

# 2019 Annual Drinking Water Quality Report

## *Ashland Water Quality Management Team*

Utility Director: *Mark Hall*  
Water Plant Superintendent & CCR Contact: *Bill Stambaugh*  
Water Plant Chief Operator: *Frank Worsley*  
Water Distribution Superintendent: *Reed Downs*  
Water Distribution Field Supervisor: *Dave Chappelle*

The City of Ashland Board of Commissioners meet at 12:00pm on the 2nd & 4th Thursday of each month (with the exception of Oct, Jan, Feb, & Mar in which the 4th Thursday meeting is at 6:00pm) in the commission chambers located at the City Building, 1700 Greenup Avenue, Ashland, KY 41101. Meetings are open to the public. For more information regarding the board meetings, please contact (606) 385-3300.

### Contacts

Customer Service: 606-385-3275  
Water Plant: 606-385-3200  
After Hours Urgent: 606-385-3200  
Water Distribution: 606-385-3186  
Utility Director: 606-385-3332

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Ashland Water Works PWSID-KY0100011



## General Overview

Since 1920, the City of Ashland has been providing the region with high quality drinking water at very affordable rates. The Ashland water system has grown to include a network of waterlines stretching approximately 300 miles, 12 water storage tanks, 18 pump stations and a state-of-the-art water treatment plant capable of producing up to 24 million gallons of crystal clear treated drinking water per day. With over 30 highly qualified certified water plant operators, water distribution operators and laboratory technicians on staff, we are committed to excellence in our stewardship of your water system.

*\*This report will not be mailed unless requested. If you would like a copy mailed to you please contact our office.*



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Above: Water shown exiting an Actiflo treatment train. It will continue from this point downstream in the treatment process where it will be filtered and disinfected. The Actiflo treatment process allows us to treat water at an accelerated rate. Prior to this system, the City of Ashland operated a conventional treatment plant which took approximately 4 hours to produce potable water from river water. Through the Actiflo system, this process has improved to 15 minutes.

Left: Water Plant Superintendent, Bill Stambaugh explains the existing filter underdrains to Commissioner, Bernice Henry during a tour. The City of Ashland has contracted to replace these underdrains with new stainless steel models with the anticipated completion of early 2021.

# Our Source:

## *The Ohio River*

The source of water for our drinking water treatment plant is surface water from the Ohio River. An analysis of the source water indicates that its susceptibility to contamination is moderately high. Within the Kentucky portion of the protection zone alone, there are 535 identified potential contaminant sources. Of these, 302 have a susceptibility rating of high, 205 are rated medium and 28 are rated low. Not all contaminants with a high rating threaten the water supply equally. Oil spills which receive a high rating may float by the intake without a noticeable effect; whereas chemicals that mix with the water present a different kind of threat. The City of Ashland also maintains a 25 million gallon reservoir allowing the intake to shut down for contaminants to pass. The reservoir provides a reliable source of raw water. The complete Source Water Assessment Plan is available for inspection at the FIVCO Area Development District office located in the Industrial Park at 32 FIVCO Court, Grayson, KY 41134.



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 may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 may pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: Microbial contaminants, such as viruses and bacteria, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities). In order to ensure that tap water is safe to drink, 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 to provide the same protection for public health.

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 (800-426-4791).

# Water Infrastructure Investment



We believe in education and providing opportunity for our employees to continue their training and obtain higher levels of certification incentivized with pay. This produces a wide staff experience above requirements and ensures proper protocol in every shift and situation.

**Water Treatment Certified:** 10 Class IV-A and 1 in training. The water treatment plant has an on-site Microbiology Laboratory. Two of the operators have Kentucky Microbiology Analyst Certification and one is also certified by the KWWOA/KLA in laboratory analysis.

**Water Distribution Certified:** 7-Class IV, 6-Class III, 3-Class II, 2-Class I

The City of Ashland installed two auto flushing stations during this reporting period. This brings the total of auto flushers in the water system to six. These devices are used to improve chlorine levels and lower disinfection by product levels in areas of low water usage. The City of Ashland is undertaking a Water Quality Study this year that will provide important water system data including the identification of other low demand areas in the system for the future installation of auto flushers.



The City of Ashland maintains over 300 miles of water line. In an ongoing effort to maintain water quality and system reliability the following line replacements were made beginning July 1, 2019 - March 2020 :

- Prospect & 3rd Circle: 936 feet total
- Gartrell Court: 234 feet total
- Terrace Boulevard: 1785 feet total
- Dixon Street Phase I: 916 feet total
- 16th & Carter Avenue: 130 feet total
- US 23 Waterline work switched over to existing line and removed the main in the road.

