



Winchester Utility System

2019 Water Quality Report

Utility Information: Winchester Utility System is proud to present to you our annual water quality report. This report covers all testing completed January 1, 2019 through December 31, 2019. We have dedicated ourselves to delivering the best water that we can provide for our customers and community. We look forward to the challenges of source water protection, water conservation, and community education. We serve approximately 20,000 customers and maintain nearly 360 miles of water mains with 6 storage tanks.

Is my drinking water safe?

Yes. Our treated water meets all of EPA's health standards. We have conducted numerous tests for over 80 contaminants that could be in drinking water. As you'll see in the chart on the back, we detected only 11 of these contaminants. We found all of these contaminants to be at safe levels.

What is the source of my water?

Your water comes from the Elk River on Tim's Ford Lake located on State Highway 130, about 3 miles from Winchester. Our goal is to protect our water from contaminants and we are working with the State of Tennessee to determine the vulnerability of our water supply to contamination. The Tennessee Department of Environment and Conservation has prepared a Source Water Assessment Program (SWAP) Report for the water supplies serving this water system. The SWAP Report assesses the susceptibility of public water supplies to potential contamination. Water sources have been rated as reasonably susceptible (high), moderately susceptible (moderate), or slightly susceptible (low) based on geologic factors and human activities in the vicinity of the water source. The Winchester Water System sources are rated as reasonably susceptible to potential contamination.

An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scorings, and the overall TDEC report to EPA can be viewed at:

<http://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html> or you may contact the Winchester Water System or TDEC toll free at 1-888-891-8332 to obtain copies of specific assessments.

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:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- 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.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemical, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- 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 and the Tennessee Department of Environment and Conservation prescribe 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.

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. Community water systems are required to disclose the detection of contaminants; however, bottled water companies are not required to comply with this same regulation. 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.

Note in Spanish: Este informe contiene información muy importante. Tradúscalo o hable con alguien que lo entienda bien.

How can I get involved?

The Board of Public Utilities meets on the second Monday of each month at the Winchester Utility System Main office at 219 2nd Ave N.W. Please feel free to participate in these meetings.

Is our water system meeting other rules that govern our operations?

The State and EPA require us to test and report on our water on a regular basis to ensure its safety. We have met all these requirements. We want you to know that we pay attention to all the rules.

Other Information:

Due to all water containing dissolved contaminants, occasionally your water may exhibit slight discoloration. We at the Winchester Water System work around the clock to provide quality water to every service tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our Families' health. We are also working with all our customers to identify and install backflow prevention on all connections to our system that have potential hazards to our customers.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have under-gone 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 not only their drinking water, but food preparation, personal hygiene, and precautions in handling infants and pets from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

For more information about your drinking water, please call Mr. Adam Denton at Winchester Utility System at (931) 967-4021.

Water Quality Data

What does this chart mean?

- **Maximum Contaminant Levels (MCL):** The MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, 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.
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a safe margin of safety.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Parts per million (ppm) or Milligrams per liter:** Explained as a relation to time and money as 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:** Explained as a relation to time and money as one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Action Level (AL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **Nephelometric Turbidity Unit (NTU):** Nephelometric Turbidity Unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **Turbidity:** Turbidity has no health effects; however, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Turbidity is a good indicator of the effectiveness of our filtration techniques.
- **Non-Detects (ND):** Laboratory analysis indicates that the contaminant is not present.

Unless otherwise noted, the data presented in this table is from sampling performed during the 2019 calendar year.

Contaminant	Violation Yes/No	Level Found	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	No	0		2019		0	TT Treatment Technique	Naturally present in the environment
TOC ¹ (Total Organic Carbon)	No	46.39% removal		2019		35% removal	TT	Naturally occurring in the environment
Turbidity ²	No	0.29		2019	NTU	N/A	TT	Soil runoff
Copper ³	No	90 th %=0.14		2017	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead ³	No	90 th %=0		2017	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Chlorine	No	2.60 Avg.		2019	ppm	MRDLG ₄	MRDL=4	Disinfectant to control microbes
Sodium	No	7.32		2019	ppm	N/A	N/A	Erosion of natural deposits; used in water treatment
THAA (Total Haloacetic Acids)	No	26 Avg.	6-55	2019	ppb	0	60	By-product of drinking water chlorination
TTHM (Total Trihalomethanes ⁴)	No	29 Avg.	9-80	2019	ppb	0	80	By-product of drinking water chlorination
Chlorite	No	0.628 Avg.	0.01-0.99	2019	ppm	0.8	1	By-product of chlorine dioxide use
Chlorine Dioxide	No	0.11 Avg.	1-260	2019	Ppb	800	800	Disinfectant to control microbes
Atrazine	No	ND	0	2019	mg/l	0.003	0.003	Herbicide-Weed Control
2, 4-D	No	ND	0	2019	mg/l	0.07	0.07	Herbicide -Weed Control
Tim's Ford Lake Cryptosporidium	No	0.017	0-1.3	2018	Oocysts/L	N/A	N/A	Human or Animal Waste
Nitrate	No	0.943	0	2019	Mg/l	10	10	Nitrate accumulates in agricultural watersheds where spread inorganic fertilizers and animal manures on cropland.

