



Jessamine South Elkhorn Water District

Water Quality Report for year 2012

KY0570249

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Water - Essential for Life

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.

Jessamine South Elkhorn Water District purchases water from two different sources. The Kentucky-American Water Company of Lexington treats surface water and maintains two water treatment plants; the Kentucky River Station and the Richmond Road Station and serves the northwest area of the county. Their combined test results are identified as (A) in the detection table. The City of Nicholasville treats surface water from the Kentucky River (Pool #8) and serves the southeast area of the county. Their test results are identified as (B) in the detection table. The source water assessments indicate that susceptibility to contamination is generally moderate with a few areas high concern. The Kentucky River is most vulnerable to contamination from agricultural and urban run-off which can typically include pesticides, nutrients, and silt from croplands and potential pathogens from pasture lands and lawn care products. Several highway bridges pose an immediate threat in the event of accidental chemical spills. More detailed information can be reviewed at Nicholasville Public Utilities Building or Kentucky-American Water Company.

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:

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.

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>.

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

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. Unless otherwise noted, the report level is the highest level detected.

	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	0		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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Microbiological Contaminants

Total Coliform Bacteria # or % positive samples	1	0		N/A			Naturally present in the environment
Fecal coliform & E.coli % positive samples	0%	0		N/A			Human and animal fecal waste

Radioactive Contaminants

Beta photon emitters (pCi/L)	50	0		to			Decay of natural and man-made deposits
Alpha emitters [4000] (pCi/L)	15	0		to			Erosion of natural deposits
Combined radium (pCi/L)	5	0		to			Erosion of natural deposits
Uranium (µg/L)	30	0		to			Erosion of natural deposits

Inorganic Contaminants

Antimony [1074] (ppb)	6	6		to			Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic [1005] (ppb)	10	N/A		to			Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Asbestos (MFL)	7	7		to			Decay of asbestos cement water mains; erosion of natural deposits
Barium [1010] (ppm)	2	2		to			Drilling wastes; metal refineries; erosion of natural deposits
Beryllium [1075] (ppb)	4	4		to			Metal refineries and coal-burning factories; electrical, aerospace, and defense industries
Cadmium [1015] (ppb)	5	5		to			Corrosion of galvanized pipes; erosion of natural deposits; metal refineries; waste batteries and paints
Chromium [1020] (ppb)	100	100		to			Discharge from steel and pulp mills; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.18 (90 th percentile)	0 to 0.26	Jul-08	No	Corrosion of household plumbing systems
Cyanide [1024] (ppb)	200	200		to			Discharge from steel/metal factories; plastic and fertilizer factories
Fluoride [1025] (ppm)	4	4		0 to 0			Water additive which promotes strong teeth
Lead [1030] (ppb)	AL =		0				Corrosion of household plumbing

sites exceeding action level 0	15	0	(90 th percentile)	0 to 0	Jul-08	Corrosion of household plumbing systems
Mercury [1035] (ppb)	2	2		to		Erosion of natural deposits; refineries and factories; landfills; runoff from cropland
Nickel (ppm) (US EPA remanded MCL in February 1995)	N/A	N/A		to		N/A
Nitrate [1040] (ppm)	10	10		to		Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [1041] (ppm)	1	1		to		Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium [1045] (ppb)	50	50		to		Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium [1085] (ppb)	2	0.5		to		Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Synthetic Organic Contaminants including Pesticides and Herbicides						
2,4-D [2105] (ppb)	70	70		to		Runoff from herbicide used on row crops
2,4,5-TP (Silvex) [2110] (ppb)	50	50		to		Residue of banned herbicide
Acrylamide	TT	0		to		Added to water during sewage/wastewater treatment
Alachlor [2051] (ppb)	2	0		to		Runoff from herbicide used on row crops
Atrazine [2050] (ppb)	3	3		to		Runoff from herbicide used on row crops
Benzo(a)pyrene(PAH) [2306] (ppt)	200	0		to		Leaching from linings of water storage tanks and distribution lines
Carbofuran [2046] (ppb)	40	40		to		Leaching of soil fumigant used on rice and alfalfa
Chlordane [2959] (ppb)	2	0		to		Residue of banned termiticide
Dalapon [2031] (ppb)	200	200		to		Runoff from herbicide used on rights of way
Di(2-ethylhexyl) adipate [2035] (ppb)	400	400		to		Discharge from chemical factories
Di(2-ethylhexyl)phthalate [2039] (ppb)	6	0		to		Discharge from rubber and chemical factories
Dibromochloropropane [2931] (ppt)	200	0		to		Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb [2041] (ppb)	7	7		to		Runoff from herbicide used on soybeans and vegetables
Diquat [2032] (ppb)	20	20		to		Runoff from herbicide use
Dioxin [2,3,7,8-TCDD] (ppq)	30	0		to		Emissions from waste incineration and other combustion; discharge from chemical factories
Endothall [2033] (ppb)	100	100		to		Runoff from herbicide use
Endrin [2005] (ppb)	2	2		to		Residue of banned insecticide

