City of Columbiana

Water Treatment Plant

Drinking Water Consumers Confidence Report
Year 2023

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Drinking Water Consumer Confidence Report For 2023

Introduction

The **City of Columbiana Water Treatment Plant** 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.

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 improvement, 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 6,700 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, an 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 2.25MGD, 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 improvement were constructed at various locations within the City's system, and the existing WTP was demolished, the overall cost for the improvements were $20,493,000.00. In 2014, city water customers began paying an $11.00 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 $8,439,000.00 (Grant) and $11,224,000.00 (Loan), with the balance provided by the Ohio Public Works (OPWC) and other City direct contributions.

Source Water Information

The City of Columbiana receives drinking water from 11 wells in the aquifer assigned to the Allegheny Formation, Pennsylvania Age. The city also received full funding to install a new 8" raw water line from our Crestview Well area. This new raw water line which is 11,408 liner feet (2.16 miles) will be installed by direct boring no later than the end of 2024. The cost of this project will be around 1.3 million dollars. The raw water line will have the capacity to carry 1.382 million gallons per day once more wells can be found along its path. The actual well should be developed late 2024 or early 2025.

The water plant is also doing a fracture trace study in the efforts to locate more raw water well sites. This will accomplish two things. First, to have more source water which will guarantee the residents of the city water for the indefinite future. Second, this will allow the city to continue its growth and have enough water to reach peak production of 2.25 million gallons a day.

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, 2024, unconditioned license to operate as Public Water System ID (OH1500312).

Susceptibility Analysis:

The susceptibility to contamination was estimated at each of the six well fields that comprise the City of Columbiana's source of drinking water.

These susceptibility analyses for each well location are subject to revision if new potential contaminant sources are sited within the protection area, or if water sampling indicates contamination by a manmade contaminant source. The analyses may also be revised if a well is abandoned and replaced by a well of different construction.

Copies of the source water assessment report prepared for the City of Columbiana are available by e-mailing krees@columbianaohio.gov. A copy of this report will be forwarded to the requesting party.

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).

About your drinking water

The EPA requires regular sampling to ensure drinking water safety. The City of Columbiana conducted sampling for Inorganics (Antimony, total – Arsenic – Barium – Beryllium, total – Cadmium – Chromium – Cyanide – fluoride – mercury – nickel – selenium – thallium, total Nitrate, Radiologicals (Gross Alpha and Radium), Synthetic Organic Chemicals (SOC) (Alachlor – Atrazine – Simazine), Volatile Organic Chemicals (VOC), /Total Coliform (Bacteria), Chlorine, Lead and Copper, THM and HAA5 during the year 2023. We Tested for twenty-Five (25) different contaminants, most of which were not detected in the City of 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, are more than one year old.

Monitoring & Reporting Violations & Enforcement Actions
Year 2023

Monitoring Violations:
No Monitoring Violations.

Reporting Violations
No Reporting Violations.

Enforcement Actions
No Enforcement Actions.

Table of Detected Contaminants

TABLE OF DETECTED CONTAMINANTS

Contaminant (units)	MCLG or MRDLG	MCL or MRDL	Level Found	Range of Detections	Violation?	Year Sampled	Typical Source of Contaminants
Radioactive Contaminants (Gross Alpha and Radium)							
Alpha	Zero	15 pCi/L	0.000 +/- 0.612 pCi/L	3	NO	2023	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Radium 228	5 pCi/L	5 pCi/L	0.399 +/- 0.377 pCi/L	1	NO	2023	Erosion of natural deposits
Inorganic Contaminants (Antimony, total – Arsenic – Barium – Beryllium, total – Cadmium – Chromium – Cyanide – Fluoride – Mercury – Nickel – Selenium – Thallium, Total)							
Antimony, total	0.006 $(mg/l)^2$	0.006 $(mg/l)^2$	<0.001 mg/l	1	No	2023	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder
Arsenic	0 $(mg/l)^2$	0.010 $(mg/l)^2$	<0.001 mg/l	1	NO	2023	Erosion of natural deposits, runoff from orchards, runoff from glass & electronics productions wastes
Barium	2 $(mg/l)^2$	2 $(mg/l)^2$	<0.01 mg/l	10	NO	2023	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits

