ANNUAL WATER QUALITY REPORT

Reporting Year 2018

Presented By

Clermont County Water

PWS ID#: 1302212

Our Mission Continues

We are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Source Water Assessment

Potential pollution sources identified in the PPSI include: Walter C. Beckjord Generating Station, the PUB Water Treatment Plant, onsite wastewater treatment systems, underground and above-ground fuel storage tanks, the Ohio River, Ten Mile Creek, and transportation routes (B&W, 1998). The specific susceptibility levels for all three plants were "high priority" rankings. Customers may get a copy of the assessment by calling Tim Neyer at (513) 732-7945.

Get Involved

The Clermont County Board of County Commissioners owns and operates the Clermont County Water System. While the Water Resources Department does not hold regular meetings open to the public, customers are encouraged to participate in discussions about our drinking water. The Clermont County Board of County Commissioners hold sessions at 10 a.m. on most Mondays and Wednesdays. Sessions of the Board are held in the third-floor session room of the Clermont County Administration Building, located at 101 E. Main Street in Batavia, Ohio.

Additional information can be found by visiting the County Web site, www.clermontcountyohio.gov, or by calling (513) 732-7300.

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.

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.

Water Treatment Process

The treatment process consists of a series of steps. First, raw water is drawn from our water source and sent to a mixing tank where polyaluminum chloride is added. The addition of these substances causes small particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges.

Chlorine is added as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, caustic soda (to adjust the final pH and alkalinity) and fluoride (to prevent tooth decay) are added before the water is pumped to reservoirs, water towers, and into your home or business.

About Our Violation

In the fourth quarter of 2018, at one sample location in Newtonsville, we exceeded the MCL for TTHMs. Because TTHM formation is a function of organics reacting with chlorine over time, we have been able to address this problem by reducing water age in our system as well as decreasing the amount of organics leaving our surface water treatment plant by modifying the use of our granular-activated carbon (GAC). This approach has worked, and levels in the first quarter of 2019 are back below the MCL.

Some 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.

Source Water Description

The Clermont County Water System operates three water treatment plants that pump into a common distribution system of pipes serving our customers.

The MGS plant, located near Miamiville, draws from wells in the Little Miami River Aquifer. In 2004, the Ohio EPA performed a Source Water Assessment for the MGS wellfield and designated it as highly susceptible to contamination. This assessment is based in part on the geology of the aquifer, which is shallow and has little or no impermeable materials atop it. Another factor is the presence of potential sources of pollution in the area. The state EPA also notes the presence of nitrates in the water, which suggests man-made influences in the aquifer. However, the water continues to meet drinking water standards. The wellfield is monitored for contamination and cared for under an Ohio EPA endorsed Wellhead Protection Plan. Persons who wish to learn more may call Rick Fueston at (513) 553-4113.

The PUB plant is near New Palestine, where its wells draw from the Ohio River Valley Aquifer. A susceptibility analysis from the Ohio EPA has determined that this aquifer has a high susceptibility for contamination, based on a relatively thin layer of low-permeable material overlying the aquifer, and the relatively shallow depth of the aquifer. Potential pollution sources in the area and a possible hydraulic connection to the Ohio River also contribute to this assessment. However, the EPA agrees that there is no evidence of existing chemical contaminants. These wellfields are also monitored for contamination and cared for under an Ohio EPA-endorsed Wellhead Protection Plan. People who wish to learn more may call Rick Fueston at (513) 553-4113.

The Bob McEwen Water Treatment Plant (BMW) is located near Batavia and draws surface water from Harsha Lake. Surface water is more susceptible to contamination than groundwater, so extensive testing of the raw water is conducted frequently. Chemical and bacteriological testing, as well as evaluation of the biological organisms living upstream of the lake, is used to determine raw water quality and identify areas of concern. The Ohio EPA completed a Source Water Assessment for BMW in 2004. The protection area around Harsha Lake and the upstream portions of the East Fork Little Miami River includes a number of commercial and industrial facilities, but the greater concern is runoff from agricultural fields, the potential for spills at road and rail crossings, and residential septic systems in the watershed. People who wish to learn more may contact Brent Smith at (513) 732-5386. Information on the watershed collected by Clermont County is available from the Office of Environmental Quality (OEQ) at (513) 732-7894 or the Web site: http://www.oeq.net.

QUESTIONS?

Questions about the water system, which has been in operation since 1955, may be directed to Tim Neyer at (513) 732-7945.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent, according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Furthermore, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to $1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at https://goo.gl/Jxb6xG.

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. 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.

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 show only 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.

The state recommends monitoring 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 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling 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. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

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)	2018	2	2	0.036	0.027–0.036	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2018	[4]	[4]	1.1	0.2–2.7	No	Water additive used to control microbes
Fluoride (ppm)	2018	4	4	1.00	0.56–1.57	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs][1] (ppb)	2018	60	NA	48.0	25.6–71.9	No	By-product of drinking water disinfection
Nitrate (ppm)	2018	10	10	0.92	0.42–1.52	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (ppm)	2018	1	1	0.1	0.1–0.1	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes][1] (ppb)	2018	80	NA	81.0	10.3–104.0	Yes	By-product of drinking water disinfection
Total Organic Carbon [TOC][2] (removal ratio)	2018	TT	NA	1.29	1.08–1.64	No	Naturally present in the environment
Turbidity[3] (NTU)	2018	TT	NA	0.264	0.021–0.264	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2018	TT = 95% of samples meet the limit	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 %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2017	1.3	1.3	0.39	0.05–0.647	0/52	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2017	15	0	<5.0	<5–12	0/52	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
Zinc (ppm)	2018	5	NA	0.010	0.010–0.010	No	Runoff/leaching from natural deposits; Industrial wastes

[1] Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

[2] The value reported under Amount Detected 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 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements.

[3] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

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 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 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.

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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