



City of Columbiana Drinking Water Consumer Confidence Report For 2021

The City of Columbiana’s original water treatment plant (WTP) and raw water field were constructed in 1934. The WTP and well field underwent major modifications in 1954 and 1977, as well as several other modifications over the years, to accommodate increased system demands and to improve finished water quality. As of the last improvements, the existing facilities had a peak treatment capacity of 1.0 mgd and included nine raw water wells. The WTP and wells, along with the finished water distribution system, served the City’s service area of approximately 6.5 square miles, including approximately 6,400 residents and businesses.

In 2006, the City recognized the existing WTP was well beyond its useful life and could not be effectively Modified or expanded to serve projected increases to system demands, nor meet current standards and regulations, which was supported by OEPA reviews and several engineering studies. Based on these studies, and entirely new WTP was authorized by the City to be designed and constructed, and funding sources were subsequently sought to support this endeavor.

Over a two-year period beginning in 2016, the all new WTP, with peak capacity of 2.25 MGD, was constructed just north of the existing WTP site. Additionally, two new raw water wells and approximately 19,100 lineal feet of raw water main improvements were constructed at various locations within the City’s system, and the existing WTP was demolished. The overall cost for the improvements was \$20,493,000. In 2014, city water customers began paying an \$11 surcharge on their bills

to help the city build up a fund and demonstrate to the USDA (United States Department of Agriculture) it will have the ability to pay back a loan. The United States Department of Agriculture-Rural Development (USDA-RD) agency provided funding in the amount of \$8,439,000 (Grant) and \$11,224,000 (Loan), with the balance provided by Ohio Public Works (OPWC) and other City direct contributions.

The City of Columbiana Water Department has prepared the following report to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.

What's the source of your drinking water?

The City of Columbiana receives its drinking water from 11 wells in the aquifer assigned to the Allegheny Formation, Pennsylvania Age. A source water assessment recently indicated that under currently existing conditions, the likelihood of the aquifer becoming contaminated is relatively low to moderate. This likelihood can be minimized by implementing appropriate protective measures. The City of Columbiana has a current, 2022, unconditioned license to operate as Public Water System ID OH1500312.

What are sources of contamination to drinking water?

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 and, in some cases, radioactive material, and can 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 water 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, USEPA 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.

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 Federal Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Who needs 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 infection. 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 (1-800-426-4791).

Listed below is information on those contaminants that were found in the City of Columbiana drinking water.

Total Chlorine Running Annual Average

Month	Chlorine (mg/l)	Quarterly Avg. Chlorine	Running Annual Avg (RAA) for the quarter (mg/l)
Apr-20	1.48	$1.4+1.58+1.7/3=1.56$	
May-20	1.58		
Jun-20	1.7		
Jul-20	1.3	$1.3+1.7+1.7/3=1.57$	
Aug-20	1.7		
Sep-20	1.7		
Oct-20	1.85	$1.85+1.6+1.3+/3=1.58$	
Nov-20	1.60		
Dec-20	1.30		

Month	Chlorine (mg/l)	Quarterly Avg. Chlorine	
Jan-21	1.6	$1.6+1.5+1.3/3=1.47$	1st quarter 2021 RAA $1.47+1.58+1.57+1.56/4=1.55$
Feb-21	1.5		
Mar-21	1.3		
Apr-21	1.3	$1.3+1.3+1.4/3=1.3$	2nd quarter 2021 RAA $1.3+1.47+1.58+1.57/4=1.48$
May-21	1.3		
Jun-21	1.4		
Jul-21	1.05	$1.05+1.1+1.5/3=1.22$	3rd quarter 2021 RAA $1.22+1.3+1.47+1.58/4=1.39$
Aug-21	1.1		
Sep-21	1.5		

Oct-21	1.40	$1.4+1.08+1.3/3=1.26$	4th quarter 2021 RAA $1.26+1.22+1.3+1.47+/4=1.31$
Nov-21	1.08		
Dec-21	1.30		
			Level Found = 1.55mg/L Range = 1.08 - 1.6mg/L

About your drinking water.

