



The City of Alliance
 504 East Main Street
 Alliance, Ohio 44601
“The Carnation City”
Alan Andreani, Ed.D.
Mayor

**Michael Dreger, Director of
 Public Safety & Service**

Water Treatment Plant
 12251 Rockhill Avenue, NE
 Alliance, OH 44601
Amy Elliott,
Superintendent

CITY OF ALLIANCE, OHIO
WATER SYSTEM

2021
Consumer
Confidence
Report
Water Quality
on Tap



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Phone Numbers You May Need

Water Treatment Information or Concerns	Call Water Treatment Plant Administrative Personnel	7 a.m. – 4:00 p.m., Monday through Friday Operations Staffed 24/7	330-829-2241
Billing Related Questions	Call Water Billing	8:30 a.m. until 4:30 p.m. Monday through Friday	330-823-3126
Water Service Establishment or Shutoff	Call Water Distribution	7:00 a.m. - 3:30 p.m. Monday through Friday	330-823-5216
Water Meter Repairs, Backflow Prevention, and Water Taps	Call Water Distribution	Calls from 7:00 a.m. - 3:30 p.m. Monday through Friday	330-823-5216
Water Main Breaks	Call the Water Treatment Plant	Calls after 3:30 p.m. and on weekends	330-829-2241

Alliance’s Water Sources

Drinking water for the City of Alliance (Ohio EPA water system license #7600011) originates from two sources.

Alliance’s primary water source is Walborn and Deer Creek Reservoirs. The combined water storage potential is 2.85 billion gallons of raw water. Deer Creek was dedicated on October 25, 1954, to supply raw water to the Alliance Water Treatment Plant.

The secondary source of water is the Mahoning River. Although this source has not been used since 1999, the pumps are kept fully operational to ensure a backup source of supply.

Raw water is drawn through a multi-level intake structure on Deer Creek Reservoir and conveyed to the treatment plant located on North Rockhill Avenue.

The Water Treatment Plant began operation in July, 1993. Current treatment processes include: chlorine dioxide oxidation, powdered activated carbon adsorption, alum coagulation, solids-contact clarification, dual-media filtration with granular activated carbon, stability adjustment with caustic soda, ultraviolet advanced oxidation, chlorine disinfection, and fluoridation.

Alliance’s source water is surface water which by its nature is susceptible to contamination especially from potential contaminant sources along its banks. The protection area around Deer Creek Reservoir and the Mahoning River contains several potential contaminant sources, including oil and gas wells, landfills, agricultural areas, septic systems, and road crossings. As a result, the surface water supplied to the City of Alliance is considered to have a high susceptibility to contamination.

Historically, the City of Alliance’s public water system has effectively treated this source water to meet drinking water quality standards. The potential for water quality impacts can be further decreased by implementing measures to protect Deer Creek Reservoir and the Mahoning River. More detailed information is provided in the City of Alliance’s Drinking Water Source Assessment report, which can be obtained by calling 330-829-2241.

Additional Information



Alliance has a current, unconditioned license to operate our water system. All operational personnel at the Alliance Water Treatment Plant are certified through the Ohio EPA Water Supply Certification Program.

The water supplied to your home meets or exceeds the established "Water Quality Standards" of the Federal Safe Drinking Water Act (SDWA). There were no plant violations in 2021.

The Water/Sewer Advisory Board meets once every quarter at 9:00 AM at City Hall. The meeting is open to the public. For exact dates, call 330-821-3110. You can also contact Amy Elliott, Superintendent of Water Treatment, at the address on page 1, or at 330-829-2241.

A "Water Quality Report" prepared for the Alliance City Council and the Consumer Confidence Reports of past years are available on the City website at <http://www.cityofalliance.com/water/treatment/watertreatment.htm>



Water Monitoring Results

The Alliance Water Treatment Department failed to meet the minimum chlorine disinfectant residual of 0.2 mg/L for 5.3 hours on June 24, 2021. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The incident that led to the low chlorine event was caught in a timely manner with the safeguards and alarms we have in place. During this low chlorine event, the plant's Ultra-Violet Advanced Oxidation System was in operation and provided a disinfection level many times higher than what is achieved with chlorine alone. In addition, mixing of the low chlorine water with the larger volume of higher chlorine concentration water occurred in the distribution system minimizing any health concerns. The problem was corrected, and we returned to compliance within a few hours.

There were no contaminants detected at levels that violated Federal drinking water standards during 2021. However, some contaminants were detected in trace amounts below the legal limits. The contaminants are shown in the table that follows on page 3. Some contaminants are sampled less frequently than once per year; as a result, not all contaminants were sampled in 2021. If a contaminant was detected the last time it was sampled, the amount is included in the table along with the year that the detection occurred.

Key to Abbreviations

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

Maximum Contaminant Level Goal (MCLG): The level of a substance 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.

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 disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Non-Detects (ND): Laboratory analysis indicates the contaminant is not present.

Not Applicable (NA)

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

Range: The lowest level to the highest level of a contaminant detected in the water.

The "<" symbol: means less than.

The ">" symbol: means greater than.

Total Organic Carbon (TOC): The value reported under "level found" for TOC is the lowest ratio between percent of TOC actually removed to the percent of TOC required to be removed. A value greater than (1) indicates that the water system is in compliance.

Treatment Technique (TT): A required process intended to reduce the level of 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).

Turbidity: A measure of the cloudiness of water and does not present any risk to your health. Turbidity is monitored as a good indicator that a water filtration system is functioning properly. The turbidity limit set by the EPA in 2001 is 0.3 NTU in 95% of the daily samples. Turbidity is not to exceed 1 NTU at any time. The Alliance Water Treatment Plant's highest recorded turbidity result for 2021 was 0.15 NTU and the lowest monthly percentage of samples meeting the turbidity limits was 100%.





