

**WESTERN WATER COMPANY
2022 WATER QUALITY REPORT**

IS MY DRINKING WATER SAFE?

Water quality is the first priority at Western Water Company. Constant testing by the dedicated staff of certified operators and laboratory personnel ensure the highest standards for drinking water quality are being met at all times. The test results for 2022 show Western Water Company's water to be of the highest quality. If you have any questions about water quality, please contact Jim Swearingen at the Water Treatment Plant, weekdays at (513)899-3211 between 8:00 A.M. and 5:00 P.M.

WHAT IS THE SOURCE OF MY WATER?

Western Water Company's water comes from an aquifer along the Little Miami River in Warren County. Western Water also purchases water from other water systems and then distributes the various supplies to their customers.

	Percent	Source
Western Water Company	56%	Little Miami River Aquifer Warren County
Cincinnati Water Works	43%	Ohio River, and Great Miami Aquifer
Brown County Rural Water	1%	Ohio River Valley Aquifer

WHY ARE THERE CONTAMINANTS IN MY WATER?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800)426-4791.

WHAT ARE SOURCES OF CONTAMINATION TO DRINKING WATER?

The sources of drinking water both tap and bottled water includes rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surfaces of the land or through the ground, it dissolves naturally occurring minerals and in some cases radioactive materials. The water can also pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) Inorganic contaminants, such as salts and metals which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm runoff and residential uses; (D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems; (E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

SUSCEPTIBILITY ANALYSIS

The aquifer that supplies drinking water to Western Water Company has a high susceptibility to contamination, as indicated by the presence of nitrates in the treated water in 1994 and 1996. The high susceptibility is due to the sensitive nature of the aquifer in which the drinking water wells are located. These wells are near existing potential contaminant sources which have been identified. Further nitrate testing since 1996 has indicated very low levels of nitrates in the finished water. These results are listed in this report and previous Consumer Confidence Reports, you the customer have received over the past few years. Although the aquifer is susceptible to contamination, our testing indicates nitrates are at very low levels in the finished water. Please contact Jim Swearingen at 513-899-3211 Ext. 5 if you would like more information about the assessment.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC 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.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OUR OPERATIONS?

In 2021, our PWS was sampled as part of the State of Ohio's Drinking Water Per- and Polyfluoroalkyl Substances (PFAS) Sampling Initiative. Results from this sampling indicated PFAS were detected in our drinking water below the action level established by Ohio EPA. Follow up monitoring is being conducted. For more information about PFAS, and to view our latest results, please visit pfas.ohio.gov.

On 11/09/2022 we were informed that one of our routine bacteria samples collected on 11/08/2022 was total coliform positive. As required by the Ground Water Rule, we collected 7 samples from our wellfield for fecal contamination analysis. WE found well #1 was positive for e-coli contamination. Inadequately treated or inadequately protected water may contain disease causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps and associated headaches. Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems. After receiving the results of the routine total coliform positive the wells were turned off and another source was used. After finding a positive result in well #1 we had the well pulled from the ground, then disinfected, re-installed and 4 additional samples were taken from well #1. On 11/21/2022 we were informed that all 4 samples were negative for bacteria. During this period in question the well was not used until samples were found to be negative.

There is a revision to the 2021 CCR concerning the reported Lead and Copper 90th percentile. Lead was reported at <5 ppb, but should have been 1.3 ppb. Copper was reported at .648 ppb but should have been .455 ppb.

In 2022 Western Water Company had an unconditional license to operate our water system.

TURBIDITY

Western Water Company purchases water from other water systems as explained in the source water section. We are required to report on the turbidity as an indication of the effectiveness of their filtration system. Turbidity is a measure of the cloudiness of water. The limit set by the EPA is 0.3 NTU in 95% of the samples analyzed each month, and shall not exceed 1 NTU at any time. As reported in GCWW's Data sheet provided with this CCR GCWW's highest recorded turbidity result for 2022 was .11 NTU at the Miller Water Plant and the lowest monthly percentage of samples meeting the turbidity limits was 100%.