The city is currently initiating a construction project at the Water Treatment Plant for installation of a new **Supervisory Control And Data Acquisition (SCADA)** system. **SCADA** is a system of software, hardware and wiring that allows the Water Treatment Plant operators to control the treatment process in real time in response to changing system conditions. The new **SCADA** system will replace antiquated treatment controls and software that have limited functionality and for which replacement components are no longer available. This new **SCADA** system is critical to treatment plant operations in order to operate the system at greater efficiency, to communicate data for regulatory compliance and to process data for smarter proactive decisions. The over \$3 million **SCADA** system investment by the city will improve treatment system reliability and provide measurable savings in energy, labor and chemicals. An additional major component of this project is a new treated water flow meter that will provide increased accuracy of flow measurement which will provide benefits in accounting for system water losses and improvements in customer billing analysis.



## Definitions: *Some or all of these may be found in this report*

**ACTION LEVEL (AL)** - THE CONCENTRATION OF A CONTAMINANT WHICH, IF EXCEEDED, TRIGGERS TREATMENT OR OTHER REQUIREMENTS THAT A WATER SYSTEM SHALL FOLLOW.

**BELOW DETECTION LEVELS (BDL)** - LABORATORY ANALYSIS INDICATES THAT THE CONTAMINANT IS NOT PRESENT.

**MAXIMUM CONTAMINANT LEVEL (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.

**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 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 A 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.

**VARIANCES & EXEMPTIONS (V&E)** - STATE OR EPA PERMISSION NOT TO MEET AN MCL OR A TREATMENT TECHNIQUE UNDER CERTAIN CONDITIONS.

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

**PARTS PER MILLION (PPM)** - OR MILLIGRAMS PER LITER, (MG/L). ONE PART PER MILLION CORRESPONDS TO ONE MINUTE IN TWO YEARS OR A SINGLE PENNY IN \$10,000.

**PARTS PER BILLION (PPB)** - OR MICROGRAMS PER LITER, ( $\mu$ G/L). ONE PART PER BILLION CORRESPONDS TO ONE MINUTE IN 2,000 YEARS, OR A SINGLE PENNY IN \$10,000,000.

**PARTS PER TRILLION (PPT)** - ONE PART PER TRILLION CORRESPONDS TO ONE MINUTE IN 2,000,000 YEARS, OR A SINGLE PENNY IN \$10,000,000,000.

**PARTS PER QUADRILLION (PPQ)** - ONE PART PER QUADRILLION CORRESPONDS TO ONE MINUTE IN 2,000,000,000 YEARS OR ONE PENNY IN \$10,000,000,000,000.

**PICOCURIES PER LITER (PCIL)** - A MEASURE OF THE RADIOACTIVITY IN WATER.

**MILLIREMS PER YEAR (MREM/YR)** - MEASURE OF RADIATION ABSORBED BY THE BODY.

**MILLION FIBERS PER LITER (MFL)** - A MEASURE OF THE PRESENCE OF ASBESTOS FIBERS THAT ARE LONGER THAN 10 MICROMETERS.

**NEPHELOMETRIC TURBIDITY UNIT (NTU)** - A MEASURE OF THE CLARITY OF WATER. TURBIDITY HAS NO HEALTH EFFECTS. HOWEVER, TURBIDITY CAN PROVIDE A MEDIUM FOR MICROBIAL GROWTH. TURBIDITY IS MONITORED BECAUSE IT IS A GOOD INDICATOR OF THE EFFECTIVENESS OF THE FILTRATION SYSTEM.

**NOT APPLICABLE (N/A)** - DOES NOT APPLY.

## Information Regarding Lead:

The Ashland Water System has an ongoing lead and copper-monitoring program. The latest results for lead testing were completed in the July of 2017. Lead and Copper tests are required every three years. Although the City of Ashland has never been in violation of lead and copper regulations, we continually monitor the corrosivity of the finished water and we are actively proceeding with removal of many potential sources of lead contamination within the public system.

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. Your local public 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 or at <http://www.epa.gov/safewater/lead>.