Contaminant (units)	MCLG or MRDLG	MCL or MRDL	Level Found	Range of Detections	Violation?	Year Sampled	Typical Source of Contaminants
Nitrate							
Nitrate (measured as Nitrogen)	1.0 (mg/l)[2]	1.0 (mg/l)[2]	<0.237 mg/l	0.1	NO	2023	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Inorganic Contaminants **(Antimony, total – Arsenic – Barium – Beryllium, total – Cadmium – Chromium – Cyanide – Fluoride – Mercury – Nickel – Selenium – Thallium, Total)**							
Beryllium, total	0.004 (mg/l)[2]	0.004 (mg/l)[2]	<0.001 mg/l	1	NO	2023	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries.
Cadmium	0.005 (mg/l)[2]	0.005 (mg/l)[2]	<0.001 mg/l	1	NO	2023	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints.
Chromium (total)		0.1 (mg/l)[2]	<0.001 mg/l	1	NO	2023	Discharge from steel and pulp mills; erosion of natural deposits.
Cyanide		0.2 (mg/l)[2]	<0.01 mg/l	1	NO	2023	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	4.0 (mg/l)[2]	4.0 (mg/l)[2]	1.00 mg/l	0.02	NO	2023	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Mercury	0.002 (mg/l)[2]	0.002 (mg/l)[2]	<.0002 mg/l	0.2	NO	2023	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and croplands
Nickel		100 ug/l	<0.001 mg/l	1	NO	2023	Leaching from metals that are in contact with drinking-water, such as in pipes and fittings.
Selenium	0.05 (mg/l)[2]	0.05 (mg/l)[2]	0.0018 mg/l	1	NO	2023	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Thallium, total	0.002 (mg/l)[2]	0.002 (mg/l)[2]	<0.001 mg/l	1	NO	2023	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

Contaminant (units)	MCLG or MRDLG	MCL or MRDL	Level Found	Range of Detections	Violation?	Year Sampled	Typical Source of Contaminants
Synthetic Organic Contaminants, including Pesticides and Herbicides (Alachlor – Atrazine – Simazine)							
Alachlor	Zero	0.002 (mg/l)[2]	<0.0002 mg/l	0.2	NO	2023	Runoff from herbicide use on row crops
Atrazine	.003 (mg/l)[2]	.003 (mg/l)[2]	<0.0003 mg/l	0.3	NO	2023	Runoff from herbicide use on row crops
Simazine	.004 (mg/l)[2]	.004 (mg/l)[2]	<0.00035 mg/l	0.35	NO	2023	Herbicide runoff
Volatile Organic Contaminants							
Benzene	Zero	0.005 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from factories; leaching from gas storage tanks and landfills
Bromodichloromethane		See THM results	1.35 ug/l	0.5	NO	2023	Reaction between chlorine, added during water treatment, and natural organic substances in the presence of bromide
Chloroform		See THM results	0.89 ug/l	0.5	NO	2023	Pulp and paper mills, hazardous waste sites, and sanitary landfills
Bromoform		See THM results	1.46 ug/l	0.5	NO	2023	The principal anthropogenic source of bromoform and dibromochloromethane in the environment is chlorination of water containing organic materials.
Carbon tetrachloride	Zero	0.005 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from chemical plants and other industrial activities
Dibromochloromethane		See THM results	0.00174 mg/l	0.5	NO	2023	One of the total trihalomethanes (TTHMs), is formed when chlorine or other disinfectants are used to treat drinking water.
o-Dichlorobenzene	0.6 (mg/l)[2]	0.6 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from industrial chemical factories
P-Dichlorobenzene	0.075 (mg/l)[2]	0.075 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from industrial chemical factories
1,2-Dichloroethane	Zero	0.005 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from industrial chemical factories
1,1-Dichloroethane	0.007 (mg/l)[2]	0.007 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from industrial chemical factories
Cis-1,2-Dichlorobezene	0.07 (mg/l)[2]	0.07 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from industrial chemical factories
Trans-1,2-Dichlorobezene	0.1 (mg/l)[2]	0.1 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from industrial chemical factories
Dichloromethane	Zero	0.005 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from industrial chemical factories
1,2-Dichloropropane	Zero	0.005 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from industrial chemical factories
Ethylbenzene	0.7 (mg/l)[2]	0.7 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from petroleum refineries
Chlorobenzene	0.1 (mg/l)[2]	0.1 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from chemical and agricultural chemical factories

