



Water - Essential for Life

Jessamine South Elkhorn Water District Water Quality Report for year 2014

KY0570249

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This report is designed to inform the public about the quality of water and services provided on a daily basis. Our commitment is to provide our customers with a safe, clean, and reliable supply of drinking water. We want to assure that we will continue to monitor, improve, and protect the water system and deliver a high quality product. Water is the most indispensable product in every home and we ask everyone to be conservative and help us in our efforts to protect the water source and the water system.

We purchase our water from Kentucky American Water Company (KAWC), City of Nicholasville and Wilmore Utilities. All three systems treat surface water; KAWC from Jacobson Reservoir; and Nicholasville and Wilmore from the Kentucky River. 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 all sources is considered to be moderate. Activities and land use within the watershed can pose potential risks to 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. A copy of the completed Source Water Assessment and Protection Plan may be viewed by contacting the Watershed Management Branch of the KY Division of Water at (502) 564-3410.

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).

Some or all of these definitions may be found in this report:

Information About Lead:

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.

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>.

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.

A = Nicholasville B = KY American Water C = Wilmore Utilities

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU*	A=	0.09	100	No	Soil runoff
* Representative samples of filtered water	Less than 0.3 NTU in 95% monthly samples	B=	0.1	100	No	
		C=	0.24	100	No	

Regulated Contaminant Test Results

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

Beta photon emitters (pCi/L)	50	0	A= C=	4.65 5.1	3 to 5.1 6 to 5.1	2008 2008	No	Decay of natural and man-made deposits
Alpha emitters [4000] (pCi/L)	15	0	A= C=	0.99 1.7	0.75 to 1.7 1.4 to 1.7	2008 2008	No No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	A= C=	0.68 1.3	0.2 to 1.3 1.5 to 1.3	2008 2008	No No	Erosion of natural deposits
Uranium (µg/L)	30	0	A= C=	0.24 0.17	0.14 to 0.17 0.37 to 0.17	2008 2008	No No	Erosion of natural deposits

Inorganic Contaminants

Barium [1010] (ppm)	2	2	A= C=	0.025 0.2	0.02 to 0.2 0.03 to 0.2	2014 2014	No No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	A= B= C=	0.96 1.25 0.83	0.87 to 0.83 1.02 to 0.83	2014 2014 2014	No No No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	A= B= C=	0.46 0.25 0.21	0.22 to 0.21 0.46 to 0.21	2014 2014 2014	No No No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	A= B= C=	1.65 1.88 1.56	1 to 1.56 2.45 to 1.94	2014 2014 2014	No No 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.

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Inorganic Contaminants

Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3		0.057 (90th percentile)	0 to 0.34	2014	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0		0 (90th percentile)	0 to 2.8	2014	No	Corrosion of household plumbing systems

Disinfectants/Disinfection Byproducts and Precursors

Chloramines (ppm)	MRDL = 4	MRDLG = 4		1.72 (highest average)	1.00 to 2.10	2014	No	Water additive used to control microbes.
Chlorine (ppm)	MRDL = 4	MRDLG = 4		1.27 (highest average)	0.34 to 1.75	2014	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A		49 (high site average)	24 to 69 (range of individual sites)	2014	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A		72 (high site average)	15 to 110 (range of individual sites)	2014	No	Byproduct of drinking water disinfection.

Maximum Contaminant Levels (MCL's) 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.

Unregulated Contaminants (UCMR 3)	Source	Average	Range (ppb)	Date
vanadium	A=	0.09	0 to 0.28	2014
	B=	0.11	ND to 0.4	2013
molybdenum	B=	0.2	ND to 1.5	2013
strontium	A=	233.3	160 to 380	2014
	B=	213	126 to 447	2013
chromium-6	A=	0.01	BDL to 0.04	2014
	B=	0.09	ND to 0.33	2013
chlorate	A=	311.67	150 to 523	2014
chloroform	C=	33	13 to 56	2014
bromodichloromethane	C=	11	6 to 19	2014
dibromochloromethane	C=	2	1 to 5	2014

EPA has not established drinking water standards for unregulated contaminants. There are no MCL's and therefore no violations if found.

PUBLIC NOTICE

Nicholasville Water Department, KY American Water Company and Wilmore Utilities

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 data are available. If you are interested in examining the results, please contact our office during normal business hours.

Violation: Public Notice Rule Not Linked Violation

We were issued a violation on 6/18/2014 for failing to perform public notification in accordance with 401 KAR 8:070. Specifically, we did not perform a public notice for KY American Water Company's turbidity Tier 2 violation within 30 days. We were notified of the violation on 1/2/2014; however we did not send the notice to our customers until 8/19/14. We will be better prepared in the future to address "pass through violations." This violation has no effect on public health.