HOW CAN I GET INVOLVED?

Our Water Officials will meet to answer questions each month at the Treatment Plant. Please feel free to participate. Call Jim Swearingen for dates and times at 1-513-899-3211.

LEAD CAN CAUSE SERIOUS HEALTH PROBLEMS

"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. Western Water Company is 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 thirty 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.state.oh.us/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 800-426-4719 or at <http://www.epa.gov/safewater/lead>".

Table of Detected Contaminants

Listed below is information on those contaminants that were found in the **Brown County Rural Water Association** drinking water.

TABLE OF DETECTED CONTAMINANTS

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Residual Disinfectants							
Total Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.25	1.22 - 1.28	No	2022	Water additive used to control microbes.
Inorganic Contaminants							
Nitrate (ppm)	10	10	0.93	NA	No	2022	Runoff from fertilizers, erosion of natural deposits.
Fluoride (ppm)	4	4	0.93	0.88-0.97	No	2022	Water additive required by State of Ohio E.P.A.
Antimony (ppm)	0.006	0.006	<3	NA	No	2020	Discharge from refineries; fire retardants; ceramics; electronics
Arsenic (ppm)	0	0.010	<3	NA	No	2020	Erosion of natural deposits; runoff from industrial sites
Selenium (ppm)	0.05	0.05	<3	NA	No	2020	Discharge from refineries and mines; erosion of natural deposits.
Thallium (ppm)	0.0005	0.002	<1	NA	No	2020	Discharge from factories
Disinfection Byproducts							
Total Trihalomethanes (ppb)	NA	80	28.3	23.4 – 28.3	No	2022	By-product of drinking water chlorination.
HAA5 (ppb)	NA	60	3.8	3.2-3.8	No	2022	By-product of drinking water chlorination.

Lead and Copper								
Lead and Copper	MCLG	AL	90 th percentile	# of sites found above the AL	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Lead (ppb)	0	15	0.0	0-30	nd – 8.9	No	2020	Corrosion of household plumbing systems.
Copper (ppm)	1.3	1.3	0.0	0-30	nd	No	2020	Corrosion of household plumbing systems.

Definitions of some terms contained within this report.

Maximum Contaminant Level Goal (MCLG): 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.

Maximum Contaminant level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Parts per Million (ppm) or Milligrams per Liter (mg/L) are units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.

Parts per Billion (ppb) or Micrograms per Liter ($\mu\text{g/L}$) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of 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.

Maximum Residual Disinfectant Level (MRDL): 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.

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

The "<" symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

Picocuries per liter (pCi/L): A common measure of radioactivity.

CONTAMINANTS	YEAR SAMPLE	LEVEL DETECTED	MCL	MCLG	RANGE OF DETECTION	VIOLATION	SOURCE OF CONTAMINANTS
INORGANIC (REGULATED) CONTAMINANTS							
FLUORIDE	2022	1.04 mg/l	4.0 mg/l	4.0 mg/L	0.75-1.19 mg/l	NONE	EROSION OF NATURAL DEPOSITS, WATER ADDITIVE WHICH PROMOTES STRONG TEETH, DISCHARGE FROM FERTILIZER AND ALUMINUM FACTORIES
NITRATES	2020	0.93 mg/l	10.0 mg/l	10.0 mg/L	n/a	NONE	RUNOFF FROM FERTILIZER USE; LEACHING FROM SEPTIC TANKS, SEWAGE; EROSION OF NATURAL DEPOSITS
BARIUM	2019	0.0479 MG/L	2 MG/L	2MG/L	N/A	NONE	Erosion of natural deposits, discharge from mining wastes and metal refineries
MICROBIOLOGICAL CONTAMINANTS							
E.coli (RTCR)	2022	1 sample	TT	n/a	n/a	NONE	*** See below
RESIDUAL DISINFECTANTS							
TOTAL CHLORINE	2022	1.03 mg/l	MRDL=4	MRDLG=4	.96-1.09 mg/l	NONE	WATER ADDITIVE TO CONTROL MICROBES
ORGANIC CONTAMINANTS (REGULATED)							
HALOACETIC ACID 5	2022	11.3 ug/l	60 ug/L	N/A	4.4-13.3 ug/l	NONE	BY PRODUCT OF DRINKING WATER CHLORINATION
THM'S	2022	41.6 ug/l	80 ug/L	N/A	14.6-39.3 ug/l	NONE	BY PRODUCT OF DRINKING WATER CHLORINATION

