

Morristown Water System



Hometown utility service from the people you
KNOW & TRUST



WATER QUALITY REPORT 2016

IS MY DRINKING WATER SAFE?

We are pleased to present you Morristown Utility System's 2016 Water Quality Report. This is the annual report to you, the customer, informing you about the quality of drinking water that we deliver to you everyday. Our constant goal is to provide you with a safe and dependable supply of drinking water. This report is a summary of the quality of water provided to customers last year. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies.

WHAT IS THE SOURCE OF MY WATER?

Morristown's water supply comes from two water sources. A surface source at Cherokee Lake / Holston River and a ground water source called Havelly's Spring . Both sources are mixed together before being treated. A wellhead protection plan for the spring is available for your review by contacting Gary Love at Morristown Utility Systems between 7:00 a.m. to 3:30 p.m. weekdays.

Our goal is to protect our water from contaminants and we are working with the State to determine the vulnerability of our water source to **potential** contamination. The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for the untreated water sources serving this water system. The SWAP Report assesses the susceptibility of untreated water sources to **potential** contamination. To ensure safe drinking water, all public water systems treat and routinely test their water. Water sources have been rated as reasonably susceptible, moderately susceptible or slightly susceptible based on geologic factors and human activities in the vicinity of the water source. Our sources rated as reasonably susceptible to potential contamination. An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scoring and the overall TDEC report to EPA can be viewed online at <https://www.tn.gov/environment/article/wr-wq-source-water-assessment> or you may contact the Water System to obtain copies of specific assessments.

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 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 EPA's Safe Drinking Water Hotline at (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 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 may be present.
- 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 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.
- 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 regulation establish limits for contaminants in bottled water which must provide the same protection for public health.

INFORMATION FOR CONSUMERS AT RISK

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/Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline at (800-426-4791).

INFORMATION FOR CONSUMERS ABOUT LEAD AND COPPER RULE

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. Morristown Utility Systems 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>

As of January 4, 2014, MUS is complying with the Senate Bill 3874 that reduces lead in all products in contact with drinking water from 8% to 0.25%. This means all companies must use no-lead brass for installation of products contacting potable water.

As part of our treatment process, we add a corrosion inhibitor to help prevent corrosion of iron, lead, and copper from the water lines.

CROSS-CONNECTION INFORMATION

We would like to remind all of our customers that the Morristown Water System and all utilities across Tennessee are concerned about cross-connections.

A cross-connection is a situation where a possible source of contamination is directly linked to our public water supply.

Over the next few months, as the weather warms, people will begin to work outdoors in their gardens, yards and swimming pools. Activities like these all have a risk to contaminate the domestic water supply through a simple garden hose. Contamination can occur when the end of a hose is submersed in any liquid or attached to devices that spray pesticides, herbicides or fertilizers. The cross-connection contamination can happen if there is a main water line break or fire hydrant being used to pump water for fire suppression. These two situations could create a back siphon effect (negative water pressure) causing the water (liquids) to flow backwards into the water supply. The examples listed are a couple of common situations that have potential to create a public health hazard.

Devices are available to prevent water from back flowing into the water supply; however the best solution is to always be careful how you use your water hose by keeping an air separation between the end of the hose and the intended destination of the water.

Please help us provide a safe supply of water to all of our customers. Remember to never place your water hose in anything you would not want to drink. For more information on cross-connections and how to protect against them call Michael Robeson, our certified Cross-Connection Specialist at 423-317-6316.

NEW ADDITIONAL CROSS-CONNECTION REQUIREMENTS

As part of the continuing Cross-Connection Control Program at Morristown Utility Systems, we are currently putting into place a plan to survey all of our commercial and residential customers. In order to protect the public drinking water from an actual or potential health hazard caused by backsiphonage, or backpressure, of toxic or objectionable substances thru the domestic water lines, fire protection lines, or yard sprinkler lines we will be requiring those customers with potentially harmful cross connections to install a reduced pressure backflow preventer. These backflow preventers will provide for protecting the public potable water from the backflow of dangerous substances which could endanger the public health or physically damage the public water system.

***Please note:** In the near future you may be receiving a letter from MUS notifying you that we will need to perform a survey of your plumbing fixtures or a letter notifying you of the need to install a reduced pressure backflow preventer.*

WATER SYSTEM SECURITY

Following the events of September 2001, we realize the concern about the security of drinking water. We urge the public to report any suspicious activities at any utility facilities, including treatment plants, pumping stations, tanks, and fire hydrants. etc. to 423-586-1451.

