

Morgan County Water District

Water Quality Report 2018

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Meeting Location and Time: Water District Office, the second Monday of each month at 4:30pm

Source Information:

This report is designed to inform the public about the quality of water and services provided on a daily basis. Our commitment is to provide our customers with a safe, clean, and reliable supply of drinking water. We want to assure that we will continue to monitor, improve, and protect the water system and deliver a high quality product. Water is the most indispensable product in every home and we ask everyone to be conservative and help us in our efforts to protect the water source and the water system.

We purchase water from West Liberty Water Works and Cave Run Water Commission. Both treatment plants withdraw surface water from Cave Run Lake with West Liberty additionally withdrawing surface water from the Licking River. An analysis of the susceptibility to contamination of these water sources indicates that the threat is generally moderate. Potential contaminant sources of concern are road-ways and bridges upstream of the intakes and pesticide and fertilizer application from agricultural areas. Activities and land uses within the watershed can pose potential risks to your drinking water. Under certain circumstances, contaminants could be released that would pose challenges to water treatment, or even get into your drinking water. Activities immediately upstream of your water supply intake are of special concern because they provide little response time to the water system operators. The complete source water assessment is available for review during normal business hours at the West Liberty City Hall and Cave Run Water Commission.

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).

Information About Lead:

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>.

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 (N/A) - 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 (ppb) - or micrograms per liter, (µg/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 (pCi/L) - 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.

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.

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

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.

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.

Regulated Contaminant Testing Results for Cave Run Regional Water Commission

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity		
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.08	100	No	Soil runoff		
Regulated Contaminant Test Results Cave Run Regional Water Commission							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Inorganic Contaminants							
Barium [1010] (ppm)	2	2	0.013	0.013 to 0.013	Apr-18	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.80	0.8 to 0.8	Apr-18	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.24	0.24 to 0.24	Mar-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Disinfectants/Disinfection Byproducts and Precursors							
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	0.95 (lowest average)	0.68 to 1.00 (monthly ratios)	2018	YES	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.							

Regulated Contaminant Testing Results for Morgan County Water District

Regulated Contaminant Test Results Morgan County Water							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Inorganic Contaminants							
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.353 (90 th percentile)	0.0029 to 0.851	Aug-17	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 1	AL = 15	0	3 (90 th percentile)	0 to 16	Aug-17	No	Corrosion of household plumbing systems
Disinfectants/Disinfection Byproducts and Precursors							
Chlorine (ppm)	MRDL = 4	MRDLG = 4	0.88 (highest average)	0.26 to 1.66	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	57 (high site average)	26 to 86 (range of individual sites)	2018	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	82 (high site average)	26 to 135 (range of individual sites)	2018	YES	Byproduct of drinking water disinfection.

Regulated Contaminant Testing Results for West Liberty Water Works

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.25	100	No	Soil runoff

Regulated Contaminant Test Results West Liberty Water Works

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
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Inorganic Contaminants

Barium [1010] (ppm)	2	2	0.016	0.016 to 0.016	Apr-18	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.93	0.93 to 0.93	Apr-18	No	Water additive which promotes strong teeth
Nickel (ppb) (US EPA remanded MCL in February 1995)	N/A	N/A	17	17 to 17	Apr-18	No	N/A
Nitrate [1040] (ppm)	10	10	0.07	0.07 to 0.07	Jul-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.13 (lowest average)	1.00 to 1.50 (monthly ratios)	2018	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.

Other Contaminants

Source Water Contaminants (untreated water)

Cryptosporidium [oocysts/L]	0	TT (99% removal)	1 (positive samples)	12 (no. of samples)	2018	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 sample of 12 collected from the raw water source for West Liberty. 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.

Morgan County Violations 2018-9950619 and 2018-9950620

Testing results showed that our system exceeded the standard, or maximum contaminant level (MCL), for trihalomethanes. The standard for trihalomethanes is 0.080 mg/L. It is determined by averaging all samples at each sampling location for the last 12 months. Trihalomethanes averaged at one of our system's locations for:

1/1/2018 through 3/31/2018 was 0.082 mg/L

4/1/2018 through 6/30/2018 was 0.082 mg/L

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.

We made changes regarding our distribution system flushing program and have since come back into compliance. Public notices were issued for each quarter we were out of compliance.

Notice from West Liberty Water (KY0880452) Concerning Thallium:

Our water system recently violated a drinking water standard. Although this is not an emergency, as our customers, you have a right to know what happened, what you should do, and what we did (are doing) to correct this situation.

We routinely monitor for the presence of drinking water contaminants. We received notice that the sample collected on 4/7/2017 showed that our system exceeds the standard, or maximum contaminant level (MCL), for Thallium. The standard for Thallium is 0.002 mg/L. The average level of Thallium found in our water in 2017 was 0.0022 mg/L.

- There is nothing you need to do. **You do not need to** boil your **water** or take other corrective actions. However, if you have specific health concerns, consult your doctor.
- If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care providers about drinking this water.

This is not an emergency. If it had been, you would have been notified within 24 hours.

Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

We were initially told by our laboratory that our sample did not contain detectable levels of Thallium. After reviewing the quality control data, the laboratory chose to analyze the sample again and did not inform us of the change in report levels. We have pulled subsequent samples for analysis of Thallium that have been non-detect.

For more information, please contact Ray Adkins at 606-743-1953 or 9761 Highway 519, West Liberty, KY 41472.

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.

Notice from Cave Run Regional Water Commission (KY0831010) Concerning Total Organic Carbon:

Our water system recently violated a drinking water standard. Although this is not an emergency, as our customers, you have a right to know what happened, what you should do, and what we did (are doing) to correct this situation.

We are required to remove specific disinfection byproduct (DBP) Precursors between source water and filtered water. The DBP Precursors test results from the last twelve (12) months that ended on 6/30/2018, 9/30/2018, and 12/31/2018 show that our system does not meet the required DBP Precursors removal rate. Running Annual Average (RAA) of the DBP Precursors removal ratio for these three twelve (12) month periods is calculated at 0.97, 0.97, and 0.95, respectively, which is below the required ratio of 1.00. This is a treatment technique violation.

- There is nothing you need to do. **You do not need to** boil your **water** or take other corrective actions. However, if you have specific health concerns, consult your doctor.

This is not an emergency. If it had been, you would have been notified within 24 hours. Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

We anticipate resolving the problem within the next two quarters.

For more information, please contact Larry Workman at 606-768-6665 or PO Box 20, Wellington, KY 40387.

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.

This report will not be mailed unless requested. Contact our office if you would like a copy mailed to you.