

# ANNUAL WATER QUALITY REPORT

Reporting Year 2021



*Presented By*  
**Dover Water/  
Wastewater Dept.**





## 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, 2021. 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 all hours—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.

## Where Does My Water Come From?

City of Dover Water & Wastewater Department customers are fortunate to receive an abundant water supply from a groundwater source: the Sugar Creek Basin Aquifer. The rock type in this aquifer is primarily sand and gravel. We have five wells in the Dover Well Field, located at 390 West 17th Street, Dover, that are used to draw from this groundwater supply. Raw water is pumped to our treatment plant, where it is treated and then pumped into the distribution system. Demand for good, safe drinking water is high. We provide our customers approximately two million gallons of very high-quality drinking water every day.

Our water supply is part of the Tuscarawas Watershed, which covers an area of about 2,614 square miles. Most of our watershed is under forest cover or used for agricultural purposes. We are all entrusted to maintain this watershed properly to ensure a safe and reliable drinking water supply. To learn more about our watershed, visit the U.S. EPA's Surf Your Watershed website at [www.epa.gov/surf](http://www.epa.gov/surf).

“  
When the well is dry, we  
know the worth of water.

—Benjamin Franklin

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## How Is My Water Treated?

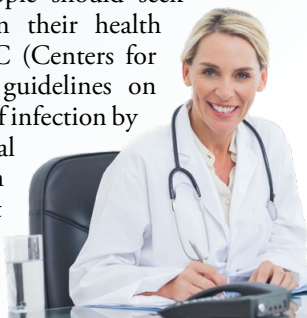
Our groundwater supply is not exposed to air or subject to direct pollution and contamination like water in a river or reservoir. In fact, because groundwater is the highest-quality water available to meet the public health demand of water intended for human consumption, we are able to provide your water directly from the source. As an additional service to our customers and to meet U.S. EPA guidelines, chlorine is added as a precaution against any bacteria that may be present in the raw water, and we remove iron and manganese from the raw water by means of filtration. The chlorine levels are checked again (and adjusted if necessary) before the water is pumped into our distribution system and to your home or business. We carefully monitor the amount of any additives, using the lowest possible quantity to protect the safety of your water and meet government regulations without compromising taste.

## Community Participation Information

Public participation and comments are encouraged at regular meetings of the Dover City Council, which meets on the first and third Mondays of each month at 7:30 p.m. at the Roy G. Crawford Center, 121 East Second Street, Dover.

## 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>.



## Think Before You Flush!

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of our waterways by disposing responsibly. To find a convenient drop-off location near you, please visit <https://bit.ly/3leRyXy>.

## QUESTIONS?

For more information about this report, or for any questions related to your drinking water, please call Trevor Klar, Water & Wastewater Department Superintendent, at (330) 343-3443 or the water treatment plant at (330) 343-4116.

## 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 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.

## Safeguard Your Drinking Water

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain it to reduce leaching to water sources, or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use U.S. EPA's Adopt Your Watershed to locate groups in your community.
- Organize a storm drain stenciling project with others in your neighborhood. Stencil a message next to the street drain reminding people "Dump No Waste – Drains to River" or "Protect Your Water." Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

## 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 two 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. A list of laboratories certified in the State of Ohio to test for lead may be found at <http://www.epa.ohio.gov/ddagw> or by calling (614) 644-2752. 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 (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



## What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit <https://www.atsdr.cdc.gov/pfas/index.html>.

## Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

The source of drinking water for the City of Dover continues to be assigned a high susceptibility to contamination due to the following:

1. The thin, highly permeable sandy loam soil layer that separates the ground surface from the underlying sand-and-gravel aquifer offers little protection from contaminant spillage from above.
2. Depth to groundwater in the sand-and-gravel layer is generally 5 to 15 feet below ground surface.
3. The topography is generally flat, which promotes infiltration more than runoff.
4. There are numerous significant potential sources of contamination within or directly adjacent to the protection area.

The aquifer that supplies drinking water to the City of Dover has a high susceptibility to contamination, which is indicated by the fact that some nitrates have been detected in the city's water wells since 1993. Future contamination may be avoided by the protective measures that have been put into practice. More detailed information is available in the city's Wellhead Protection Plan and Source Water Assessment Plan, which can be copied or viewed by calling Trevor Klar, Water & Wastewater Superintendent, at (330) 343-3443 during regular office hours.

## 2020 City of Dover Triennial Lead and Copper Monitoring Results

- 90th-percentile reporting for lead: 7.07 ppb
- 90th-percentile reporting for copper: 0.175 ppm

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

**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.

**MMO-MUG:** Minimal medium O-nitrophenyl-beta-D-galactopyranoside (ONPG) 4-methylumbelliferyl-β-D-glucuronide (MUG), a testing technique.

**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.

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**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.



## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not 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.

Note that we have a current, unconditioned license to operate our water system.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2021	2	2	0.0633	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine <sup>1</sup> (ppm)	2021	[4]	[4]	0.91	0.73–1.08	No	Water additive used to control microbes
Fluoride (ppm)	2021	4	4	0.1	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2021	60	NA	3.3	3.0–3.6	No	By-product of drinking water disinfection
Nitrate (ppm)	2021	10	10	0.634	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Coliform Bacteria (Positive samples)	2021	TT	NA	0	NA	No	Naturally present in the environment
TTHMs [Total Trihalomethanes]–Stage 1 (ppb)	2021	80	NA	16.9	11.8–22.0	No	By-product of drinking water disinfection
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 %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	9/16/2020	1.3	1.3	0.175	0	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead (ppb)	9/16/2020	0	15	7.07	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.
SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2021	250	NA	36.9	NA	No	Runoff/leaching from natural deposits
pH (units)	2021	6.5-8.5	NA	7.05	NA	No	Naturally occurring
Sulfate (ppm)	2021	250	NA	174	NA	No	Runoff/leaching from natural deposits; Industrial wastes
Zinc (ppm)	2021	5	NA	0.0023	NA	No	Runoff/leaching from natural deposits; Industrial wastes
UNREGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE			
Hardness (ppm)	2021	414	NA	Runoff/leaching from natural deposits			
Sodium (ppm)	2021	15.6	NA	Naturally occurring; Runoff			
Strontium (ppb)	2021	139	NA	Naturally occurring			

<sup>1</sup> Average monthly total Cl2 readings from routine MMO-MUG system sampling.