

# Cavland Environmental Authority/Cave City

## Water Quality Report 2017

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Meeting location and time:  
508 S. Dixie Hwy. Cave City  
Third Thursday at 4:00 PM

Cavland Environmental Authority provides purchased water from two suppliers, both of which treat surface water. The suppliers and their sources include: Green River Valley Water District (Green River and Rio Springs in Hart County) and Glasgow Water Company (Barren River Lake and Beaver Creek). Both of these suppliers have conducted an analysis of susceptibility to contamination and the overall susceptibility is generally moderate. Areas of high concern include transportation corridors, underground storage tanks, several oil and gas wells, agricultural land use, residential land use, auto repair facilities, several permitted operations and activities, and waste generators. More specific and complete listings of potential sources of contamination are available. The respective Source Water Assessment Plans are available for review at each of the water producers. Contact information for our suppliers can be obtained by calling our office at (270) 773-2887. For information regarding the areas of the District's system served by the different sources of water, please contact the District's office.

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.

Starting in May of 2017 the Cave City water system was combined with the Caveland Environmental Authority, Inc (Park City) water system. Data collected from January 2017 through April 2017 was collected separately for Cave City. Due to this change we are presenting data collected by Cave City from January 1, 2017 – April 30, 2017 in a separate chart. In addition, data collected by our producers (Glasgow and Green River Valley) is presented in another separate chart.

**Glasgow and Green River Valley**

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.

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU	A=	0.095	100	No	Soil runoff
* Representative samples	Less than 0.3 NTU in	B=	0.135	100	No	
of filtered water	95% monthly samples	C=	0.129	100	No	

**Regulated Contaminant Test Results A and B = Glasgow, C = Green River Valley**

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Combined radium (pCi/L)	5	0	C=	1	1 to 1	Feb-14	No	Erosion of natural deposits
Arsenic [1005] (ppb)	10	N/A	C=	0.3	0.3 to 0.3	Feb-17	No	Natural erosion; runoff from orchards or glass and electronics production wastes
Barium [1010] (ppm)	2	2	A=	0.026	0.026 to 0.026	Feb-17	No	Drilling wastes; metal refineries; erosion of natural deposits
			B=	0.03	0.03 to 0.03	Feb-17	No	
			C=	0.038	0.038 to 0.038	Feb-17	No	
Chromium [1020] (ppb)	100	100	B=	0.3	0.3 to 0.3	Feb-17	No	Discharge from steel and pulp mills; erosion of natural deposits
			C=	1	1 to 1	Feb-17	No	
Cyanide [1024] (ppb)	200	200	C=	60	60 to 60	Feb-17	No	Discharge from steel/metal factories; plastic and fertilizer factories
Fluoride [1025] (ppm)	4	4	A=	0.4	0.4 to 0.4	Feb-17	No	Water additive which promotes strong teeth
			B=	0.4	0.4 to 0.4	Feb-17	No	
			C=	0.6	0.6 to 0.6	Feb-17	No	
Nitrate [1040] (ppm)	10	10	A=	2.2	2.2 to 2.2	Feb-17	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
			B=	2.3	2.3 to 2.3	Feb-17	No	
			C=	1	1 to 1	Feb-17	No	
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	A=	2.05	1.64 to 3.33	2017	No	Naturally present in environment.
			B=	2.54	1.78 to 4.17	2017	No	
			C=	1.36	1 to 3.46	2017	No	

\*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.

**Other Contaminants**

Cryptosporidium [oocysts/L]	0	TT	B=	1	9	2017	No	Human and animal fecal waste
	(99% removal)			(positive samples)	(no. of samples)			

Cryptosporidium is a microbial pathogen found in surface water. Cryptosporidium was detected in 1 sample of 9 collected from the raw water source for Glasgow’s Treatment Plant B. 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.

**Cave City (January 1, 2017 - April 30, 2017)**

<b>Regulated Contaminant Test Results</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>
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.53 (highest average)	1.23 to 2.2	2017	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	46 (high site average)	12 to 53 (range of individual sites)	2017	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	49 (high site average)	13.3 to 46.6 (range of individual sites)	2017	No	Byproduct of drinking water disinfection.

**Cleveland Environmental Authority**

<b>Regulated Contaminant Test Results</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>
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.01 (90 <sup>th</sup> percentile)	0 to 0.02	Jun-17	No	Corrosion of household plumbing systems
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.74 (highest average)	0.4 to 2.2	2017	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	46 (high site average)	13 to 68 (range of individual sites)	2017	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	47 (high site average)	17.6 to 57.2 (range of individual sites)	2017	No	Byproduct of drinking water disinfection.

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