

Henderson County Water District**2016 Water Quality Report****KY0510189**

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4th Wensday of the month, 6:30 P.M.

Henderson County Water District (HCWD) purchases water from the Henderson Water Utility (HWU). HWU treats surface water from the Ohio and Green Rivers. Rivers are classified as surface water. The areas around your water sources are mostly residential but also contains some industrial activity. The final source water assessment for this system has been completed and is contained in the Henderson County Water Supply Plan. The plan is available for inspection at HWU, the GRADD office in Owensboro, Ky or from HCWD. An analysis of the susceptibility of Henderson's Ohio River and Green River water supplies to contamination indicates that this susceptibility is generally moderate. However, there are areas of high concern. Potential contaminant sources of concern include bridges, waste generators, transporters, landfills, railroad, row crop land, urban and recreational grass coverage, and sewer lines. Each of these are rated as high in a susceptibility because of the contaminant type, proximity to the intakes, and chance of release.

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).

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.

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.

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. A= Henderson Water Utility North, B= Henderson Water Utility South, C= Henderson County Water District

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity		
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% monthly samples	A= B=	0.087 0.177	100 100	No 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
Radioactive Contaminants								
Combined radium (pCi/L)	5	0	A= B=	1.4 1.1	1.4 to 1.1	Aug-14 Aug-14	No No	Erosion of natural deposits
Inorganic Contaminants								
Barium [1010] (ppm)	2	2	A= B=	0.03 0.03	0.03 to 0.03	Dec-16 Dec-16	No No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	C=	(90 th percentile)	0 to 0.194	Oct-15	No No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	A= B=	0.65 0.93	0.65 to 0.93	Dec-16 Dec-16	No No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	C=	(90 th percentile)	0 to 8	Oct-15	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	A= B=	1.84 1.62	1.84 to 1.62	Mar-16 Mar-16	No No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Synthetic Organic Contaminants including Pesticides and Herbicides								
2,4-D [2105] (ppb)	70	70	B=	0.198	BDL to 0.79	Dec-16	No	Runoff from herbicide used on row crops
Atrazine [2050] (ppb)	3	3	A= B=	0.27 0.08	BDL to 0.82 BDL to 0.31	May-16 Dec-16	No No	Runoff from herbicide used on row crops
Simazine [2037] (ppb)	4	4	B=	0.38	BDL to 1.5	Dec-16	No	Herbicide runoff
Disinfectants/Disinfection Byproducts and Precursors								
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	A= B=	1.45 1.75 (lowest average)	0.85 to 3.35 (monthly ratios)	N/A N/A	No 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	MRDL	MRDLG	C=	2.15 (highest average)	0.51 to 2.15	N/A	No	Water additive used to control microbes.
Chlorite (ppm)	1	0.8	A= B=	0.330 0.57 (average)	0.17 to 0.62	Mar-16 Jan-16	No No	Byproduct of drinking water disinfection.
Chlorine dioxide (ppb)	MRDL = 800	MRDLG = 800	A= B=	140 170	0 to 170	Jul-16 Nov-16	No No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	C=	65 (average)	20 to 108 (range of individual sites)	2016	Yes	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	C=	72 (average)	20 to 108 (range of individual sites)	2016	No	Byproduct of drinking water disinfection.
Other Contaminants								
Cryptosporidium [oocysts/L]	0	TT	A= B=	0 0	12 12	N/A N/A	No No	Human and animal fecal waste

Henderson Water Utility monitors the Ohio River for cryptosporidium, a tiny intestinal parasite often found in surface water. Cryptosporidium can cause flu-like symptoms if ingested. In 2016, Louisville Water analyzed 12 samples taken directly from the Ohio River. They detected no cryptosporidium. Henderson Water Utility optimizes its treatment processes to help ensure removal.

(Use the areas below to add information or link to other comments or trivia. If the water system had a violation the report must show, for each violation, what happened, when it happened, what was done to correct the problem, and possible health effects.)

Violations: 2016-12 and 2017-14

Our water system received two Notice of Violations (NOVs) in 2016. This was for exceeding the MCL for locational running annual average (HAA5) of HALOACETIC ACID. This was for the compliance periods of 04/01/16-06/30/16 & 7/01/16-09/31/16. The reported result of 0.062 mg/l exceeded the MCL of 0.060 mg/l during the compliance period of 04/01/16-06/30/2016. The reported result of 0.065 mg/l exceeded the MCL of 0.060 mg/l during the compliance period of 07/01/16-09/30/16. Our system has instituted an enhanced flushing program to mitigate this concern. In addition we are collecting a sample quarterly from our point of purchase. Remedial actions included performing public notice within 30 days of the receipt of this NOV and submitting the required certification. In addition, we were required to detail these NOV's in the 2016 CCR.

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

Violations: 2016-11, 2017-13

Our water system violated one or more drinking water standards over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct these situations.

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 compliance periods of 01/01/16-03/31/16 & 08/01/16--8/31/16 we did not complete all monitoring or testing for OEL, & RTRC and therefore cannot be sure of the quality of your drinking water during that time.

There is nothing you need to do at this time. You do not need to use an alternative (e.g., bottled) water supply.

The table below lists the contaminant we did not properly test for during the last year, how often we are supposed to sample for [this contaminant/these contaminants] and how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were (or will be) taken.

contaminant	required sampling frequency	number of samples taken	samples should have been taken	when samples were or will be taken
RTRC	20	10	20	8/30/16

What happened? Who is at risk? What is being done?

Violation: 2016-11 Our "public water system failed to submit an OEL (Operational Evaluation Level Report) for the compliance period 01/01/16 - 03/31/16. We are required to submit a OEL Report if our disinfection by-products exceed a level and trigger this requirement. There were no health effects due to this oversight. Remedial actions included performing public notification and the required certification.
2017-13 Our "public water system failed to submit an adequate number of routine bacteriological sampling results for the compliance period 08/01/2016 - 08/31/2016. Our system is required to submit 20 routine bacteriological sampling results, however only 10 of the required samples were received". There were no health effects due to this oversight. However, the water quality for this period of time is unknown. Remedial actions included performing public notification and the required certification.

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.