

**WESTERN WATER COMPANY  
2018 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 2018 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.

	<b>Percent</b>	<b>Source</b>
Western Water Company	59%	Little Miami River Aquifer Warren County
Cincinnati Water Works	40%	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 chemo therapy, 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?**

The Ohio EPA requires us to test our water on a regular basis to ensure its safety. Western Water Company had no violations to report for the 2018 sampling. In 2018 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. Two of these are required to monitor for turbidity so we are required to show these results on our report. Turbidity does not present any risk to your health. They monitor turbidity, which is a measure of cloudiness of water, because it is a good indicator that filtration systems are functioning properly.

### **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>".

2018 Western Water Company Water Quality Data							
CONTAMINANTS	YEAR SAMPLE	DETECTION LEVEL	MCL	MCLG	RANGE OF DETECTION	VIOLATION	SOURCE OF CONTAMINANTS
<b>INORGANIC (REGULATED) CONTAMINANTS</b>							
FLUORIDE	2018	1.13 mg/l	4.0 mg/L	4.0 mg/L	0.89-1.27 mg/l	NONE	EROSION OF NATURAL DEPOSITS, WATER ADDITIVE WHICH PROMOTES STRONG TEETH, DISCHARGE FROM FERTILIZER AND ALUMINUM FACTORIES
NITRATES	2018	< .50 ug/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
LEAD	2018	<5.0 ug/l	AL=15.0 ug/l	AL=15.0 ug/l	n/a	NONE	CORROSION OF HOUSE-HOLD PLUMBING SYSTEMS
Zero out of 30 samples was found to have lead levels in excess of the lead action level of 15ppb							
COPPER	2018	0.768 mg/l	AL=1.3 mg/l	AL=1.3 mg/l	n/a	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 ppm							
TOTAL COLIFORM	2018	0.00%	0	0	0	NONE	Naturally present in the environment.
TOTAL CHLORINE	2018	1.20 mg/l	MRDLG=4	MRDLG=4	.60-1.50 mg/l	NONE	WATER ADDITIVE TO CONTROL MICROBES
BARIIUM	2018	0.045 mg/l	2 mg/l	2 mg/l	n/a	NONE	Erosion of natural deposits, Discarge from drilling wastes and metal refineries
<b>ORGANIC CONTAMINANTS (REGULATED)</b>							
HALOACITIC ACID 5	2018	<6.0 ug/l	60 ug/L	N/A	<6.0 ug/l	NONE	BY PRODUCT OF DRINKING WATER CHLORINATION
TTHM'S	2018	37.5 ug/l	80 ug/L	N/A	29.4-37.5 ug/l	NONE	BY PRODUCT OF DRINKING WATER CHLORINATION
<b>KEY TO ABBREVIATIONS</b>							
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							
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							
PCI/L - 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							
MRDLG - MAXIMUM RESIDUAL DISINFECTION LEVEL GOAL							

2018 CCR Data for GCWW Wholesale Customers

Substance	Unit	Maximum Allowed (MCL, AL, TT) <sup>1</sup>	MCLG <sup>2</sup>	Miller Water			Bottom Water			Typical Source of Contamination		
				Highest Compliance Level Detected	Range of Detections	Violation	Year Sampled	Highest Compliance Level Detected	Range of Detections		Violation	Year Sampled
Fluoride	ppm	4	4	0.67	0.65-0.99	No	2018	0.89	0.70-0.99	No	2018	Additive which promotes strong teeth. May come from erosion of natural deposits.
Nitrate	ppm	10	10	1.04	0.40-1.04	No	2018	1.24	na	No	2018	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits.
Turbidity	NTU	TT1 < 1 NTU Max end TT2 < 0.3 NTU 95% of the time	na	0.25	0.03-0.25	No	2018	nr	nr	No	nr	Soil runoff
Total Organic Carbon	ppm	TT	na	2.07	1.65-3.34	No	2018	nr	nr	No	nr	Naturally present in the environment.
Barium	ppm	2	2	0.92	na	No	2018	0.013	na	No	2018	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries.