Epichlorohydrin	TT	0		to		Discharge from industrial chemical factories; an impurity of some water treatment chemicals
Ethylene dibromide [2946] (ppt)	50	0		to		Discharge from petroleum refineries
Glyphosate [2034] (ppb)	700	700		to		Runoff from herbicide use
Heptachlor [2065] (ppt)	400	0		to		Residue of banned termiticide
Heptachlor epoxide [2067] (ppt)	200	0		to		Breakdown of heptachlor
Hexachlorobenzene [2274] (ppb)	1	0		to		Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene [2042] (ppb)	50	50		to		Discharge from chemical factories
Lindane [2010] (ppt)	200	200		to		Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor [2015] (ppb)	40	40		to		Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl (Valdate) [2036] (ppb)	200	200		to		Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCB's (Polychlorinated biphenyls) [2383] (ppt)	500	0		to		Runoff from landfills; discharge of waste chemicals
Pentachlorophenol [2326] (ppb)	1	0		to		Discharge from wood preserving factories
Picloram [2040] (ppb)	500	500		to		Herbicide runoff
Simazine [2037] (ppb)	4	4		to		Herbicide runoff
Toxaphene [2020] (ppb)	3	0		to		Runoff/leaching from insecticide used on cotton and cattle
Volatile Organic Contaminants						
Benzene [2990] (ppb)	5	0		to		from gas storage tanks and landfills
Carbon tetrachloride [2982] (ppb)	5	0		to		Discharge from chemical plants and other industrial activities
Chlorobenzene [2989] (ppb)	100	100		to		Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene [2968] (ppb)	600	600		to		Discharge from industrial chemical factories
p-Dichlorobenzene [2969] (ppb)	75	75		to		Discharge from industrial chemical factories
1,2-Dichloroethane [2980] (ppb)	5	0		to		Discharge from industrial chemical factories
1,1-Dichloroethylene [2977] (ppb)	7	7		to		Discharge from industrial chemical factories
cis-1,2-Dichloroethylene [2380] (ppb)	70	70		to		Discharge from industrial chemical factories
trans-1,2-Dichloroethylene [2979] (ppb)	100	100		to		Discharge from industrial chemical factories
Dichloromethane [2964] (ppb)	5	0		to		Discharge from pharmaceutical and chemical factories