LEAD AND COPPER							
LEAD	2022	1.20 ug/l	AL=15.0 ug/l	Zero	<0.6 - 80 ug/L	NONE	CORROSION OF HOUSE-HOLD PLUMBING SYSTEMS
One out of 30 samples was found to have lead levels in excess of the lead action level of 15 ug/L (80ug/L)							
COPPER	2022	0.459 mg/l	AL=1.3 mg/L	1.3 mg/L	.005 - .641 mg/L	NONE	CORROSION OF HOUSE-HOLD PLUMBING SYSTEMS
Zero out of 30 samples was found to have copper levels in excess of the copper action level of 1.3 mg/l							

*** One well was positive for bacteria after disinfection four repeat samples were collected all were negative.

*** Typical Source of Contaminants, Human and animal fecal waste.

KEY TO ABBREVIATIONS

MCL - MAXIMUM CONTAMINANT LEVEL - THE HIGHEST LEVEL OF CONTAMINANT ALLOWED IN DRINKING WATER

MCLG - MAXIMUM CONTAMINANT LEVEL GOAL - THE LEVEL OF CONTAMINANT IN DRINKING WATER BELOW WHICH

THERE IS NO KNOWN RISK TO HEALTH

MRDLG - MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL, THE LEVEL OF RESIDUAL DISINFECTANT BELOW WHICH THERE IS NO KNOWN OR EXPECTED RISK TO HEALTH

MRDL - MAXIMUM RESIDUAL DISINFECTANT LEVEL; THE HIGHEST RESIDUAL DISINFECTANT LEVEL ALLOWED

AL - ACTION LEVEL - THE CONCENTRATION OF A CONTAMINANT WHICH TRIGGERS A TREATMENT OF OTHER REQUIREMENT WHICH A WATER SYSTEM MUST FOLLOW

TT - TREATMENT TECHNIQUE - A REQUIRED PROCESS INTENDED TO REDUCE THE LEVEL OF A CONTAMINANT IN DRINKING WATER

MG/L - MILLIGRAMS PER LITER (PPM)

UG/L - MICROGRAMS PER LITER (PPB)