Water Quality Data

Contaminants (Units)	Violation MCLG	Level Found	Range of Detections	MCLG	MCL	Sample Year	Typical Source of Contaminants
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Bacteriological

Turbidity (NTU)	NO	0.15	0.05-0.15	N/A	TT	2021	Soil runoff
Turbidity	NO	100%	100%	N/A	TT	2021	Soil runoff
Total Coliform	NO	0	0-0	N/A	> 1	2021	Naturally present in the environment
Total Organic Carbon	NO	1.56	1.39-1.79	N/A	TT	2021	Naturally present in the environment

Inorganic Contaminants

Nitrate (ppm)	NO	0.46	<0.1-0.46	10	10	2021	Runoff from fertilizer use; leachate from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	NO	0.92	0.80-1.10	4	4	2021	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Chlorite (ppm)	NO	0.64	0.09-0.66	0.8	1.0	2021	Byproduct of drinking water chlorination
Barium (ppm)	NO	0.03	N/A	2	2	2021	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits.

Regulated in the Distribution System Homeowners Tap

	Violation MCLG	90% of test levels were less than	Individual Result(s) over the AL	MCLG	Action Level	Sample Year	Typical Source of Contaminants
Copper (ppm)	NO	0.0998	N/A	1.3	1.3	1st Half of 2021	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	NO	< 2.0	100 ppb	0	15	1st Half of 2021	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	NO	0.0956	N/A	1.3	1.3	2nd Half of 2021	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	NO	2.56	18 ppb	0	15	2nd Half of 2021	Corrosion of household plumbing systems; erosion of natural deposits

Zero out of 61 samples during each sampling period were found to have copper levels in excess of the Action Level of 1.3ppm.

One out of 61 samples during each sampling period was found to have lead levels in excess of the Action Level of 15 ppb. Resamples of those same two sites resulted in both samples being below the action level.

Disinfection Byproducts (Regulated in Distribution System)

Total Trihalomethanes (TTHMs) (ppb)	NO	66.2	24.7-85.2	N/A	80	2021	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5s) (ppb)	NO	37.2	21.5-56.5	N/A	60	2021	Byproduct of drinking water chlorination

Residual Disinfectants

Chlorine (ppm)	NO	1.15	0.97-1.38	MRDLG = 4	MRDL=4	2021	Water additive used to control microbes
Chlorine dioxide (ppm)	NO	0.042	0.00-0.042	0.8	0.8	2021	Water additive used to control microbes

EXAMPLES OF CONTAMINANT CONCENTRATIONS

The following common scientific measures of substances in water may be difficult to envision. The comparisons listed below are presented to make them easier to understand.

Parts per million (ppm) or milligrams per liter (mg/L).

Examples:

One part per million is equivalent to one minute in two years;

Or a single penny in ten thousand dollars.

Parts per billion (ppb) or micrograms per liter (µg/L).

Examples:

One part per billion corresponds to one minute in two thousand years;

Or a single penny in ten million dollars.

WATER USAGE AND SAVINGS CHART FOR COMPARISON

Source: City of Columbus, Ohio, 2009 CCR

	Normal Usage		Conservation Usage		Savings
	Gals Used	Method	Gals Used	Method	
Shower (10 mins)	50	Shower head running continuously	25	Shorter showers (5 mins) OR	50%
			25	Low flow shower head (10 min) OR	50%
			12.5	Low flow shower head (5 min)	75%
Tub Bath	36	Standard tub, full	18	Standard tub, half full	50%
Toilet Flushing	5-7	Depends on tank size	4-6	Use a displacement bag, or milk jug in tank reservoir (OR)	20%
			1.6	Replace with low flow toilet	73%
Washing Hands	5	With tap running continuously	1	Fill a standard basin	80%
Brushing Teeth	10	With tap running continuously	1	Wet brush with brief rinses	90%
Shaving	20	With tap running continuously	1	Fill a standard basin	95%
Washing Dishes	30	With tap running continuously	10	Wash and rinse with a half filled standard sink.	66%
Dishwasher	16	Full cycle	7	Short cycle	56%
Washing Machine	60	Full cycle; Highest water level	27	Short cycle	55%
Outdoor Watering	10	Per minute; Average garden hose	varies	Eliminate, night watering, etc.	varies
Less than 1% of the world's fresh water supplies are available for human consumption.					

Potential Sources of Drinking Water Contamination

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 earth, it dissolves naturally occurring minerals and, in some cases, radioactive material. It can also pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include the following:

(A) Microbial contaminants, such as viruses, bacteria such as E. coli, Cryptosporidium, and Giardia, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife;

(B) Inorganic contaminants, such as salts and metals, 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 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, 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 can be naturally occurring or be the result of oil and gas production and mining activities.

The Alliance Water Treatment Department monitored monthly for cryptosporidium in the source water during a portion of 2018. Cryptosporidium was not detected in the source water during 2018. Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a

few weeks. However, immuno-compromised persons are at greater risk of developing a life threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Under the Stage 2 Disinfectants/Disinfection Byproducts Rule (D/DBPR), our public water system was required by USEPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE), and is intended to identify locations in our distribution system with elevated disinfection byproduct concentrations. Some locations selected for the IDSE are being used for compliance monitoring under Stage 2 DBPR, which began in 2013. Disinfection byproducts are the result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection byproducts are grouped into two categories, Total Trihalo-methanes (TTHM) and Haloacetic Acids (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water, including both TTHMs and HAA5s.

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 Alliance Water Treatment Department 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. 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 **1-800-426-4791** or at <http://www.epa.gov/safewater/lead>.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that 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 **Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791**.

SPECIAL PRECAUTIONS FOR SOME INDIVIDUALS

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. 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 (see above).