1,2-Dichloropropane [2983] (ppb)	5	0		to			Discharge from industrial chemical factories
Ethylbenzene [2992] (ppb)	700	700		to			Discharge from petroleum refineries
Styrene [2996] (ppb)	100	100		to			Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene [2987] (ppb)	5	0		to			Leaching from PVC pipes; discharge from factories and dry cleaners
1,2,4-Trichlorobenzene [2378] (ppb)	70	70		to			Discharge from textile-finishing factories
1,1,1-Trichloroethane [2981] (ppb)	200	200		to			Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane [2985] (ppb)	5	5		to			Discharge from industrial chemical factories
Trichloroethylene [2984] (ppb)	5	0		to			Discharge from metal degreasing sites and other factories
Toluene [2991] (ppm)	1	1		to			Discharge from petroleum factories
Vinyl Chloride [2976] (ppb)	2	0		to			Leaching from PVC piping; discharge from plastics factories
Xylenes [2955] (ppm)	10	10		to			factories; discharge from chemical factories
Disinfectants/Disinfection Byproducts and Precursors							
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	(lowest average)	0.00 to (monthly ratios)		N/A	Naturally present in environment.
*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average of the monthly ratios must be 1.00 or greater for compliance.							
Bromate (ppb)	10	0		to			Byproduct of drinking water chlorination
Chloramines (ppm)	MRDL = 4	MRDLG = 4	(highest average)	to		N/A	Water additive used to control microbes.
Chlorine (ppm)	MRDL = 4	MRDLG = 4	2.13 (highest average)	0.8 to 2.8		N/A	No Water additive used to control microbes.
Chlorite (ppm)	1	0.8	0.00 (average)	0 to 0			Byproduct of drinking water disinfection.
Chlorine dioxide (ppb)	MRDL = 800	MRDLG = 800	0	0 to 0			Water additive used to control microbes.
HAA (ppb) (all sites) [Haloacetic acids]	60	N/A	0 (system average)	0 to 0 (range of system sites)		N/A	Byproduct of drinking water disinfection
HAA (ppb) (IDSE) [Haloacetic acids]	IDSE (individual distribution system evaluation) is a study to determine future individual sites.			14 to 51 (range of individual sites)		IDSE initiated 08/22/08	No Byproduct of drinking water disinfection
HAA (ppb) (Individual Sites) [Haloacetic acids]	60	N/A	0 (locational average)	0 to 0 (range of individual sites)		N/A	Byproduct of drinking water disinfection
TTHM (ppb) (IDSE) [total trihalomethanes]	IDSE (individual distribution system evaluation) is a study to determine future individual sites.			15 to 78 (range of individual sites)		IDSE initiated 08/22/08	No Byproduct of drinking water disinfection
TTHM (ppb) (all sites) [total trihalomethanes]	80	N/A	0 (system average)	0 to 0 (range of system sites)		N/A	Byproduct of drinking water disinfection.
TTHM (ppb) (Individual Sites) [total trihalomethanes]	80	N/A	0 (locational average)	0 to 0 (range of individual sites)		N/A	Byproduct of drinking water disinfection.

Other Contaminants						
Cryptosporidium [oocysts/L]	0	TT (99% removal)	(positive samples)	(no. of samples)	N/A	Human and animal fecal waste
Radon	N/A	N/A	(positive samples)	(no. of samples)	N/A	Naturally present in the environment

Unregulated Contaminants (UCMR 2)	average	range (ppb)	date
Dimethoate		to	
Terbufos sulfone		to	
2,2',4,4'-tetrabromodiphenyl ether (BDE-47)		to	
2,2',4,4',5-pentabromodiphenyl ether (BDE-99)		to	
2,2',4,4',5,5'-hexabromodiphenyl (HBB)		to	
2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153)		to	
2,2',4,4',6-pentabromodiphenyl ether (BDE-100)		to	
1,3-dinitrobenzene		to	
2,4,6-trinitrotoluene (TNT)		to	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		to	
Acetochlor		to	
Alachlor		to	
Metolachlor		to	
Acetochlor ethane sulfonic acid (ESA)		to	
Acetochlor oxanilic acid (OA)		to	
Alachlor ethane sulfonic acid(ESA)		to	
Alachlor oxanilic acid (OA)		to	
Metolachlor ethane sulfonic acid(ESA)		to	
Metolachlor oxanilic acid (OA)		to	
N-nitroso-diethylamine (NDEA)		to	
N-nitroso-dimethylamine (NDMA)		to	
N-nitroso-di-n-butylamine (NDBA)		to	
N-nitroso-di-n-propylamine (NDPA)		to	
N-nitroso-methylethylamine (NMEA)		to	
N-nitroso-pyrrolidine (NPYR)		to	

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

