

## *Jessamine County Water District #1*

### *2018 Water Quality Report*

Water System ID: KY0570214 Manager: Karen Lee (859) 885-9314	CCR Contact: Karen Lee (859) 885-9314	Mailing Address: 2225 Nicholasville Road Nicholasville, KY 40356	Meeting location and time: Water District Office First Thursdays at 8:30 AM
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We purchase our water from Kentucky American Water Company (KAWC) and the City of Nicholasville. KAWC and Nicholasville treat surface water from Jacobson Reservoir and the Kentucky River, respectively. The area around Jacobson Reservoir is most vulnerable to urban storm water runoff, which may include heavy metals, nutrients and synthetic chemicals. The KY River is most vulnerable to agricultural runoff, which may include pesticides, nutrients and pathogens. The susceptibility to contamination of both sources is considered to be moderate. Activities and land use 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. These activities, and how they are conducted, are of interest to the entire community because they potentially affect your health and the cost of treating your water. The respective Source Water Assessment and Protection Plans are available for review at each of our producers. Contact information for our suppliers can be obtained by calling our office at 859-885-9314.

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 (859) 885-9314.**

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*	KA	0.09			
* Representative samples of filtered water	Less than 0.3 NTU in 95% monthly samples	N	0.18	100	No	Soil runoff

### Regulated Contaminant Test Results

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	N	2.03	0 to 4.6	2017	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	N	0.68	0 to 1.6	2017	No	Erosion of natural deposits
Barium [1010] (ppm)	2	2	N	0.02	0.02 to 0.02	2018	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	KA N	0.95 0.7	0.95 to 0.95 0.7 to 0.7	2018	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	KA N	0.44 0.3	0.44 to 0.44 0.3 to 0.3	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	KA N	1.27 1.3	1 to 1.7 0.93 to 1.63	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	N	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 3 samples of 3 collected from the raw water source for Nicholasville 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.

Kentucky American - Monitoring was performed during 2018 under the U.S. Environmental Protection Agency (EPA) Unregulated Contaminant Monitoring Rule 4 (UCMR 4). Unregulated contaminants are those that don't 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. Kentucky American completed testing for Microcystins with no detections in 2018. For a report, containing all testing performed under the UCMR 4 rule, please contact our Customer Service Center at (800) 678-6301.

Regulated Contaminant Test Results							Jessamine County Water District #1	
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	0.105 (90 <sup>th</sup> percentile)	0.00374 to 0.185	Jul-18	No	Corrosion of household plumbing systems	
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	0 (90 <sup>th</sup> percentile)	0 to 4.63	Jul-18	No	Corrosion of household plumbing systems	
Chloramines (ppm)	MRDL = 4	MRDLG = 4	1.05 (highest average)	1 to 2.01	2018	No	Water additive used to control microbes.	
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.05 (highest average)	0.68 to 1.28	2018	No	Water additive used to control microbes.	
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	72 (high site average)	38.4 to 106 (range of individual sites)	2018	YES	Byproduct of drinking water disinfection	
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	91 (high site average)	48.8 to 145 (range of individual sites)	2018	YES	Byproduct of drinking water disinfection.	
HAA(ppb) Individual Site	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Violation			
SM2	69.13	69.68	72.40	63.20	Yes			
SM3	62.90	60.48	62.40	60.93	Yes			
TTHM(ppb) Individual Site	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Violation			
SM2	78.43	77.03	85.28	75.43	Yes			
SM3	84.65	84.93	90.68	80.90	Yes			

### Violations

Testing results show that our system exceeded the standard, or maximum contaminant level (MCL), total trihalomethanes (THM) and for haloacetic acids (HAA). The standard for trihalomethanes is 0.080 mg/L and haloacetic acids is 0.060 mg/L. These are determined by averaging all samples at each sampling location for the previous 12 months.

2018-9611741	1/1/2018 – 3/31/2018	HAA	0.069 mg/L
2018-9611742	1/1/2018 – 3/31/2018	THM	0.085 mg/L
2018-9611744	4/1/2018 – 6/30/2018	HAA	0.070 mg/L
2018-9611745	4/1/2018 – 6/30/2018	THM	0.085 mg/L
2019-9611746	7/1/2018 – 9/30/2018	HAA	0.072 mg/L
2019-9611747	7/1/2018 – 9/30/2018	THM	0.091 mg/L
2019-9611749	10/1/2018 – 12/31/2018	THM	0.081 mg/L
2019-9611750	10/1/2018 – 12/31/2018	HAA	0.063 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 system, and may have an increased risk of getting cancer.

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 trihalomethanes and 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 anticipate resolving the problem within the current year. Public notices were distributed for each of these violations.

### PN Link Violations

2018-9611743 – We received this violation because the certification documents for violations 2018-9611741 and 2018-9611742, listed above, did not include the distribution dates for both types of distribution methods we used. We are required to enter those dates on the public notice certification documents we submit to Division of Water.

2019-9611748 – We received this violation because the certification documents for our 2017 CCR did not have required information filled out on the form. The violation also stated that a local location for viewing the Source Water Assessment should be included in the information. We have modified the language in our CCR and have established procedures to assure that all required information is included in certification documents.