



Lake Village Water Association Water Quality Report for year 2016

KY0840587

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Water - Essential for Life

Meeting Dates and Time: Second Tuesday of each month 12:00 PM

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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.

The Lake Village Water Association purchases water from the City of Harrodsburg (A in table) and the City of Danville (B in table), both surface water sources. The source for the City of Harrodsburg is the Kentucky River and the source for the City of Danville is Herrington Lake. Source Water Assessments have been completed for both water sources to identify potential contamination threats. The susceptibility analysis indicates that the susceptibility is generally moderate although there are areas of concern. Herrington Lake, a tributary to the Kentucky River has been identified as impaired and the analysis of the lake helped to identify conditions in the watershed that could adversely affect source water quality. The areas of concern include power line right-of-ways, areas of row crops, major roadways and railways, large capacity septic systems, numerous permitted operations and activities and other potential sources of moderate concern within the greater watershed that increases the potential for release of contaminants within the area. The Source Water Assessment Plans are available at Harrodsburg City Hall, Danville Water Department and the BGADD office in Lexington.

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.

Picouries 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.

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>.

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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.

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU*	A=	0.25	100	No	
* Representative samples of filtered water	Less than 0.3 NTU in 95% monthly samples	B=	0.22	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
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Microbiological Contaminants

Total Coliform Bacteria # or % positive samples	TT	N/A	A=	1	N/A	2016	No	Naturally present in the environment
			B=	2	N/A	2016	No	
Barium [1010] (ppm)	2	2	A=	0.02	0.02 to 0.02	Mar-16	No	Drilling wastes; metal refineries; erosion of natural deposits
			B=	0.02	0.02 to 0.02	Mar-16	No	
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3		(90 th percentile)	0 to 0.27	Sep-14	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	A=	0.8	0.8 to 0.8	Mar-16	No	Water additive which promotes strong teeth
			B=	0.9	0.9 to 0.9	Mar-16	No	
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0		(90 th percentile)	0 to 12	Sep-14	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	A=	0.6	0.6 to 0.6	Nov-16	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
			B=	1.6	1.6 to 1.6	Mar-16	No	

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	A=	1.30	1 to 1.82	2016	No	Naturally present in environment.
			B=	1.71	0.92 to 3.63	2016	No	

*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		1.31 (highest average)	1.03 to 1.74	2016	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A		62 (average)	13 to 81 (range of individual sites)	2016	Yes	Byproduct of drinking water disinfection
THM (ppb) (Stage 2) [total trihalomethanes]	80	N/A		58 (average)	15 to 88 (range of individual sites)	2016	No	Byproduct of drinking water disinfection.

Other Contaminants

Cryptosporidium [oocysts/L]	0	TT	A=	2	9	2016	See Note Below	Human and animal fecal waste
			B=	3	9	2016		
		(99% removal)		(positive samples)	(no. of samples)			

Cryptosporidium. Harrodsburg & Danville are required to monitor the source of your drinking water for *Cryptosporidium* in order to determine whether treatment at water treatment plant is sufficient to adequately remove *Cryptosporidium* from your drinking water.

Fluoride (added for dental health)	Average	Range of Detection		
	0.90	0.7	to	1
Sodium (EPA guidance level = 20 mg/L) A=	9.00	9	to	9
Fluoride (added for dental health)	Average	Range of Detection		
	0.80	0.7	to	0.9
Sodium (EPA guidance level = 20 mg/L) B=	18.00	18	to	18

City of Harrodsburg

Secondary contaminants do not have a direct impact on the health of consumers and are not required in the Consumer Confidence Report. They are being included to provide additional information about the quality of the water.

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection	Date of Sample
Chloride	250 mg/L	15	15 to 15	Mar-16
Copper	1.0 mg/L	0.02	0.02 to 0.02	Mar-16
Corrosivity	Noncorrosive	-0.79	N/A	Mar-16
Fluoride	2.0 mg/L	0.8	0.8 to 0.8	Mar-16
pH	6.5 to 8.5	7.5	7.5 to 7.5	Mar-16
Sulfate	250 mg/L	58	58 to 58	Mar-16
Total Dissolved Solids	500 mg/L	88	88 to 88	Mar-16

City of Danville Violations

HAA (ppb) Individual Site	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Violation
256	88.00	76.00	60.50	44.00	Yes
257	91.00	80.75	56.75	40.25	Yes
258	95.00	82.25	63.25	42.25	Yes
259	83.25	71.50	59.50	38.75	Yes

Violations - 2016-9950321; 2016-9950323; 2017-9950325

Testing results showed that our system exceeded the standard, or maximum contaminant level (MCL), for haloacetic acids. The standard for haloacetic acids is 0.060 mg/L. It is determined by averaging all samples at each sampling location for the last 12 months. Haloacetic acids averaged at one of our system's locations for:

1/1/2016 through 3/31/2016 was 0.095 mg/L

4/1/2016 through 6/30/2016 was 0.082 mg/L

7/1/2016 through 9/30/2016 was 0.063 mg/L

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

The water treatment plant is undergoing major construction. Temporarily, flow patterns and treatment modifications caused the formation of haloacetic acids. That phase of the construction has been completed and this issue has been resolved. Public notices were issued for each quarter we were out of compliance.