Contaminant (units)	MCLG or MRDLG	MCL or MRDL	Level Found	Range of Detections	Violation?	Year Sampled	Typical Source of Contaminants
Volatile Organic Contaminants							
Styrene	0.1 (mg/l)[2]	0.1 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene	Zero	0.005 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from factories and dry cleaners
Toluene	1 (mg/l)[2]	1 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from petroleum factories
1,2,4-Trichlorobenzene	0.07 (mg/l)[2]	0.07 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from textile finishing factories
1,1,1-Trichloroethane	0.2 (mg/l)[2]	0.2 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane	0.003 (mg/l)[2]	0.005 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from industrial chemical factories
Trichlorethylene	Zero	0.005 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from metal degreasing sites and other factories
Vinyl Chloride	Zero	0.002 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Leaching from PVC pipes; discharge from plastic factories
Xylenes, (Total)	10 (mg/l)[2]	10 (mg/l)[2]	<0.0005 mg/l	0.5	NO	2023	Discharge from petroleum factories; discharge from chemical factories
Butyl acrylate			<0.001 mg/l	1.00	NO	2023	used in the production of polymers and resins for textile and leather finishes, solvent coatings, adhesives, paints, binders, and emulsifiers
Methyl Acrylate		50 ug/l	<0.001 mg/l	1.0	NO	2023	Methyl methacrylate is used in the manufacture of resins and plastics.
2-Ethylhexyl acrylate			<0.001 mg/l	1.00	NO	2023	used in the production of polymer coatings and finishes, adhesives, sealants, and plastics. It is not anticipated to be present as an ingredient in consumer products.
Residual Disinfectants and Disinfection Byproducts (THM's and HAA5)							
Sample location DS202 (THM)	n/a	0.080 mg/l	0.0178 mg/l	0.5	NO	2023	Byproduct of drinking water disinfection
Sample location DS202 (HAA5)	n/a	0.060 mg/l	0.0031 mg/l	1.0	NO	2023	Byproduct of drinking water disinfection
Sample location DS201 (THM)	n/a	0.080 mg/l	0.0164 mg/l	.05	NO	2023	Byproduct of drinking water disinfection
Sample location DS201 (HAA5)	n/a	0.060 mg/l	0.00326 mg/l	1.0	NO	2023	Byproduct of drinking water disinfection

Lead and Copper							
Contaminant (units)	**Action Level (AL)**	**MCLG**	**Individual Results over the AL**	**90% of the test levels were less than**	**Violation?**	**Year Sampled**	**Typical Source of Contaminants**
Lead (ppb)	15 ppb	0 ppb	0	0.0 ppb	NO	2023	Byproduct of drinking water disinfection
	0 out of **20** samples were found to have lead levels in excess of the lead action level of 15 ppb.						
Copper (ppm)	1350 ppb	0 ppb	0	13.3 ppb	NO	2023	Byproduct of drinking water disinfection
	0 out of **20** samples were found to have copper levels in excess of the lead action level of 1.3 ppm.						

Violations:
The **City of Columbiana** had **No MCL, treatment technique, filtration, or disinfection (CT) violation or action level exceedance** during the year of **2023.**

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. {Name of Water System} 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.

Revised Total Coliform Rule (RTCR) Information:
The items listed below, (a through f), are for informational purposes only.
The City of Columbiana **was not** required to do a level 1 or level 2 assessment!
The City of Columbiana had no Total Coliform detections or violations
PWSs that triggered a Level 1 or Level 2 Assessment must inform their customers of:

a) The appropriate text (dependent on whether there is an *E. coli* MCL), listed below
b) The number of assessments required and completed.
c) The corrective actions required and completed.
d) The reasons for conducting assessments and corrective actions.
e) Whether the PWS has failed to complete any required assessments or corrective actions.
f) The specific assessment-related definitions as appropriate

RTCR VIOLATIONS:
None.

License to Operate (LTO) Status Information:

- In **2023** we had an unconditioned license to operate our water system.

Public Participation and Contact Information:
How do I participate in decisions concerning my drinking water?
While we do not hold regular meetings, customers are encouraged to participate by contacting **Keith D. Rees – Water Superintendent** at 330-482-2427

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.

Definitions Required if term is used within the CCR.

- **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).

- **Level 1 Assessment** is a study of the water system to identify the potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

- **Level 2 Assessment** is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

- **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 (µg/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.

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.

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

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 .2 mg/L free chlorine be maintained in all parts of the distribution system. To ensure our compliance with this requirement, we collect daily samples from 48 sampling points around the city. At no time in 2023 was there any indication of water quality problems affecting the drinking water. Also, we conducted 96 bacterial tests on the water from the list of sampling points. **All tests indicated the water was bacteria free!**

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 1,281 valves, 468 fire hydrants, 2,866 service connections, and 200 backflow devices.

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

Daily Operational Tests:
Water Hardness, Total..... 90 mg/L*
Total Alkalinity..... 44 mg/L
pH..... 9.5
Fluoride..... 0.97 mg/L
Chlorine, Free..... 1.07 mg/L
Chlorine, Total..... 1.15 mg/L
Weekly Tests:
Water Stability..... Stable to slightly scale forming
Manganese..... 0.02 mg/L
Iron..... 0.03 mg/L
Monthly Tests:
Phosphorous as "Total P"..... .39 mg/L

*Divide Water Hardness, Total by 17.1 to achieve grains per gallon.
Example: (94 mg/l ÷ 17.1 = 5.5 gpg.

City of Columbiana

Water at your service