The EPA requires regular sampling to ensure drinking water safety. The City of Columbiana conducted sampling for Total Coliform Bacteria, E-coli Bacteria, Total Trihalomethanes (TTHM's), Haloacetic Acids (HAA5), Fluoride, Nitrates, Nitrites, Radiological, Inorganic Chemicals, Synthetic Organic Chemicals (SOC's), Volatile Organic Chemicals (VOC's), Lead & Copper, Mercury, Asbestos, Radon and Total Chlorine during 2020/ 2021. Samples were collected for a total of 42 different contaminants most of which were not detected in the Columbiana water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, may be more than one year old. Other testing includes 96 coliform bacteria tests and over 3000 water quality tests conducted at our water treatment facility during this year.

Volatile Organic Contaminants

2020 TTHM & HAA5 Results (ug/l)

Contaminants	MCGL	MCL	Level Found	Range of Detections	Violations	Sample Year	Typical Source of Contaminants
TTHM's (Total)							
Trihalomethanes (ppb)	NA	80 ug/L	19.5 ug/L	13.6 – 19.5	No	2020	By-product of drinking water disinfection
Haloacetic Acids (HAA5)(ppb)	N/A	60 ug/L	2.08 ug/L	1.61-2.08	No	2020	By-product of drinking water disinfection

2021 TTHM Results (ug/l)

Quarter	Jan-Mar	Apr-June	July - Sept	Oct-Dec
Site 1 - Sample Value (ug/l)	None	None	61.9	None
Site 1 - LRAA	None	None	61.9	None
Site 2 - Sample Value (ug/l)	None	None	47.1	None
Site 2 - LRAA	None	None	47.1	None
CCR Report Values	Highest compliance Value = 61.9 ug/l			
	Range of Values = 47.1ug/l to 61.9ug/l			

2021 HAA5 Results (ug/l)

Quarter	Jan-Mar	Apr-June	July - Sept	Oct-Dec
Site 1 - Sample Value (ug/l)	None	None	3.28	None
Site 1 - LRAA	None	None	3.28	None
Site 2 - Sample Value (ug/l)	None	None	2.08	None
Site 2 - LRAA	None	None	2.08	None
CCR Report Values	Highest compliance Value = 3.28 ug/l Range of Values = 2.08ug/l to 3.28ug/l			

Inorganic Contaminants

Contaminants	MDL/PQL	Level Found	Range of Detections	Violations	Sample Year	Typical Source of Contaminants
Barium	10 ug/L	<1.00	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.
Antimony, Total	1 ug/L	<1.0	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.
Arsenic	1 ug/L	<1.0	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.
Beryllium, Total	1 ug/L	<1.0	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.
Cadmium	1 ug/L	<1.0	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposit
Chromium	1 ug/L	<1.0	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.
Nickel	1 ug/L	<1.0	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.
Selenium	1 ug/L	<1.0	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.

Thallium, Total	1 ug/L	<1.0	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.
Cyanide	1 mg/L	<1.0	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.
Mercury	0.2 mg/L	<.20	N/A	No	2020	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.
Contaminants	SMCL mg/L	Level Found	Range of Detections	Violations	Sample Year	Typical Source of Contaminants
Iron	0.300 mg/L	.01	<..01-.08 mg/L	No	2021	Discharge from drilling waste. Discharge from metal refineries. Erosion of natural deposits.

The City of Columbiana had a SMCL violation during the month of January, 2020. Some people who drink water containing iron well in excess of the SMCL over many years could have adverse health effects. Additional in-house testing has been implemented to detect and avoid any future problem.

Synthetic Organic Contaminants including Pesticides & Herbicides

Contaminants	MCGL	MCL	Level Found	Range of Detections	Violations	Sample Year	Typical Source of Contaminants
Atrazine (ug/L)	NA	0.3 ug/L	< 0.30 ug/L	N/A	No	2020	Run-off from fertilizer use. Pesticides, defoliants and fuel additives.
Alachor (ug//L)	N/A	0.2 ug/L	< 0.20 ug/L	N/A	No	2020	Run-off from fertilizer use. Pesticides, defoliants and fuel additives.
Simazine (ug//L)	N/A	0.35 ug/L	<0.35 ug/L	N/A	No	2020	Run-off from fertilizer use. Pesticides, defoliants and fuel additives.

Radioactive Contaminants

Contaminants	MCGL	MDL/PQL	Range of Detections	Violations	Sample Year	Typical Source of Contaminants
Alpha	N/A	3 pCi/L	1.04 +/- 1.31	No	2020	Run-off from fertilizer use. Erosion of natural deposits.