Violations - 2016-9950322; 2016-9950324

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 1/1/2016 – 3/31/2016 and 4/1/2016 – 6/30/2016, we did not complete all monitoring by failing to report or correctly report testing for Haloacetic Acids and Trihalomethanes (OEL). Therefore, we could not verify the quality of your drinking water to the primacy agency during that time.

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. For the Stage 2 DBPR requirements we monitor for

Trihalomethanes (THM) and haloacetic acids (HAA). The standard for THM is 0.080 mg/L and the standard for HAA is 0.060 mg/L.

A calculation of analytical results is part of an Operational Evaluation Level Report (OEL) to determine the potential of exceeding these standards. The operational evaluation requirements are intended as an indicator of operational performance and to allow systems to identify proactive steps to remain in compliance. Failure to submit an evaluation report to the State in the required time frame is a violation and requires a public notification.

There is nothing you need to do. An OEL for the first quarter of 2016 was generated but was submitted late to Division of Water and a reporting violation was issued. Our calculations for the second quarter did not indicate the necessity for an additional OEL. However, since our HAA averages were still being affected by previous quarterly results, the Division of Water determined that an OEL should have been submitted for the second quarter also. We received a reporting violation for failing to submit an OEL for the second quarter.

For more information, please contact Andy Tompkins at 859-238-1241 or P.O. Box 670, Danville, KY 40423.

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.

Lake Village Water Association Violations

Violation 2016-9950529

*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 1/1/2016 – 3/31/2016, we did not complete all monitoring and reporting requirements by failing to submit the Operational Evaluation Level Report (OEL), although the required samples were collected.

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. For the Stage 2 DBPR requirements we monitor for Trihalomethanes (THM) and haloacetic acids (HAA). The standard for THM is 0.080 mg/L and the standard for HAA is 0.060 mg/L.

A calculation of analytical results is part of an Operational Evaluation Level Report (OEL) to determine the potential of exceeding these standards. The operational evaluation requirements are intended to serve as an indicator of operational performance and to allow systems to identify proactive steps to remain in compliance. Failure to submit an evaluation report to the State in the required time frame is a violation and requires a public notification.

There is nothing you need to do. An OEL for the fourth quarter of 2015 was generated but was submitted late to Division of Water and a reporting violation was issued.

For more information, please contact Mike Sanford at 859-748-5642 or P.O. Box 303, Burgin, KY 40310.

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Violation 2016-9950528 HAA (1st Quarter 2016)

Violation 2016-9950526 HAA (4th Quarter 2015)

During the fourth quarter (10/1/2015 – 12/31/2015) and the first quarter (1/1/16 – 3/31/16) the haloacetic acids (HAA) levels in our purchased water were high. This resulted in violations for both quarters.

The level of haloacetic acids averaged at one of our system's locations for 10/1/2015 through 12/31/2015 was 0.064 mg/L. The level of haloacetic acids averaged at one of our system's locations for 1/1/2016 through 3/31/2016 was 0.062 mg/L. The MCL for haloacetic acids, as set by the EPA, is 0.060 mg/L.

The City of Danville Water Treatment Plant was undergoing major construction. Temporarily, flow patterns and treatment modifications were causing the formation of haloacetic acids. Construction of the facility has reached a point that haloacetic acids formation is well below the MCL as set by the EPA.

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Violation 2016-9950527

*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 10/1/2015 – 12/31/2015, we did not complete all monitoring and reporting requirements by failing to submit the Operational Evaluation Level Report (OEL), although the required samples were collected.

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. For the Stage 2 DBPR requirements we monitor for Trihalomethanes (THM) and haloacetic acids (HAA). The standard for THM is 0.080 mg/L and the standard for HAA is 0.060 mg/L.

A calculation of analytical results is part of an Operational Evaluation Level Report (OEL) to determine the potential of exceeding these standards. The operational evaluation requirements are intended as an indicator of operational performance and to allow systems to identify proactive steps to remain in compliance. Failure to submit an evaluation report to the State in the required time frame is a violation and requires a public notification.

There is nothing you need to do. An OEL for the third quarter of 2015 was generated but was submitted late to Division of Water and a reporting violation was issued.

For more information, please contact Mike Sanford at 859-748-5642 or P.O. Box 303, Burgin, KY 40310.

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.

Violation 2016-9950525

The Association failed to perform public notification for Violation 2015-612 DBPS third quarter 2014 within 1 year of receiving the violation, a public notice should have been performed and a copy submitted to the Division of Water along with certification. Violation 2015-612 was issued for failing to submit an adequate number of DBP samples for the compliance period 07/01/2014 – 09/30/2014. Samples were collected on 9/26/14, but the results were not delivered to the Division of Water until after 09/30/2014.

For more information, please contact Mike Sanford at 859-748-5642 or P.O. Box 303, Burgin, KY 40310.

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Violation 2015 – 612

*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 07/01/2014 – 09/30/2014, we did not complete all monitoring and reporting requirements by failing to submit an adequate number of DBP samples for the compliance period. The samples were collected on 09/26/2014, but the results were not submitted to the Division of Water until after the end of the 09/30/2014 compliance period.

There is nothing you need to do. The samples were collected and reported to the Division of Water on October 6, 2014 with the following results:

Site 3- Haloacetic Acids: 0.030 mg/L, Trihalomethanes: 0.0243 mg/L

Site 4- Haloacetic Acids: 0.061 mg/L, Trihalomethanes: 0.1084 mg/L

For more information, please contact Mike Sanford at 859-748-5642 or P.O. Box 303, Burgin, KY 40310.

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