UCMR 4

Contaminant	Violation Yes/No	Level Found	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Manganese	No	1.16 avg.	0.40-2.1	Quarterly	ppb	N/A	N/A	Naturally Present in Environment
Bromochloroacetic Acid	No	2.04 avg.	1.4-2.6	Quarterly	ppb	N/A	N/A	By-product of Drinking water disinfection
Bromodichloroacetic Acid	No	1.99 avg.	1.4-2.4	Quarterly	ppb	N/A	N/A	By-product of Drinking water disinfection
Chlorodibromoacetic Acid	No	0.35 avg.	0.00-0.50	Quarterly	ppb	N/A	N/A	By-product of Drinking water disinfection
Dibromoacetic Acid	No	0.05 avg.	0.00-0.34	Quarterly	ppb	N/A	N/A	By-product of Drinking water disinfection
Dichloroacetic Acid	No	13.92 avg.	9.2-18.5	Quarterly	ppb	N/A	N/A	By-product of Drinking water disinfection
Monobromoacetic Acid	No	0.05 avg.	0.00-0.36	Quarterly	ppb	N/A	N/A	By-product of Drinking water disinfection
Monochloroacetic Acid	No	0.05 avg.	0.00-0.36	Quarterly	ppb	N/A	N/A	By-product of Drinking water disinfection
Trichloroacetic Acid	No	13.18 avg.	8.6-19.7	Quarterly	ppb	N/A	N/A	By-product of Drinking water disinfection

These are Unregulated Contaminant Monitoring (UCMR4) Sampling as required by EPA - May 2019 start date. These Unregulated contaminants don't yet have a drinking water standard set by EPA. The purpose is to assist the EPA in determining the occurrence of the unregulated contaminants in the drinking water. This will determine if the contaminants should have a standard.

Health Effects

¹TOC the Winchester Water System met the treatment technique for TOC for 2019.

²We met the treatment technique for turbidity with 100% of monthly samples below the turbidity limit of 0.3 NTU.

³ During the most recent round of Lead and copper testing, 0 out of 30 households sampled contained concentrations exceeding the action level for lead, 0 out of 30 households sampled contained concentrations exceeding the action level for copper.

⁴THMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

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. Winchester Utility 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 www.epa.gov/safewater/lead.

Cryptosporidium is a microbial parasite which is found in surface water throughout the U.S. Although *Cryptosporidium* can be removed by filtration, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of our source water indicated the presence of *Cryptosporidium* in 1 out of 24 samples tested. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immune-compromised people have more difficulty and are at greater risk of developing severe, life threatening illnesses. Immune-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. For more information on *Cryptosporidium*, contact the Safe Drinking Water Hotline at 1-800-426-4791.

Your water is safe to drink.

Note: Winchester Utility System Lead and Copper testing will begin June 2020.

The following water report is from Metro Utility Department (Moore County). Water received from this utility was only for customers past Mansford Bridge going toward Tim's Ford State Park. We received and purchased 1,323,400 gallons during 2019.

Metro Utility Department

2019 Water Quality Data #1

What does this chart mean?

- MCLG: Maximum Contaminant Level Goal, or the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.
- MCL: Maximum Contaminant Level, or the highest level a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
- MRDLG: Maximum Disinfectant Residual Level Goal
- MRDL: Maximum Disinfectant Residual Level

Contaminant	EPA Limit (MCLG)	EPA Limit (MCL)	Level Found In M.U.D. Samples	Range of Detection	Violation Yes/No	Date Of Samples	Typical Source Of Contaminants
Total Coliform Bacteria	0	<5% Positive	0.0%	N/A	No	2019	Naturally present In the environment
Turbidity (NTU)	N/A	0.3	0.05	NTU 0.01-.27	No	2019	Soil run off
Copper* (ppm)	1.3	AL 1.3	90 th %=0.03 ppm	N/A	No	2018	Corrosion of household plumbing systems, erosion of natural deposits and leaching from wood preservatives
Lead* (ppb)	0	AL=15 ppb	90 th %=<1.0 ppb	N/A	No	2018	Same as above & corrosion of natural deposits
Sodium (ppm)	N/A	N/A	4.48	N/A	No	2019	Discharge from petroleum & metal refineries, erosions of natural deposits, and discharge from mines
Fluoride (ppm)	4ppm	4ppm	0.66 AVG	0.32-.97	No	2019	Water additive for strong teeth, corrosion of natural deposits
Chlorine (ppm)	MRDLG 4ppm	MRDL 4ppm	1.83 AVG	0.40-2.5	No	2019	Water additive used to control microbes
Trihalomethanes (ppb)	N/A	80	28	N/A	No	2019	Disinfection by-product
Haloacetic Acids (ppb)	N/A	60	28	N/A	No	2019	Disinfection by-product
Total Organic Carbon**	N/A	TT	1.08	0.97-1.36	No	2019	Naturally present in the environment

*During the most recent round of lead and copper testing, 0 out of 20 sites sampled contained concentrations exceeding the action level. ** We met the treatment technique for total organic carbon. Compliance value achieved if value is ≥ 1.0 . Turbidity does not present risk to your health. We monitor turbidity, which is a measure of the cloudiness in drinking water, because it is a good indicator that our filtration system is functioning properly. Abbreviations: PPB: parts per billion or micrograms per liter. PPM: parts per million or milligrams per liter. N/A: not applicable. NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water. MFL: million fibers per liter, used to measure asbestos concentration. AL: Action level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. TT: Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water. About the data: Most of the data in this table is from testing done between Jan. 1 and Dec. 31, 2019. We monitor for some contaminants less than once per year, and for these contaminants, the date of the last sample is shown in the table. * BDL means Below Detection Limit.