



Water - Essential for Life

# Henderson County Water District Water Quality Report for year 2015

KY0510189

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Meeting Dates and Time: 4 Wensday of the Month 6:30 P.M.

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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.

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).*

**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=Henderson Water Utility North, B=Henderson Water Utility South, C=Henderson Co. Water District

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU*	A=	0.07	100	No	Soil runoff
* Representative samples of filtered water	Less than 0.3 NTU in 95% monthly samples	B=	0.217	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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**Microbiological Contaminants**

Total Coliform Bacteria # or % positive samples	1	0	B=	1	N/A	Jul-15	No	Naturally present in the environment
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**Radioactive Contaminants**

Combined radium (pCi/L)	5	0	A= B=	1.4 1.1	1.4 to 1.1	Aug-14	No	Erosion of natural deposits
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**Inorganic Contaminants**

Asbestos (MFL)	7	7	A= B=	0.1 0.1	0.012 to 0.102	Jun-11 Jun-11		Decay of asbestos cement water mains; erosion of natural deposits
Barium [1010] (ppm)	2	2	A= B=	0.067 0.047	0.067 to 0.047	Oct-15 Oct-15	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	C=	0.000 (90 <sup>th</sup> percentile)	0 to 0.194	Oct-15	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	A= B=	0.89 0.8	0.89 to 0.8	Oct-15 Oct-15	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	C=	0 (90 <sup>th</sup> percentile)	0 to 8	Oct-15	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	A= B=	2.3 2.42	1.28 to 2.42	Mar-15 Mar-15	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

**Synthetic Organic Contaminants including Pesticides and Herbicides**

Di(2-ethylhexyl)phthalate [2039] (ppb)	6	0	A=	3.8	0 to 3.8	2015	No	Discharge from rubber and chemical factories
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**Disinfectants/Disinfection Byproducts and Precursors**

Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	A= B=	1.97 1.47 (lowest average)	1.22 to 2.08 (monthly ratios)	N/A N/A	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.

Chlorine (ppm)	MRDL = 4	MRDLG = 4	C=	1.94 (highest average)	0.16 to 1.94	N/A	No	Water additive used to control microbes.
Chlorite (ppm)	1	0.8	A= B=	0.230 0.540 (average)	0.00 to 0.60	2015 2015	No No	Byproduct of drinking water disinfection.
Chlorine dioxide (ppb)	MRDL = 800	MRDLG = 800	A= B=	130 180	0 to 180	2015 2015	No No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	C=	48 (average)	17.6 to 69.5 (range of individual sites)	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	C=	55 (average)	16 to 76 (range of individual sites)	N/A	No	Byproduct of drinking water disinfection.

**Unregulated Contaminants (UCMR 3)**

	average	range (ppb)	date
1,4-dioxane	0.054	0 to 0.15	Feb-15
vanadium	0.317	0 to 0.8	Aug-15
molybdenum	1.22	0 to 1.9	Jan-15
strontium	167.667	130 to 200	Jan-15
chromium-6	0.137	0.06 to 0.26	Aug-15
chlorate	495	300 to 790	Aug-15
total chromium	0.125	0 to 0.5	Aug-15

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

Henderson Water Utility 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.

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 9/1/2015 -9/230/2015 we failed to submit an adequate number of Routine bacteriological sampling (Coliform-TCR) results for the compliance period. Our system is require to collect 20 Routine Samples per Month, however only 19 were recieved by the Division of Water 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(s) 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
Coliform (TCR)	20	19	20	9/1/15-9/30/15

During the 9/1/2015-9/30/2015 compliance period we failed to submit the adequate number of Routine bacteriological sampling (Cloiform-TCR) results for the compliance period. 20 samples were submitted, however one sample used a duplicate site number and could not be used for compliance. We received an Notice of Violation for the oversight. Remedial actions included performing public notification and the sample was resubmitted with the proper site number. Since the proper number of samples were not submitted to the DOW for this time frame, we cannot be sure of the quality of your water during this time frame.

*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.*