

Whitley County Water District

Water Quality Report 2018

Water System ID: KY1180468
Manager: Albert Mahan
(606) 549-3600

CCR Contact: Albert Mahan
(606) 549-3600

Mailing Address:
19 US Hwy 25W S
Williamsburg, KY 40769

Meeting location and time:
19 US Hwy 25W S
4th Thursdays at 1:00 PM

Whitley County Water District purchases water from Corbin, Williamsburg, and Jellico, TN. Corbin treats surface water from Laurel River Lake, Williamsburg treats surface water from the Cumberland River, and Jellico treats groundwater from wells drilled into the Pennsylvanian Sandstone Aquifer. Water from each of these suppliers has the potential to mix within our distribution system. Each of these suppliers has conducted an analysis of susceptibility to contamination and the overall susceptibility is generally moderate. Areas of high concern for the water sources include transportation corridors, underground storage tanks, agricultural land use, and waste generators. The complete Source Water Assessment Plans for Corbin and Williamsburg are available for review at the respective water producers or Area Development District offices. Information on the source water for Jellico can be found in the Tennessee Source Water Assessment Report available from Tennessee Department of Environment and Conservation.

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.

To request a paper copy call (606)549-3600.

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.

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.

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU*	W=	0.31	99	No	Soil runoff
* Representative samples of filtered water	Less than 0.3 NTU in 95% monthly samples	C=	0.25	100		

Regulated Contaminant Test Results - Williamsburg (W) Jellico, TN (J) Corbin (C)

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Alpha emitters [4000] (pCi/L)	15	0	J=	3	3 to 3	2017	No	Erosion of natural deposits
Barium [1010] (ppm)	2	2	W= C=	0.022 0.015	0.022 to 0.022 0.015 to 0.015	2018	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	W= J= C=	0.89 0.686 0.8	0.89 to 0.89 0.438 to 1.21 0.8 to 0.8	2018	No	Water additive which promotes strong teeth
Nickel (ppb) (US EPA remanded MCL in February 1995.)	N/A	N/A	W=	2	2 to 2	2018	No	N/A
Nitrate [1040] (ppm)	10	10	W= C=	0.12 0.5	0.12 to 0.12 0.5 to 0.5	2018	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	W= C=	1.29 1.45	1 to 1.67 1.14 to 3.42	2018	No	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.

Source Water Contaminants (untreated water)

Cryptosporidium [oocysts/L]	0	TT	W= C=	2 2	9 24	2018 2016	See Note Below	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 2 samples of 9 collected from the raw water source for Williamsburg and 2 samples of 24 collected for Corbin 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.

Williamsburg UCMR4 Public Notice - 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.

Regulated Contaminant Test Results Whitley County Water District							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.425 (90 th percentile)	0.002 to 0.501	Aug-17	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	2 (90 th percentile)	1 to 7	Aug-17	No	Corrosion of household plumbing systems
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.34 (highest average)	0.2 to 3.3	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	78 (high site average)	16 to 95 (range of individual sites)	2018	YES	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	69 (high site average)	23 to 75 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

Violations

Testing results show that our system exceeded the standard, or maximum contaminant level (MCL), for haloacetic acids. The standard for haloacetic acids is 0.060 mg/L. It is determined by averaging all samples at each sampling location for the previous 12 months.

2018-9427306 4/1/2018 – 6/30/2018 HAA 0.078 mg/L

2019-9427307 7/1/2018 – 9/30/2018 HAA 0.064 mg/L

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

We are working to minimize the formation of haloacetic acids while ensuring we maintain an adequate level of disinfectant. We have increased flushing of water lines and we are also monitoring water storage tank levels and water flow patterns within the distribution system. We returned to compliance after the third quarter of 2018. Public notices were distributed for each of these violations.

Whitley County Water District 92 West Water Quality Report 2018

Water System ID: KY1183728
Manager: Albert Mahan
(606) 549-3600

CCR Contact: Albert Mahan
(606) 549-3600

Mailing Address:
19 US Hwy 25W S
Williamsburg, KY 40769

Meeting location and time:
19 US Hwy 25W S
4th Thursdays at 1:00 PM

Whitley County Water District 92 West purchases water from McCreary County Water District which treats surface water from Lake Cumberland and Laurel Creek Reservoir. An analysis of the overall susceptibility to contamination indicated that this susceptibility is generally low. Within the critical protection area of the Lake Cumberland intake there are three potential sources of contamination that are ranked high. Areas of concern include forest and woodland cover, one major roadway and power lines with potential herbicide usage. Within the critical protection area of the Laurel Creek intake there are eighteen potential sources of contamination that are ranked high. Area of concern includes a railroad, row crops, underground storage tanks; KPDES permitted discharges, mining, and waste generators or transporters. This is a summary of the system's susceptibility to contamination, which is a part of the completed Source Water Assessment Plan (SWAP). The completed plan is available for inspection at the McCreary County Water District Office located on U.S. 27, in Whitley City.

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Picocuries per liter (pCi/L) - a measure of the radioactivity in water.

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Million Fibers per Liter (MFL) - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

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McCreary County Revelo Treatment Plant = A McCreary County Flatrock Treatment Plant = B

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU*	A=	0.14	100	No	Soil runoff
* Representative samples of filtered water	Less than 0.3 NTU in 95% monthly samples	B=	0.17	100		

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Barium [1010] (ppm)	2	2	A= B=	0.02 0.02	0.02 to 0.02 0.02 to 0.02	Mar-18 Jun-18	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	A= B=	0.72 0.7	0.72 to 0.72 0.7 to 0.7	Mar-18 Jun-18	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	B=	0.1	0.1 to 0.1	Mar-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	A= B=	1.36 1.3	1.28 to 1.82 0.91 to 1.5	2018	No	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.

Source Water Contaminants (untreated water)

Cryptosporidium [oocysts/L]	0	TT	A= B=	0 1	3 3	2018	See note below	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 6 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.

Fluoride (added for dental health)	Average	Range of Detection
	0.70	0.5 to 0.9

Unregulated Contaminants (UCMR 4)	average	range (ppb)	date
Manganese	0.333	0 to 1	Nov-18
HAA5	36.5	23 to 54	Nov-18
HAA6Br	9.025	6.9 to 12	Nov-18
HAA9	45.25	30 to 65	Nov-18

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.

Regulated Contaminant Test Results Whitley Co. Water District 92 West							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.043 (90 th percentile)	0.001 to 0.063	Aug-16	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	0.45 (90 th percentile)	0.1 to 0.5	Aug-16	No	Corrosion of household plumbing systems
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.02 (highest average)	0.35 to 1.95	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	66 (high site average)	21 to 103 (range of individual sites)	2018	YES	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	75 (high site average)	22 to 130 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

HAA(ppb) Individual Site	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Violation
089	62.15	57.00	49.08	45.00	Yes
090	53.75	51.50	66.35	58.75	Yes

Violations

Testing results show that our system exceeded the standard, or maximum contaminant level (MCL), for haloacetic acids. The standard for haloacetic acids is 0.060 mg/L. It is determined by averaging all samples at each sampling location for the previous 12 months.

2018-8 1/1/2018 – 3/31/2018 HAA 0.062 mg/L

2019-9 7/1/2018 – 9/30/2018 HAA 0.066 mg/L

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

We are working to minimize the formation of haloacetic acids while ensuring we maintain an adequate level of disinfectant. We have increased flushing of water lines and we are also monitoring water storage tank levels and water flow patterns within the distribution system. We returned to compliance after the third quarter of 2018. Public notices were distributed for each of these violations.