

## *(Christian County Water District) Water Quality Report (2018)*

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Meeting Location and Time: 1940 Dawson RD . Hopkinsville KY, 42240 1<sup>st</sup> Thursday Each

Month at 6: pm

### Source Information:

This report is to inform the public about the quality of water and service provided on a daily basis. During 2018 the Christian County Water District purchased water from three sources. Customers who live in the Gracey area, Hwy 117, Hwy 272, Hwy 164, and all side roads in these areas were supplied with water purchased from Barkley Lake Water District which is treated surface water drawn from Barkley Lake. Customers who live on the Todd County side of west fork red river on Barkers Mill and Chapel Hill were supplied with surface water purchased from Todd County Water District all other customers in Christian County were supplied with water purchased from Hopkinsville Water Environment Authority (HWEA) has treated surface water which is drawn from Barkley Lake, the North Quarry and the South Quarry.

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.

Variances & 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.

# Christian County Water District

## Water Quality Data Table

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
<b>Disinfectants &amp; Disinfection By-Products</b>								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Haloacetic Acids (HAA5) (PPb)	NA	60	55	33	65	2018	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	53	29	72	2018	No	By-product of drinking water disinfection
<b>Microbiological Contaminants</b>								
Total Coliform (RTCR)	NA	TT	NA	NA	NA	2018	No	Naturally present in the environment
Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source	
<b>Inorganic Contaminants</b>								
Copper - action level at consumer taps (ppm)	1.3	1.3	.11	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits	
<b>Inorganic Contaminants</b>								
Lead - action level at consumer taps (ppb)	0	15	.002	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits	

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## Undetected Contaminants

The following contaminants were monitored for, but not detected, in your water.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Violation	Typical Source
Chlorine (as C12) (ppm)	4	4	2.55	No	Water additive used to control microbes

Our water system has sampled for Unregulated Contaminants are those that don't yet have drinking water standard set by EPA. We tested for Microcystin phased Sample's. Christian County Water District is pleased to report that the sample's were Undetected.

# 2018 Water Quality Data

The data presented in this report is from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by the 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	Highest Single Level	Lowest Monthly %	Violation	Likely Source		
1. Turbidity (NTU) TT	Never more than 1 NTU Less than 0.3 NTU 95% of samples each month. (Population >10,000)	0.16	100%	No	Soil runoff		
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.							
Regulated Contaminant Test Results							
Contaminant [code] (units)	MCL	MCLG	Highest Level	Range	Date of Sample	Violation Yes/No	Likely Source of Contamination
Microbial Contaminants							
2. Total Coliform Bacteria 8 positive samples	TT	N/A	3.57%	N/A	2018	No	Naturally present in the environment
Regulated Contaminant Test Results							
Contaminant [code] (units)	MCL	MCLG	Highest Level	Range	Date of Sample	Violation Yes/No	Likely Source of Contamination
Radioactive Contaminants							
3. Combined Radium (pCi/L)	5	0	1.5	1.5 -1.5	Feb 2017	No	Erosion of natural deposits
4. Uranium (ug/l)	30	0	2.2	2.2-2.2	Feb 2017	No	Erosion of natural deposits

	Average	Range of Detection
Fluoride (added for dental health)	0.8	0.56-0.96
Sodium (EPA guidance level = 20 mg/l)	4.9	4.58-5.17

Maximum Contaminant Levels (MCLs) are set at very stringent levels. 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.

Inorganic Contaminants							
5. Copper [1022] (ppm) (0 sites exceeded the AL)	AL= 1.3	1.3	0.0543 (90th per- centile)	0.0015 - 0.0849	July - Sept 2018	No	Corrosions of household
6. Lead [1030] (ppb) (1 site exceeded theAL)	AL= 15	0	2.0 (90th percen- tile)	2.0-38	July - Sept 2018	NO	Corrosion of household
Lead and Copper monitoring is done together during the months of July, August and September.							
7. Barium [1010] (ppm)	2.0	2.0	0.041	0.041-0.041	Jan 2018	No	Drilling wastes; metal refineries; erosion of natural deposits
8. Fluoride {1025} (ppm)	4.0	4.0	0.8	0.8 - 0.8	March 2018	No	Water additive which promotes strong teeth
9. Nitrate [1040] (ppm)	10	10	2.6	0.394-2.6	Jan 2018	No	Fertilizer runoff; leaching from septic tanks; sewage; erosion of natural deposits
10. Nitrite [1041] (ppm)	1	1	0.1	0.1 - 0.1	Jan 2018	No	Fertilizer runoff; leaching from septic tanks; sewage; erosion of natural deposits
Disinfectants/Disinfection Byproducts and Precursors							
11. Total Organic Carbon (ppm)	TT	N/A	1.55 (lowest average)	0.46-2.67 (monthly ratios*)	2018	No	Naturally present in environment.
*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Lowest annual average of the monthly ratios must be 1.00 or greater to meet the treatment technique.							
12. Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.67 (highest average)	0.21-3.19	2018	No	Water additive used to control microbes
13. Haloacetic acids or HAA (ppb) (Stage 2) Individual Sites	60	N/A	53 (annual average)	20 - 64	2018	No	By-product of drinking water disinfection
14. Total Trihalomethanes or TTHM (ppb) (Stage 2) Individual Sites	80	N/A	60 (annual average)	19-78	2018	No	By-product of drinking water disinfection
Other Contaminants							
15. Cryptosporidium {oocysts / L}	0	TT (99% removal)	2 (positive samples)	9 (no. of samples)	2018	See note below	Human and animal fecal waste

### Cryptosporidium Monitoring

The Long Term 2 Enhanced Surface Water Treatment Rule addresses the health effects associated with *Cryptosporidium* in surface water used as a drinking water supply. Under this rule our water system monitored for *Cryptosporidium*, *E. coli* and turbidity at our raw water source monthly to determine if treatment at the water treatment plant was sufficient to adequately remove *Cryptosporidium* from your drinking water.