**To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.**

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old. **Copies of this report are available upon request by contacting our office during business hours.**

<b>Regulated Contaminant Test Results</b>								<b>Ashland Water Works</b>	
<b>Contaminant [code] (units)</b>	<b>MCL</b>	<b>MCLG</b>	<b>Report Level</b>	<b>Range of Detection</b>	<b>Date of Sample</b>	<b>Violation</b>	<b>Likely Source of Contamination</b>		
<b>Inorganic Contaminants</b>									
Barium [1010] (ppm)	2	2	0.037	0.037 to 0.037	Mar-19	No	Drilling wastes; metal refineries; erosion of natural deposits		
Fluoride [1025] (ppm)	4	4	0.30	0.3 to 0.3	Mar-19	No	Water additive which promotes strong teeth		
Nitrate [1040] (ppm)	10	10	0.55	0.55 to 0.55	Feb-19	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits		
<b>Disinfectants/Disinfection Byproducts and Precursors</b>									
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.32 (lowest average)	1.10 to 1.92 (monthly ratios)	2019	No	Naturally present in environment.		
*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.									
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.08 (highest average)	0.2 to 1.79	2019	No	Water additive used to control microbes.		
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	44 (high site average)	14.4 to 56.2 (range of individual sites)	2019	No	Byproduct of drinking water disinfection		
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	72 (high site average)	19.7 to 85.8 (range of individual sites)	2019	No	Byproduct of drinking water disinfection.		
<b>Household Plumbing Contaminants</b>									
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.107 (90 <sup>th</sup> percentile)	0.0026 to 0.392	Jul-17	No	Corrosion of household plumbing systems		
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	4 (90 <sup>th</sup> percentile)	0 to 9	Jul-17	No	Corrosion of household plumbing systems		
<b>Other Constituents</b>									
Turbidity (NTU) TT * Representative samples	<b>Allowable Levels</b>		<b>Highest Single Measurement</b>	<b>Lowest Monthly %</b>	<b>Violation</b>	<b>Likely Source of Turbidity</b>			
Turbidity is a measure of the clarity of the water and not a contaminant.	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples		0.3	100	No	Soil runoff			

	<b>Average</b>	<b>Range of Detection</b>
Fluoride (added for dental health)	0.7	0.32 to 0.84
<b>Sodium (EPA guidance level = 20 mg/L)</b>	18.6	18.6 to 18.6

<b>Unregulated Contaminants (UCMR 4)</b>	<b>average</b>	<b>range (ppb)</b>	<b>date</b>
HAA5	34.800	13.7 to 62.8	Apr-19
HAA6Br	12.291	6.32 to 17.1	Apr-19
HAA9	46.106	19.4 to 78.2	Apr-19

Secondary Contaminants do not have a direct impact on the health of consumers and are not required in the Consumer Confidence Report. They are being included to provide additional information about the quality of the water.

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection	Date of Sample
Aluminum	0.05 to 0.2 mg/l	0.02	0.02 to 0.02	Mar-19
Chloride	250 mg/l	18.1	18.1 to 18.1	Mar-19
Corrosivity	Noncorrosive	-0.389	-0.389 to -0.389	Mar-19
Odor	3 threshold odor number	4	4 to 4	Mar-19
pH	6.5 to 8.5	8.31	8.31 to 8.31	Mar-19
Sulfate	250 mg/l	86.1	86.1 to 86.1	Mar-19
Total Dissolved Solids	500 mg/l	243	243 to 243	Mar-19



Your drinking water has been sampled for a series of unregulated contaminants. Unregulated contaminants are those for which EPA has not yet established drinking water standards. There are no MCLs and therefore no violations if found.

The purpose of monitoring for these contaminants is to help EPA determine where the contaminants occur and whether they should have a standard. As our customers, you have a right to know that these data are available. If you are interested in examining the results, please contact our office during normal business hours.

### Violation 2019-9951265:

Our water system recently failed to comply with a required testing procedure. Even though this was not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation.

*\*We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During June 2019, we did not complete all monitoring or testing for Total Coliforms, and therefore cannot be sure of the quality of your drinking water during that time.\**

Every month we are required to take 40 samples for Total Coliform bacteriological analysis in the distribution system and report those results to the Division of Water by the tenth of the following month. In June 2019, we analyzed all 40 samples, but we inadvertently assigned the same identification number to two of those results, which meant that only one of them could be entered in the state's database. By the time we realized the error and corrected it, the data submission was late. We have taken steps to ensure we do not duplicate laboratory sample identification numbers for our samples in the future.

There is nothing you need to do at this time. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

For more information, please contact Bill Stambaugh at 606-385-3200 or PO Box 1839, Ashland, KY 41105.

*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.*