N/R - NOT REGULATED

PCIL - PICO CURIES PER LITER, A MEASURE OF RADIOACTIVITY IN WATER

MREM/YR - MILLIREMS PER YEAR, A MEASURE OF RADIATION ABSORBED BY THE BODY

ND - NOT DETECTABLE AT SAMPLE TIME

NA - NOT APPLICABLE

MRDL - MAXIMUM RESIDUAL DISINFECTION LEVEL

MRDLG - MAXIMUM RESIDUAL DISINFECTION LEVEL GOAL

2022 CCR Data for GCWW Wholesale Customers

Regulated Contaminants ¹ : Contaminants subject to a Maximum Contaminant Level (MCL), Action Level (AL) or Treatment Technique (TT) ²										Typical Source of Contamination			
Substance	Unit	Maximum Allowed (MCL, AL, TT) ³	MCLG*	Highest Compliance Level Detected	Range of Detections	Violation	Year Sampled	Highest Compliance Level Detected	Range of Detections	Violation	Year Sampled	Typical Source of Contamination	
Fluoride	ppm	4.0	4.0	0.87	0.65-0.98	No	2022	0.86	0.74-0.97	No	2022	Additive which promotes strong teeth. May come from erosion of natural deposits.	
Nitrate	ppm	10	10	0.94	0.64-0.94	No	2022	1.79	nd - 1.79	No	2022	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits.	
Turbidity	NTU	TT1 < 1 NTU Max and TT2 < 0.3 NTU 95% of the time	na	0.11	0.03-0.11	No	2022	nr	nr	No	na	Soil runoff	
Total Organic Carbon ³		TT	na	1.88	1.60-3.49	No	2022	nr	nr	No	na	Naturally present in the environment.	
Barium	ppm	2	2	0.04	na ²	No	2022	0.014	na ²	No	2022	Erosion of natural deposits. Discharge of drilling wastes. Discharge from metal refineries.	

Unregulated Contaminants¹ for which EPA requires monitoring to determine where certain substances occur and whether it needs to regulate those substances.

Substance	Unit	MCLG*	Average Level Detected	Range of Detections	Violation	Year Sampled	Average Level Detected	Range of Detections	Violation	Year Sampled	Typical Source of Contamination	
Chloroform	ppb	70	3.79	na ²	na	2022	1.08	na ²	na	2022		
Bromodichloromethane	ppb	0	3.83	na ²	na	2022	2.85	na ²	na	2022		
Dibromochloromethane	ppb	60	3.43	na ²	na	2022	6.38	na ²	na	2022		
Bromoform	ppb	0	nd	na ²	na	2022	5.34	na ²	na	2022		
Sulfate	ppm	na	59	43 - 74	na	2022	42	40 - 43	na	2022		

¹Detected contaminants from the plant tap

²GCWW collects one sample per year.

³The value reported under "Highest Compliance Level 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. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.

Results of GCWW Voluntary Monitoring for *Cryptosporidium*:

GCWW has tested for *Cryptosporidium* (Crypto) in treated waters and has never detected it.

Crypto is a microscopic microorganism that, when ingested, can result in diarrhea, fever and other gastrointestinal symptoms.

GCWW also tested for Crypto in the Ohio River surface water and it was not detected in 9 samples during 2022. The organism is found in surface waters and comes from animal and human wastes which enter the watershed. Crypto is eliminated by an effective combination including sedimentation, filtration, and disinfection.

Sodium: GCWW has tested for sodium in treated water as it leaves the treatment plants and has found 30 mg (milligrams) per liter in the Miller water and 28 mg per liter in the Bolton water. There are approximately 4 cups in a liter.

Turbidity: We are required to report on the turbidity as an indication of the effectiveness of our filtration system. Turbidity is a measure of the cloudiness of water. The turbidity limit set by the EPA is 0.3 NTU in 95% of the samples analyzed each month, and shall not exceed 1 NTU at any time. As reported in the table above, GCWW's highest recorded turbidity result for 2022 was 0.11 NTU (Miller Water) and the lowest monthly percentage of samples meeting the turbidity limits was 100%.

GCWW has a current unconditional license to operate our water system. GCWW was in compliance with all state primary drinking water rules during 2022.

The Miller Treatment Plant uses the Ohio River as its source water. As with all surface waters, the Ohio River is highly susceptible to contamination. The Ohio EPA has also classified the portion of the Great Miami Buried Valley Aquifer that supplies water to the well fields for the Bolton Treatment Plant as highly susceptible to contamination. It does not have an overlying protective clay layer, the ground water has low levels of nitrate, and there are potential sources of contamination nearby.

Abbreviations

ppb: parts per billion or micrograms per liter
 ppm: parts per million or milligrams per liter
 na: not applicable
 NTU: Nephelometric Turbidity Unit, used to measure clarity in drinking water
 nd: not detectable at testing limits
 nr: not regulated

*Definitions

Maximum Contaminant Level Goal or MCLG: 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.

Maximum Contaminant Level or MCL: 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.

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

Treatment Technique or TT: A method for treating water to achieve acceptable levels of the contaminants in lieu of establishing a maximum contaminant level.

The < symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.