HWEA began this monitoring in October 2016 and has only found two (2) *Cryptosporidium* oocysts. This is good news for our water source as no additional water treatment techniques are required.

# Logan/Todd Regional Water Commission 2018 Water Quality Data

## KY1101005

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	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.205	100	No	Soil runoff

### Regulated Contaminant Test Results

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

Arsenic [1005] (ppb)	10	N/A	1.32	1.32 to 1.32	Jun-18	No	Natural erosion; runoff from orchards or glass and electronics production wastes
Barium [1010] (ppm)	2	2	0.0207	0.0207 to 0.0207	Jun-18	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.634	0.634 to 0.634	Jun-18	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.224	0.224 to 0.224	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	1.28 (lowest average)	1.00 to 1.78 (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

Cryptosporidium [oocysts/L]	0	TT (99% removal)	1 (positive samples)	4 (no. of samples)	2018	See note	Human and animal fecal waste
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	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	0.28	100	No	Soil runoff		
<b>Regulated Contaminant Test Results</b>							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
<b>Microbiological Contaminants</b>							
Total Coliform Bacteria # or % positive samples	TT	N/A	3	N/A	2018	No	Naturally present in the environment
<b>Radioactive Contaminants</b>							
Alpha emitters [4000] (pCi/L)	15	0	4.7	4.7 to 4.7	July-14	No	Erosion of natural deposits
<b>Inorganic Contaminants</b>							
Barium [1010] (ppm)	2	2	0.016	0.016 to 0.016	Aug-18	No	Drilling waste; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL - 1.3	1.3	0.415 (90 <sup>th</sup> percentile)	0.0148 to 0.76	July-17	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.9	0.9 to 0.9	Aug-18	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL - 15	0	3 (90 <sup>th</sup> percentile)	0 to 9	July-17	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	0.56	0.359 to 0.56	Feb-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
<b>Disinfectants/Disinfection Byproducts and Precursors</b>							
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.45 (lowest average)	0.17 to 2.39 (monthly ratios)	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.							
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.25 (highest average)	0.60 to 1.90	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	38 (high site average)	17 to 51 (range of individual sites)	2018	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	46 (high site average)	23 to 68 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

Unregulated Contaminants (UCMR 4)	average	range (ppb)	date
total microcystin	0.267	BDL to 1.6	Aug-18
Manganese	0.623	0.461 to 0.784	Nov-18
HAA5	39.2	23.3 to 59.6	Aug-18
HAA6Br	8.427	4.56 to 14.4	Aug-18
HAA9	47.433	27.9 to 73.3	Aug-18

**Notice of Violation 2018 - 9951114 / 7000 CONSUMER CONFIDENCE RULE**

**Description of Noncompliance:** 401 KAR 8:075, Section 1 CONSUMER CONFIDENCE RULE The public water system failed to submit the Consumer Confidence Report (CCR) to the Department for Environmental Protection. The system was required to distribute the CCR to customers and submit a copy to the Kentucky Department for Environmental Protection. The system was required to distribute the CCR to customers and submit a copy to the Kentucky Department for Environmental Protection by July 1. **Comments:** Failure to distribute and submit the calendar year 2015 CCR. Submit a complete CCR package for the calendar year 2015 and detail this violation in next CCR; a violation statement list. **Remedial Measures:** This NOV will be detailed in the 2018 CCR. Our system will use checklists to proof our information to insure accuracy and completion.

**Notice of Violation 2018 - 9951115 / 0300 IESWTR**

Our water system violated one or more drinking water standards over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct these situations.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 05/01/2018-05/31/2018 we did not complete all monitoring or testing for 0300 IESWTR and therefore cannot be sure of the quality of your drinking water during that time. There is nothing you need to do at this time. You do not need to use an alternative (e.g., bottled) water supply.

What happened? Who is at risk? What is being done?

**Description of Noncompliance:** 401KAR6:15, Sec 3. IESWTR The public water system submitted fewer than 90% of required number of analytical results for turbidity or failed to submit results by the 10th of the following month for the compliance. 05/01/2018 - 05/31/2018

**Comments:** Due to a missing summary sheet in the May 2018 MO war the following data was not submitted to the department: TURB: water system did not submit individual filter and fluid turbidity parentheses | FE parentheses report or the combined filter air fluid turbine today parentheses CFE parentheses summary information. EPRD: water system did not submit the entry point residual disinfection concentration parentheses EPRD parentheses summary information.

**Remedial Measures:** submit any overdue our unreported sampling results, if available, for the compliance. 005/01/2018-05/31 show/2018. Our system did submit all items mentioned in In Qvi. We send our MOR certified mail and inventory all components before mailing. There were no health effects due to this administrative oversight.

*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.*

During the past year we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take one corrective actions and we completed of these actions.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

**Remedial Action:** We were told by our primacy agency to utilized another site that is representative of the water quality.