

## Substances That Could Be in Water

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 and 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.

# ANNUAL WATER QUALITY REPORT

Water testing performed in 2019  
*presented by: Mountain Water District*

PWS ID #: KY0980575  
KY0980350, WV3303009



## Maintaining High Standards

Once again we are proud to present our annual water quality report. This report covers all testing performed between January 1 and December 31, 2019. The events of the past few years have presented many of us with challenges we could not have imagined. Yet, in spite of this we have maintained our high standards in an effort to continue delivering the best quality drinking water possible. There may be other hurdles in the future but know that we will always stand behind you and the drinking water we work diligently to provide.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions, we are always available to assist you.

## Important Health Information

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 may 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).

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the last Thursday of each month beginning at 5:00 p.m. at the Mountain Water District offices located at 6332 Zebulon Highway, Pikeville, Kentucky.

## Where Does My Water Come From?

### Marrowbone Area (PWSID# KY0980575):

Your source of water is the Russell Fork of the Big Sandy River. It is a surface water source. You are in the Marrowbone Area if your Mountain Water District account number starts with: 0104, 0105, 0106, 0107, 0108, 0109, 0111, 0112, 0113, 0114, 0118, 0119, 0120, 0121, 0122, 0123, 0124, 0125, 0202, 0203, 0204, 0205, 0206, 0207, 0209, 0210, 0211, 0213, 0221, 0409, 0601, 0602, 0603, 0604, 0605, 0701, 0702, 0703, 0705, 0801, 0802, 0803, 0804, 0805, 0806, 0807, 1002, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014

### Pikeville Area (KY0980350):

Your water is purchased from the Pikeville Water Department. Their source is the Big Sandy River. It is a surface water source. You are in the Pikeville area if your Mountain Water District account number starts with: 0116, 0117, 0214, 0215, 0216, 0217, 0218, 0401, 0402, 0404, 0405, 0414, 0415, 0416, 0418, 0425, 0427, 0432, 0506, 0507, 0514, 0517, 0518, 0523, 0524, 0526, 0526, 1001, 1003, 1004.

### Williamson Area (WV3303009)

Your water is purchased from the Williamson Water Department. Their source of water is the Tug Fork River. It is a surface water source. You are in the Williamson Area if your Mountain Water District account number starts with: 0302, 0303, 0304, 0306, 0309, 0308, 0311, 0312, 0313, 0314, 0316, 0318, 0320, 0321, 0322, 0324, 0326, 0328, 0330, 0332, 0334, 0336, 0344, 0508, 0509, 0510, 0512, 0520, 0901, 0903, 0904, 0905.

## Questions?

For more information about this report, or for any questions relating to your drinking water, please call Tammy Olson or Roy Sawyers at the Mountain Water District, (606) 631-9162, P.O. Box 3157, Pikeville, KY 41502.

## Conserving Water in Your Home

Research suggests that one trillion (1,000,000,000) gallons of water are wasted each year in the US alone due to minor water leaks in the home. Learning to find and repair them is good for the environment as well as for savings on your water bill.

Paying attention to the sound of a water leak is a useful way to detect leaks in the home. Dripping water faucets and running toilets are usual culprits of water leaks in the home. It is a good idea to walk around your house and purposely listen for indications of a water leak every few months. To discover if you have a water leak in the toilet, you can purchase dye tablets or use food coloring. Drop a dye tablet or a few drops of food coloring in the tank and if the colored water makes its way into the bowl without being flushed, you have a leak.

Doing your own meter test once a year is a good idea as well. To do this, turn off all water in the home; including ice makers, washing machines and toilets. Make sure all faucets outside the home are turned off also. Once this is done, record the reading from your water meter. Do not use any water for approximately 2 hours or do this immediately before leaving for the day. After a couple of hours or upon your return, read the meter again. If the reading has moved forward then there is still water being used somewhere between the meter and your residence. This could be inside the home or in the service lines under the home or underground. In addition, your Mountain Water District bill will indicate if your meter has recorded continuous usage for the 24 hours prior to the meter being read with a message of **\*\*POSSIBLE LEAK\*\***. Anytime you see this on your bill, it is recommended that you check your side of the meter for a leak.

For more information on conserving water in and around your home, go to [www.waterconservationusa.org](http://www.waterconservationusa.org) or to calculate your family's water footprint, go to [www.h2oconserve.org](http://www.h2oconserve.org).

## Lead and Drinking Water

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 we 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>.



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

**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.

**Below Detection Levels (BDL):** Laboratory analysis indicates that the contaminant is not present.

**Not Applicable (NA):** Does not apply.

**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 (pb)** or micrograms per liter (ug/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 one 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 a single penny in \$10,000,000,000,000.

