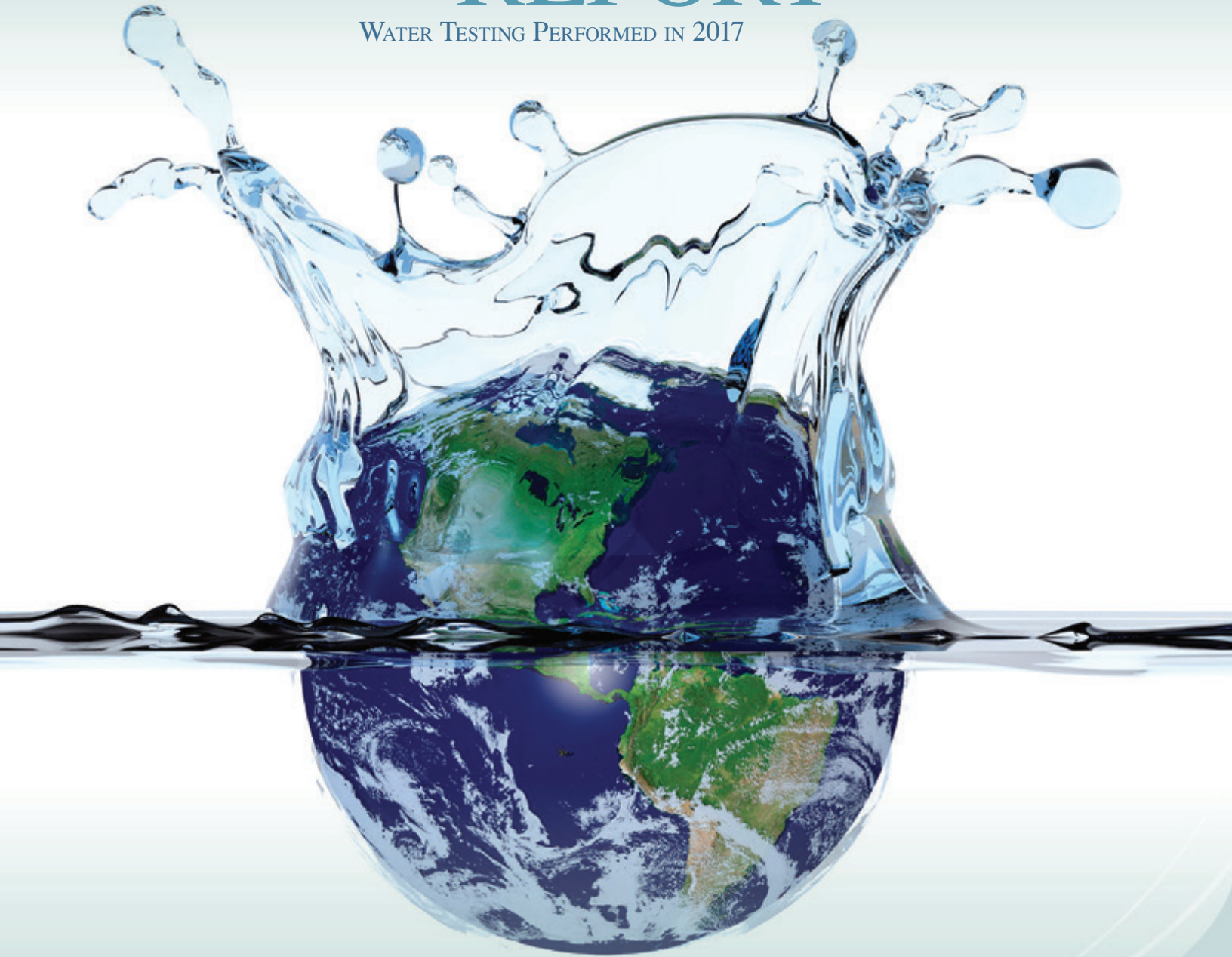


ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



Presented By
Medina County
Northwest Water District

Quality First

Once again we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education, while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

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 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.

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, 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 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 storm-water 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 storm-water 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 storm-water 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.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 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>.



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 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.

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.

