

Annual Water Quality Report - Reporting Year 2014

Clermont County Water
4400 Haskell Lane
Batavia, OH 45103

PWSID#: 1302212

Our Mission Continues

We are proud to present once again our annual water quality report covering all testing performed between January 1 and December 31, 2014. Most notably, last year marked the 40th anniversary of the Safe Drinking Water Act (SDWA). This rule was created to protect public health by regulating the nation's drinking water supply. We celebrate this milestone as we continue to manage our water system with a mission to deliver the best quality drinking water. By striving to meet the requirements of SDWA, we are ensuring a future of healthy, clean drinking water for years to come.

Please let us know if you ever have any questions or concerns about your water.

Questions about the water system, which has been in operation since 1955, may be directed to Mark Day at 513-732-7945.

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>.

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.

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 Miami, 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 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 EPA also notes the presence of nitrates in the water, which suggests manmade influence in the aquifer. However, the water continues to meet drinking water standards. These wellfields are 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 permeability 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 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 Bob McEwen Water Treatment Plant (BMW) is located near Batavia and draws surface water from Harsha Lake, which was created by constructing a dam across the East Fork Little Miami River. 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. Persons who wish to learn more may contact Tim Neyer at 513-732-5386. Additional information on the watershed collected by Clermont County is available from the Office of Environmental Quality (OEQ) at 513-732-7894 or the website: <http://www.oeq.net>. After treatment, which includes Granular Activated Carbon filtration, water from the lake meets all required drinking water standards.

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/safewater/lead.

UCMR3 Sampling

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (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. Any UCMR3 detections are shown in the data tables in this report. Contact us for more information on this program.

Special LTO Footnote

We have a current, unconditioned license to operate our water system.

When was drinking water first regulated?

The Safe Drinking Water Act (SDWA) of 1974 represents the first time that public drinking water supplies were protected on a federal (national) level in the U.S. Amendments were made to the SDWA in 1986 and 1996.

How much water do we use every day?

The average person in the U.S. uses 80 to 100 gallons of water each day. (During medieval times, a person used only 5 gallons per day.) It takes 2 gallons to brush your teeth, 2 to 7 gallons to flush a toilet, and 25 to 50 gallons to take a shower.

When was chlorine first used in the U.S.?

In 1908, Jersey City, New Jersey, and Chicago, Illinois, were the first water supplies to be chlorinated

In the U.S.

Seventy-one percent of Earth is covered in water: how much is drinkable?

Oceans hold about 96.5 percent of all Earth's water. Only three percent of the Earth's water can be used as drinking water. Seventy-five percent of the world's fresh water is frozen in the polar ice caps.

How much water is in our atmosphere?

Forty trillion gallons of water are carried in the atmosphere across the U.S. each day.

How much water is in our bodies?

Water makes up almost two-thirds of the human body and 70 percent of the brain. Four hundred gallons of water are recycled through our kidneys each day.

How long can a person go without water?

Although a person can live without food for more than a month, a person can live without water for only approximately one week.

Is tap water cheaper than soda?

Yes! You can refill an 8 oz. glass of tap water approximately 15,000 times for the same cost as a six-pack of soda pop. And water has no sugar or caffeine.

Tip Top Tap

The most common signs that your faucet or sink is affecting the quality of your drinking water are discolored water, sink or faucet stains, a buildup of particles, unusual odors or tastes, and a reduced flow of water. The solutions to these problems may be in your hands.

Kitchen Sink and Drain

Hand washing, soap scum buildup, and the handling of raw meats and vegetables can contaminate your sink. Clogged drains can lead to unclean sinks and backed up water in which bacteria (i.e., pink and black colored slime growth) can grow and contaminate the sink area and faucet, causing a rotten egg odor. Disinfect and clean the sink and drain area regularly. Also, flush regularly with hot water.

Faucets, Screens, and Aerators

Chemicals and bacteria can splash and accumulate on the faucet screen and aerator, which are located on the tip of faucets, and can collect particles like sediment and minerals resulting in a decreased flow from the faucet. Clean and disinfect the aerators or screens on a regular basis.