Radium 228	N/A	1 pCi/L	.525 +/- .374	No	2020	Run-off from fertilizer use Erosion of natural deposits.
-------------------	-----	---------	---------------	-----------	------	---

Lead and Copper

Contaminants (units)	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Year Sampled	Typical source of Contaminants
Lead (ppb)	15 ppb	0.0	.0000 ppb	No	2020	Corrosion of household plumbing; Erosion of natural deposits.
	0 out of _20_ samples were found to have lead levels in excess of the lead action level of 15 ppb.					
Copper (ppm)	1.3 ppm	NA	.0056 ppm	No	2020	Corrosion of household plumbing; Erosion of natural deposits.
	0 out of _20_ samples were found to have copper levels in excess of the copper action level of 1.3 ppm.					

Other Contaminants

Contaminants	MCGL	MDL/ PQL	Level Found	Range of Detections	Violations	Sample Year	Typical Source of Contaminants
Nitrate	10 mg/L	10 mg/L	.324mg/L	0.324-.0324	No	2021	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Nitrite	10 mg/L	10 mg/L	.309mg/L	0.309-0.309	No	2020	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.

Lead Educational Information

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. The City of Columbiana 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 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 at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

How do I participate in decisions concerning my drinking water?

Public participation and comment are encouraged at regular meetings of the city council. Meeting times and dates can be obtained from the City Manager’s office. For more information on your drinking water contact Lance Willard.

330-482-2173

Website: www.columbianaohio.gov

Storage

Columbiana presently has two storage tanks. Capacities are 1 million and 500,000 gallons

Treatment Information

Columbiana water supply utilizes conventional lime softening, aeration, coagulation, sedimentation, stabilization, chlorination and fluoridation to produce the quality water Columbiana has enjoyed for over 80 years. The addition of polyphosphate to the water sequesters the remaining hardness minerals to make the water react more soft than it is.

Backflow and Cross Connection Program

An active Backflow and Cross Connection Program further protects your water. This program serves to help protect the consumer against the entrance of any potential contaminant from entering the distribution system. Backflow Prevention Devices are required throughout the distribution system. The devices are tested annually by State Certified Backflow Testers.

Bacterial Protection

As a disinfectant, the OEPA requires that a minimum chlorine residual of .2mg/l free chlorine be maintained in all parts of the distribution system. To insure our compliance with this requirement, we collect daily samples from over 100 sampling points around the city. At no time in 2021 was there any indication of water quality problems affecting the drinking water. Also we conducted over 96 bacterial tests on the water from the list of sampling points. All tests indicated the water was safe.

Boil Advisory

If a boil advisory is issued, this does not mean the water is unsafe to drink. It means, according to EPA guidelines, the designated area in the distribution system experienced conditions that may produce a situation for contamination. Because of this, it is advisable to boil the water prior to drinking it. During each advisory we collect samples for lab analysis to check for contamination. Once the results are received, if there is no contamination, the boil advisory is lifted.

Distribution Data

There are 1250 valves, 462 fire hydrants, 2819 service connections, and 214 backflow devices.

Below is the general analysis of the City of Columbiana drinking water.

Daily Operational Tests:	Water Hardness, Total.....	112 mg/L*
	Total Alkalinity.....	64 mg/L

pH.....	9.2
Fluoride.....	1.00 mg/L
Chlorine, Free.....	1.18 mg/L
Chlorine, Total.....	1.43 mg/L

Weekly Tests:	Water Stability.....	Stable to slightly scale forming
	Manganese.....	No detection
	Iron.....	0.01 mg/L

Monthly Tests:	Phosphorous as “Total P”.....	0.38 mg/L
----------------	-------------------------------	-----------

*Divide by 17.1 to achieve grains per gallon

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.
- Secondary Maximum Contaminant Level (SMCL)
- 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.
- 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.
- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
- Contact Time (CT) means the mathematical product of a “residual disinfectant concentration” (C), which is determined before or at the first customer, and the corresponding “disinfectant contact time” (T).
- 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 ($\mu\text{g}/\text{L}$) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- 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.
- Method Detection Limit/Practical Quantitation Limit (MDL/PQL) Lowest concentration that can be detected by an instrument with correction with sample matrix and method specific parameters such as sample preparation.
- Local Running Annual Average: (LRAA)