Water treatment is a complex, time-consuming process.

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 is 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 that were not used during the 2017 calendar year.



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 www.sanitaryengineer.co.medina.oh.us. If you have any questions regarding backflow prevention or our backflow program, contact our main office at (330) 723-9585, or by email at mcse_backflow@medinaco.org.

QUESTIONS?

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

Failure in Flint

The national news coverage of water conditions in Flint, Michigan, has created a great deal of confusion and consternation. The water there has been described as being corrosive; images of corroded batteries and warning labels on bottles of acids come to mind. But is corrosive water bad?

Corrosive water can be defined as a condition of water quality that will dissolve metals (iron, lead, copper, etc.) from metallic plumbing at an excessive rate. There are a few contributing factors but, generally speaking, corrosive water has a pH of less than 7; the lower the pH, the more acidic, or corrosive, the water becomes. (By this definition, many natural waterways throughout the country can be described as corrosive.) While all plumbing will be somewhat affected over time by the water it carries, corrosive water will damage plumbing much more rapidly than water with low corrosivity.

By itself, corrosive water is not a health concern; your morning glass of orange juice is considerably more corrosive than the typical lake or river. What is of concern is that exposure in drinking water to elevated levels of the dissolved metals increases adverse health risks. And therein lies the problem.

Public water systems are required to maintain their water at optimal conditions to prevent it from reaching corrosive levels. Rest assured that we routinely monitor our water with lead and copper sampling to make sure that what happened in Flint never happens here. The Medina County Northwest System is scheduled to begin lead and copper sampling again in 2018. For more information on how corrosivity impacts water quality, download this informative pamphlet: <http://goo.gl/KpTmXv>.



BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the U.S.

34
BILLION

1
MILLION

The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S.

135
BILLION

300
MILLION

The number of Americans who receive water from a public water system.

The age in years of the world's oldest water found in a mine at a depth of nearly two miles.

2
BILLION



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less 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 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 EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

Please note that in 2017, 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 (ppm)	2017	2	2	NA	NA	0.03 ¹	0.03–0.03	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2017	[4]	[4]	0.99 ¹	0.26–1.85	NA	NA	No	Water additive used to control microbes
Fluoride (ppm)	2017	4	4	NA	NA	1.02	0.14–1.31	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] ² (ppb)	2017	60	NA	29.00	18.6–31.6	29.0	18.6–31.6	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	NA	NA	1.02	0.11–1.02	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] ^{2,3} (ppb)	2017	80	NA	61.09	25.98–81.37	61.1	26.0–81.4	No	By-product of drinking water disinfection
Total Organic Carbon [TOC] (ppm)	2017	TT	NA	NA	NA	1.11 ⁴	1.11–1.72	No	Naturally present in the environment
Turbidity (NTU)	2017	TT	NA	NA	NA	0.25 ⁵	0.03–0.25	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2017	TT = 95% of samples meet the limit	NA	NA	NA	100	NA	No	Soil runoff
Tap Water Samples 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 CONTAMINANT MONITORING RULE - PART 3 (UCMR3) ⁷

		Medina County Northwest Water District		Avon Lake Regional Water		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chlorate (ppb)	2015	7.3	0–58.8	NA	NA	Agricultural defoliant or desiccant; disinfection by-product; Used in production of chlorine dioxide
Chromium [Total] (ppb)	2015	0.27	0–0.53	NA	NA	Naturally present in the environment
Chromium-6 (ppb)	2015	0.16	0.044–0.35	0.11	0.069–0.15	Industrial activities or from naturally occurring sources
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

¹These contaminants level found is the highest compliance value based on a running annual average. This average includes results from 2016 and 2017.

²Disinfection byproducts are the result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection byproducts are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfectant byproducts 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 liver, 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 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. A system is in violation if the value falls below 1.

⁵Turbidity 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 above, the Avon Lake WTP highest recorded turbidity result for 2017 was 0.25 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.

⁶There was one sample that was detected above the AL at 46.2 ppb.

⁷Unregulated contaminants monitoring helps EPA to determine where certain contaminants occur, and whether it needs to regulate those contaminants.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which 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 the highest 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).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

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