**Picocuries Per Liter (pCi/L):** A measure of the radioactivity in water.

**Millirems Per Year (mrem/yr):** A 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 of microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

**Variations & Exemptions (V&E):** State or EPA permission not to meet an MCL, or a treatment technique under certain conditions.

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

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

## Source Water Assessment

The Safe Water Drinking Act Amendments of 1996 require every water system to prepare a source water assessment that addresses the system's susceptibility to potential sources of contamination. Summaries of the assessments for the three service areas are as follows:

**Marrowbone Area:** The source water protection area is highly influenced by coal mining industries and the Breaks Interstate Park. The area is also highly influenced by commercial and industrial businesses, traffic flow, and the location of major railways. Other areas of concern include non-point sources of pollution originating from activities such as agriculture, mining, and road construction. Within the greater source water protection area, potential contaminant sources of concern include 1 major road, 2 railroads, 3 small sewage plants, 2 areas of waste generation or transportation, 10 bridges and culverts, and 2 points of active mining activity. Each of these potential sources of contamination is rated high in a susceptibility analysis because of the contaminant type, their proximity to the intake and the high chance of release. This completed plan is available for review at the main office at Mountain Water located at 6332 Zebulon Highway.

**Pikeville Area:** Activities and land uses upstream of the Pikeville Water Department source of water can pose potential risks to your drinking water. An analysis of the susceptibility of the Pikeville Water Department raw water supply to contamination has been completed. The area is highly influenced by commercial and industrial businesses, traffic flow on U.S. 23, and the location of major railways. As with most of Kentucky's surface water sources of supply, Pikeville Water Department is subjected to non-point pollution from various activities such as agriculture, mining, and road construction. Within the greater source protection area, potential contaminant sources of concern include 3 major roads, 1 railroad, 4 small sewage plants, 1 active contained landfill, 9 bridges and culverts, and 3 points of active mining activity. Each of these potential sources of contamination is rated high in a susceptibility analysis because of the containment type, their proximity to the intake, and the high chance of release. The final source water assessment has been completed by the Big Sandy Area Development District and is available for inspection at their office, the Pike County Judge's office, and the Pikeville/Pike County public library.

**Williamson Area:** This was completed in 2003 by the West Virginia Bureau for Public Health. The intake that supplies drinking water to Williamson Utility Board has a higher susceptibility to contamination, due to the sensitive nature of surface water supplies and the potential contaminant sources identified within the area. This does not mean that this intake will become contaminated; only that conditions are such that the surface water could be impacted by a potential contaminant source. Future contamination may be avoided by implementing protective measures. The source water assessment report, which contains more information, is available for review, or a copy will be provided to you at the Williamson Utility Board office during regular business hours.

**About Our Violations:** Total Trihalomethane (2019-9950634/2019-9950635/2020-9950636/2020-9950638) - The Mountain Water District received violations for exceeding the MCL for Trihalomethanes (TTHM) during each of the four quarters of 2019 predominantly at site 907 in the Elkhorn Creek area. The MCL for TTHM is based on a running annual average of 0.080 mg/L. Our average for the 1st quarter was 0.097 mg/L, the 2nd quarter was 0.098, the 3rd quarter was .083, and the 4th quarter was 0.089 mg/L for site 907 and 0.082 for site 027. Public notices have been issued for all violations. This is an ongoing issue that we continue to work to resolve. This is not an emergency. If it had been an emergency, you would be notified within 24 hours. It is unclear when the issue will be resolved; however, we continue to try new methods and procedures to reduce the concentration of disinfection by-products and have attended Division of Water training on ways to reduce these levels in the water we provide. We are working to minimize the formation of trihalomethanes while ensuring that we maintain an adequate level of disinfectant. We have taken steps to remove natural organic matter, introduced a pre-oxidant at the water plant and increased flushing of water lines. We are currently under an agreed order from the Division of Water and have submitted a Corrective Action Plan outlining the steps we plan to take to return to compliance. **HEALTH EFFECTS:** TTHMs (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. 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 City of Pikeville nor the City of Williamson, WV received violations during 2019.

Spanish (Español): Este informe contiene información muy importante sobre la calidad de su agua beber. Hable con alguien que lo entienda bien.

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.