Check with your plumber if you find particles in the faucet screen as they could be pieces of plastic from the hot water heater dip tube. Faucet gaskets can break down and cause black, oily slime. If you find this slime, replace the faucet gasket with a higher-quality product. White scaling or hard deposits on faucets and shower heads may be caused by hard water or water with high levels of calcium carbonate. Clean these fixtures with vinegar or use water softening to reduce the calcium carbonate levels for the hot water system.

Water Filtration/Treatment Devices

A smell of rotten eggs can be a sign of bacteria on the filters or in the treatment system. The system can also become clogged over time so regular filter replacement is important. (Remember to replace your refrigerator filter!)

Impact of Zebra Mussels

The zebra mussel is a small mussel native to Russia. In 1988, it reached North America by a transatlantic freighter. Since then, they have continued to spread throughout the country. Zebra mussels are very successful invaders because they live and feed in many different aquatic habitats and breed prolifically (each female produces 1 million eggs per year) for their entire five-year lifespan.

Adult zebra mussels colonize on living and non-living surfaces, including boats, buoys, piers, plants, and clams. They are a great concern to drinking water utilities because they can attach to water

intake pipes, severely restricting the flow of fresh water. They can also impact water quality by increasing taste-and-odor problems in the water supply.

Zebra mussels are almost impossible to eradicate once they become established. Water utilities have had to retool their water intake systems to prevent zebra mussel-related problems costing millions of dollars a year. Utilities rely on a variety of methods to remove mussels from intake pipes; since there is no single, ideal removal solution, new methods are constantly under investigation.

While complete removal may be impossible, preventing zebra mussel spread is not. Human activities have spread them into many inland lakes and streams, usually through recreational boating, fishing, and diving practices. Simple steps such as draining live wells, cleaning vegetation off boat trailers, removing attached zebra mussels from boat hulls, and not dumping bait into lakes or rivers can prevent the spread of zebra mussels into non-infested waters.

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. Further, 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 www.nrdc.org/water/drinking/bw/exesum.asp.

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

Turn off the tap when brushing your teeth.

Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.

Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.

Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

Serratia will not survive in chlorinated drinking water.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water.

The state requires us to monitor 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.

Regulated Substances Clermont County Water

Substance (Unit of Measure)	Year Sampled	MCL [MRDL]	MCLG [MRDLG]	Amount Detected	Range Low- High	Violation	Typical Source
Barium (ppm)	2014	2	2	0.0278	0.0268 - 0.0278	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2014	[4]	[4]	1.13	0.2 - 3.0	No	Water additive used to control microbes
Fluoride (ppm)	2014	4	4	1.0	0.78 - 1.24	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] - Stage 1 (ppb)	2014	60	NA	37.3	ND - 42.5	No	By-product of drinking water disinfection
Nitrate (ppm)	2014	10	10	.86	ND - 2.0	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total					12.2 -		By-product of

Trihalomethanes] - Stage 1 (ppb)	2014	80	NA	69.4	100	No	drinking water disinfection
Turbidity (NTU)	2014	TT	NA	.27	.032 - .27	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2014	TT	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community
Clermont County Water

Substance (Unit of Measure)	Year Sampled	AL	MCLG	Amount Detected (90th% tile)	Sites Above AL/Total Sites	Violation	Typical Source
Copper (ppm)	2014	1.2999999523162842	1.3	0.365	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2014	15	0	<5.0	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits

Secondary Substances
Clermont County Water

Substance (Unit of Measure)	Year Sampled	SMCL	MCLG	Amount Detected	Range Low-High	Violation	Typical Source
Fluoride (ppm)	2014	2.0	NA	1.0	0.78 - 1.24	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories

Other Unregulated Substances
Clermont County Water

Substance (Unit of Measure)	Year Sampled	Amount Detected	Range Low-High	Typical Source
Chlorate (ppb)	2014	64.5	52 - 77	NA
Molybdenum (ppb)	2014	1.4	ND - 1.4	NA
Strontium (ppb)	2014	106.5	73 - 140	NA

Turbidity Footnote for Clermont County Water

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.

Table Definitions

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

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

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.

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.

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.

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