Unregulated Contaminants<sup>3</sup> for which EPA requires monitoring to determine where certain substances occur and whether it needs to regulate those substances.

Substance	Unit	MCLG <sup>4</sup>	Miller Water			Bottom Water				
			Average Level Detected	Range of Detections	Violation	Year Sampled	Average Level Detected	Range of Detections	Violation	Year Sampled
Chloroform	ppb	70	3.80	na	na	2018	1.11	na	na	2018
Bromochloroethane	ppb	0	5.01	na	na	2018	2.97	na	na	2018
Dibromochloroethane	ppb	60	5.94	na	na	2018	3.52	na	na	2018
Bromoform	ppb	0	1.11	na	na	2018	4.15	na	na	2018
Chlorate	ppm	na	37	49-87	na	2018	49	46-51	na	2018
Chlorite	ppm	na	24	na-41	na	2013	nr	na	na	2013
Hexavalent Chromium	ppb	na	0.048	0.048-0.068	na	2013	0.205	0.200-0.210	na	2013
1,4-Dioxane	ppb	na	0.326	nd-0.575	na	2013	0.545	0.278-0.814	na	2013
Molybdenum	ppb	na	1.8	1.2-2.5	na	2013	4.2	3.5-4.9	na	2013
Selenium	ppb	na	205	180-220	na	2013	170	160-180	na	2013
Vanadium	ppb	na	0.29	nd-0.58	na	2013	0.65	0.60-0.72	na	2013

<sup>1</sup>Detected contaminants from the plant tap

<sup>2</sup>The 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 found in 2 of 12 samples during 2016. 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 20 mg (milligrams) per liter in the Miller water and 30 mg per liter in the Bottom 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 2018 was 0.25 NTU (Miller Water) and the lowest monthly percentage of samples meeting the turbidity limits was 100%.

GCWW has a current unconditioned license to operate our water system. GCWW was in compliance with all state primary drinking water rules during 2018.

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 Aquifer that supplies water to the well fields for the Bottom 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 required process intended to reduce the level of a contaminant in drinking water.  
 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.

### Table of Detected Contaminants

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

#### TABLE OF DETECTED CONTAMINANTS

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants	
<b>Residual Disinfectants</b>								
Total Chlorine (ppm)	MRDLG = 4	MRDL = 4	0.92	0.85 - 0.99	No	2018	Water additive used to control microbes.	
<b>Inorganic Contaminants</b>								
Nitrate (ppm)	10	10	0.31	0.31	No	2018	Runoff from fertilizers, erosion of natural deposits.	
Fluoride (ppm)	4	4	0.91	0.86 - 0.95	No	2018	Water additive required by the State of Ohio E.P.A.	
<b>Disinfection Byproducts</b>								
Total Trihalomethanes (ppb)	0	80	35.7	28.1 - 35.7	No	2018	By-product of drinking water chlorination.	
Haloacetic Acids (ppb)	na	60	<6.0	Nd	No	2018	By-product of drinking water chlorination.	
<b>Unregulated</b>								
Chloroform(ppb)	Na	Na	2.6	1.8-2.6	No	2018	EPA regulations required us to monitor these contaminants while EPA considers setting limits on them. The contaminants are by-products of drinking water chlorination.	
Bromoform(ppb)	Na	Na	10.7	8.8-10.7	No	2018		
Bromodichloromethane(ppb)	Na	Na	7.8	5.8-7.8	No	2018		
Dibromochloromethane(ppb)	Na	Na	14.6	11.7-14.6	No	2018		
<b>Lead and Copper</b>								
Lead and Copper	MCLG	AL	90 <sup>th</sup> percentile	# of sites found above the AL	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Lead (ppb)	0	15	<5.0	1-30	Nd - 50.6	No	2017	Corrosion of household plumbing systems.
Copper (ppm)	1.3	1.3	<0.05	0-30	Nd - 0.266	No	2017	Corrosion of household plumbing systems.