**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.**

M = MOUNTAIN WATER DISTRICT (KY0980575) P = PIKEVILLE WATER DEPARTMENT (KY0980350) W = WILLIAMSON WATER DEPARTMENT (WV3303009)

**REGULATED CONTAMINANT TEST RESULTS**

Contaminant [code] (units)	MCL	MCLG	SOURCE	REPORT LEVEL	RANGE OF DETECTION	DATE OF SAMPLE	VIOLATION	LIKELY SOURCE OF CONTAMINATION
<b>INORGANIC CONTAMINANTS</b>								
<b>Antimony</b> [1074] (ppb)	6	6	M=	2	2 to 2	2019	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
<b>Barium</b> (ppm) [1010]	2	2	M= P= W=	0.039 0.09 0.03	0.039 to 0.039 0.09 to 0.09 0.03 to 0.03	2019	No	Drilling wastes; metal refineries; erosion of natural deposits
<b>Fluoride</b> (ppm) [1025]	4	4	M= P= W=	0.29 0.9 0.7	0.29 to 0.29 0.9 to 0.9 0.7 to 0.7	2019	No	Water additive which promotes strong teeth
<b>Nickel</b> (ppb) (US EPA remanded MCL in February 1995)	N/A	N/A	M=	1	1 to 1	2019	No	N/A
<b>Nitrate</b> (ppm) [1040]	10	10	M= P= W=	0.14 0.259 0.15	0.14 to 0.14 0.259 to 0.259 0.15 to 0.15	2019	No	Fertilizer runoff; leaching from septic tanks, sewage, erosion of natural deposits
<b>Selenium</b> (ppb) [1045]	50	50	M=	1	1 to 1	2019	No	Discharge from petroleum and metal refineries or mines; erosion of natural deposits

**DISINFECTANTS / DISINFECTION BYPRODUCTS AND PRECURSORS**

<b>Total Organic Carbon</b> (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	M= P= W=	1.03 0.75** 1.11	1 to 2.09 0 to 1 not available	2019	No	Naturally present in environment
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\*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance. \*\*Pikeville has been approved by the Division of Water to use an alternative compliance method.

<b>Chlorine</b> (ppm)	MRDL = 4	MRDLG = 4	M=	1.50 (highest average)	0.30 to 2.24	2019	No	Water additive used to control microbes
<b>HAA</b> (ppb) (Stage 2) [Haloacetic acids]	60	N/A	M=	40 (average)	5 to 57 (range of individual sites)	2019	No	Byproduct of drinking water disinfection
<b>TTHM</b> (ppb) (Stage 2) [Total trihalomethanes]	80	N/A	M=	97 (average)	10 to 143 (range of individual sites)	2019	Yes	Byproduct of drinking water disinfection
<b>TTHM</b> (ppb) Individual Site	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Violation	<b>Note</b> We monitor four locations in the distribution system for disinfection byproducts. Site 907 has consistently exceeded the MCL. We continue to optimize our operations and engage Pikeville to find a solution.		
027	63	75	74	82	Yes			
907	97	97	83	89	Yes			

**HOUSEHOLD PLUMBING CONTAMINANTS**

<b>Copper</b> (ppm) [1022] (Sites exceeding action level - 0)	AL = 1.3	1.3	M=	0.009 (90 <sup>th</sup> percentile)	0 to 0.023	2017	No	Corrosion of household plumbing systems
<b>Lead</b> (ppb) [1030] (Sites exceeding action level - 0)	AL = 15	0	M=	2.2 (90 <sup>th</sup> percentile)	0.2 to 6	2017	No	Corrosion of household plumbing systems

**SOURCE WATER CONTAMINANTS (untreated water)**

<b>Cryptosporidium</b> [oocysts/L]	0	TT (99% removal)	M=	1 (positive samples)	12 (no. of samples)	2019	See note below	Human and animal fecal waste
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Cryptosporidium - We are required to monitor the source of your drinking water for Cryptosporidium in order to determine whether treatment at the water treatment plant is sufficient to adequately remove Cryptosporidium from your drinking water. Cryptosporidium is a microbial pathogen found in surface water. Cryptosporidium was detected in 1 of 12 samples collected from the raw water source for our water system. It was not detected in the finished water. 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. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

**OTHER CONSTITUENTS**

TURBIDITY (NTU) TT * Representative Samples	ALLOWABLE LEVELS	SOURCE	HIGHEST SINGLE MEASUREMENT	LOWEST MONTHLY %	VIOLATION	LIKELY SOURCE OF TURBIDITY
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% monthly samples	M= P= W=	0.58 0.25 0.084	96 100 100	No	Soil runoff

**UNREGULATED CONTAMINANTS (UCMR 4)**

CONTAMINANT	SOURCE	AVERAGE	RANGE (ppb)	DATE	<b>Public Notice</b> Your drinking water has been sampled for a series of unregulated contaminants. Unregulated contaminants are those that EPA has not 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.
<b>Manganese</b>	M=	2.740	0.46 to 6	Aug-19	
<b>HAA5</b>	M=	22.504	8.3 to 45.96	Nov-19	
<b>HAA6Br</b>	M=	15.400	4.01 to 36.1	Nov-19	
<b>HAA9</b>	M=	35.219	15.11 to 60.27	Nov-19	