(Christian County Water District)
Water Quality Report (2019)

Water System ID: KY0240521 Manager: James Owen CCR Contact: James Owen Phone: 270-886-3696
Mailing Address: P.O Box 7 Hopkinsville KY.42241
Meeting Location and Time: 1940 Dawson RD. Hopkinsville KY, 42240 1st Thursday Each Month at 6:00 pm

Source Information:
This report is to inform the public about the quality of water and service provided on a daily basis. During 2019 the Christian County Water District purchased water from three sources. Customers who live in the Gracey area.Hwy 117,Hwy272,Hwyl64, 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. Customer 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 customer 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 ii^ection 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 disin fectant 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/1). 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, (pg/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 prcscncc 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 *(TV)* - **a required process intended to reduce the level of a contaminant in drinking water.**

Spanish (Espartol) Este informe contiene informaci6n 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 Low	Range High	Sample Date	Violation	Topical Source
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Haioacetic Acids (HAA5) (PPb)	NA	**60**	**35**	**17**	**52**	**2019**	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	**80**	**42**	18	**72**	**2019**	No	By-product of drinking water disinfection
Microbiological Contaminants								
Total Coliform (RTCR)	NA	TT	NA	NA	NA	**2019**	No	Naturally present in the environment

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants							
Copper - action level at consumer taps (ppm)	**1.3**	**1.3**	**.11**	**2018**	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Inorganic Contaminants							
Lead - action level at consumer taps (ppb)	0	**15**	**.002**	**2018**	0	No	Corrosion of household plumbing systems; Erosion of **natural deposits**

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 CI2) (ppm)	4	4	**1.15**	No	Water additive used to control microbes

2019 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)	0.08	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. E. coli Bacteria 0% positive samples	0%	0	0%	N/A	N/A	No	Human and animal fecal waste
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
Inorganic Contaminants							
5. Copper [1022] (ppm) (0 sites exceeded the AL)	AL= 1.3	1.3	0.0543 (90th percentile)	0.0015 - 0.0849	July - Sept 2018	No	Corrosions of household plumbing systems
6. Lead [1030] (ppb) (1 site exceeded the AL)	AL= 15	0	2.0 (90th percentile)	2.0 - 38	July - Sept 2018	No	Corrosion of household plumbing systems
Lead and Copper monitoring is done together during the months of July, August and September.							
7. Barium [1010] (ppm)	2.0	2.0	0.042	0.042 - 0.042	January 2019	No	Drilling wastes; metal refineries; erosion of natural deposits
8. Fluoride [1025] (ppm)	4.0	4.0	0.7	0.7 - 0.7	January 2019	No	Water additive which promotes strong teeth
9. Nitrate [1040] (ppm)	10	10	3.51	0.711 - 3.51	April 2019	No	Fertilizer runoff; leaching from septic tanks; sewage; erosion of natural deposits
10. Nitrite [1041] (ppm)	1	1	0.2	0.1 - 0.2	October 2019	No	Fertilizer runoff; leaching from septic tanks; sewage; erosion of natural deposits

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.

Contaminant [code] (units)	MCL	MCLG	Highest Level	Range	Date of Sample	Violation Yes/No	Likely Source of Contamination
Disinfectants/Disinfection Byproducts and Precursors							
11. Total Organic Carbon (ppm)	TT	N/A	1.72 (lowest average)	1.33 - 2.92 (monthly ratios+)	2019	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)	0.20 - 2.69	2019	No	Water additive used to control microbes
13. Haloacetic acids or HAA (ppb) (Stage 2) Individual Sites	60	N/A	41 (annual average)	11 – 32	2019	No	By-product of drinking water disinfection
14. Total Trihalomethanes or TTHM (ppb) (Stage 2) Individual Sites	80	N/A	46 (annual average)	15 - 40	2019	No	By-product of drinking water disinfection

	Average	Range of Detection
Fluoride (added for dental health)	0.7	0.62 - 0.82
Sodium (EPA guidance level = 20 mg/l	4.5	4.13 - 4.82

Unregulated Contaminants Monitoring Rule

Our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. As our customers, you have a right to know that these results are available. If you are interested in examining the data, please contact Jenny Moss at (270) 887.4147 or P.O. Box 628, Hopkinsville, Kentucky 42241.

Unregulated	Average	Range (ppb)	Date
HAA5	27.925	5.8 to 42.0	Dec 2018 – Sept 2019
HAA6Br	7.257	1.02 to 10.1	Dec 2018 – Sept 2019
HAA9	35.020	6.82 to 51.2	Dec 2018 – Sept 2019

EPA has not established drinking water standards for unregulated contaminants. There are no MCLs and therefore no violations if found. The treatment plant and distribution system sampling protocol was determined by the UCMR4 regulation requirements and the Kentucky Division of Water.

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.**

Regulated Contaminant Test Results

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	0.025	0.025 to 0.025	Aug-19	No	Drilling wastes, metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.07	0.07 to 0.07	Aug-19	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.405	0.209 to 0.405	Feb-19	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Disinfection Byproduct Precursor							
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.5 (lowest average)	1.00 to 2.33 (monthly ratios)	2019	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	1.49 (highest average)	0.73 to 2.2	2019	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	37 (high site average)	19 to 55 (range of individual sites)	2019	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	46 (high site average)	23 to 57 (range of individual sites)	2019	No	Byproduct of drinking water disinfection.
Household Plumbing Contaminants							
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.415 (90^{th} percentile)	0.0148 to 0.76	Aug-18	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	3 (90^{th} percentile)	0 to 9	Aug-18	No	Corrosion of household plumbing systems

Other Constituents

Turbidity (NTU) TT * Representative samples	Allowable Levels	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% of monthly samples	0.24	100	No	Soil runoff

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.

Unregulated Contaminants (UCMR 4)	Average	Range (ppb)			Date
Manganese	0.583	0.583	to	0.583	Feb-19
HAA5	22.175	20.2	to	25.3	Feb-19
HAA6Br	3.775	3.61	to	4.01	Feb-19
HAA9	25.950	23.8	to	29.3	Feb-19

Logan/Todd Regional Water Commission 2019 Water Quality Data
KY1101005

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	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	0.084	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
Inorganic Contaminants							
Barium [1010] (ppm)	2	2	0.021	0.021 to 0.021	Jul-19	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.719	0.719 to 0.719	Jul-19	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.168	0.168 to 0.168	May-19	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	1.26 (lowest average)	1.50 to 1.81 (monthly ratios)	2019	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.							
Other Contaminants							
Cryptosporidium [oocysts/L]	0	TT (99% removal	1 (positive samples)	12 (no. of samples)	2019	*See note below	Human and animal fecal waste

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	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	0.084	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
Microbiological Contaminants							
Total Coliform Bacteria # or % positive samples	1	0		N/A			Naturally present in the environment
Inorganic Contaminants							
Barium [1010] (ppm)	2	2	0.021	0.021 to 0.021	Jul-19	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	(90^{th} percentile)	0 to 0			Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.719	0.719 to 0.719	Jul-19	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.168	0.168 to 0.168	May-19	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	1.26 (lowest average)	1.50 to 1.81 (monthly ratios)	2019	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	1.80 (highest average)	1.1 to 2.44	2019	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids] (Annual Sample)	60	N/A	32 (high site)	32 to 32 (range of individual sites)	2019	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes] (Annual Sample)	80	N/A	56 (high site)	56 to 56 (range of individual sites)	2019	No	Byproduct of drinking water disinfection.