HOW CAN I GET INVOLVED?

Morristown Utility System's board meetings are held in the MUC Business Office Boardroom. Board meetings are generally held on the fourth Wednesday of each month at 9:00 a.m. For more information please contact the business office (423) 586-4121.

For more information about drinking water or this report, please call Gary Love at 423-586-1451 or visit our Web site at www.morristownutilities.org.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OUR OPERATIONS?

Yes, Morristown Utility Systems strives to operate within regulations set forth by the Tennessee Department of Transportation (TDOT), Environmental Protection Agency (EPA), Tennessee Occupation Safety and Health Administration (TOSHA), and Tennessee Department of Environment and Conservation (TDEC).

PHARMACEUTICALS IN DRINKING WATER

Flushing unused or expired medicines can be harmful to your drinking water. Learn more about disposing of unused medicines at <https://www.tn.gov/environment/article/sp-unwanted-pharmaceuticals>

OTHER INFORMATION

Due to all water containing dissolved contaminants, occasionally your water may exhibit slight discoloration. We strive to maintain the standards to prevent this. We are at work around the clock to provide top quality water to every 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 children's future.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

2016 Water Quality Data

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	No	0		Monthly	n/a	0	> 2	Naturally present in the environment
Turbidity ¹	No	Highest 0.32 AVE= 0.05	0.03 - 0.32	Continuous	NTU		TT 0.30	Soil runoff
Copper ³	No	90th % = 0.42		2014	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	No	0.72	0.64 - 0.72	Quarterly	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	No	90th % = 1.4		2014	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	No	1.44		2016	ppm	10	10	Runoff from fertilizers use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium	No	9		2016	ppm		n/a	Erosion of natural deposits; used in water treatment
TTHM (total trihalomethanes)	No	58	5 - 45	Quarterly	ppb		80	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	13	0 - 13	Quarterly	ppb		60	By-product of drinking water chlorination
Total organic carbon ²	No	54% Removed (25% Required)	38% —65%	Quarterly	ppm	TT	TT	Naturally present in the environment
Barium	No	0.025		2012	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Combined Radium 226/228	No	1.05		2015	pCi/L	0	5	Erosion of natural deposits.

¹ Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. We met the treatment technique for turbidity with 99.5% of monthly samples below the turbidity limit of 0.3 NTU.

² We have met the Treatment Technique requirement for Total Organic Carbon in 2016.

³ During the most recent round of Lead and Copper testing, 0 out of 30 households sampled contained concentrations exceeding the action level. Sampling was taken from the following Utilities: Morristown Water Systems, Alpha-Talbott Utility District, Russellville-Whitesburg Utility District, Bean Station Utility District, Witt Utility District, and Rutledge Water System.

Contaminant	Violation Yes/No	Level Found	Range of Detections	Date of Sample	Unit Measurement	MRDLG	MRDL	Likely Source of Contamination
Chlorine	No	2.19	0.6 - 3.10	2016	ppm	4	4	Water additive used to control microbes

2016 Water Quality Data (cont.)

*BDL for Chromium and Vanadium is any value <0.20ug/l; BDL for Chlorate is any value <20.0 ug/l.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. For additional information call the Safe Drinking Water Hotline at (800)426-4791. During our testing for over twenty plus unregulated contaminants, these five were the only contaminants that were detectable.

Terms & Definitions

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

Maximum Contaminant Level (MCL) is 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) is the level of a contaminant in drinking water below which there is no known or expected risk to health

Maximum Residual Disinfectant Level Goal (MRDLG) is the level of a drinking water disinfectant below which there is no known or expected risk to health

Maximum Residual Disinfectant Level (MRDL) is the highest level of a disinfectant allowed in drinking water.

Million fibers per liter (MFL) is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Millirems per year (mrem/yr) is the measure of radiation absorbed by the body.

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

Non-Detects (ND) means that laboratory analysis indicates the contaminant is not present above the method's detection capability

Picocuries per liter (pCi/l) is a measure of the radioactivity in water.

Parts per million (ppm) or milligrams per liter (mg/l) One part per million is equivalent to one minute in *two* years or a single penny in \$10,000

Parts per billion (ppb) or micrograms per liter One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000

Parts per trillion (ppt) or nanograms per liter (nanograms/l) 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) or picograms per liter (picograms/l) One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Treatment Technique (TT) is a required process intended to reduce the level of a contaminant in drinking water.

Turbidity is a measure of the cloudiness of water and does not present any risk to your health. We monitor turbidity as a good indicator that our filtration system is functioning properly.