



Henderson Water Utility
PWSID: KY0510510
Drinking Water Quality Report for
2010
Reporting data collected in 2009
South Water System



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 the table, though representative, may be more than one year old.

***The current Water Board Commissioners are:
Steve Austin, George Jones, Tom Williams, Gary Jennings, and Paul Bird***

It's my pleasure, as a Board member of the Henderson Water Utility, to present this year's Water Quality Report. In compliance with state and Federal (USEPA) regulations, HWU issues this report annually, describing the quality of your drinking water in several very specific areas. We hope this report will increase your understanding of drinking water and raise awareness of the need to protect our water resources.

Water is necessary to support life, and clean, safe water is vital for public health. We are blessed with a seemingly never-ending supply of water due to our location on the Ohio River. In our early history, frequent outbreaks of diseases occurred due to pollution of drinking water. Over 130 years ago, Henderson's first municipal waterworks was constructed, and with additions and upgrades over the years, our two water plants now provide service to over 30,000 customers in Henderson, Webster and McLean Counties.

Our Water Utility has an excellent staff of employees who care deeply about your health and safety, and who strive every day to provide quality water services at an affordable price. Literally thousands of tests and checks are made each week to insure that water quality standards are adhered to. Our commitment to our customers is to improve continuously, never to slack up, and to do all the big and small things necessary, while keeping costs in check.

This is the 11th year we have provided this report to our customers. Over that time, many improvements have been made to our water and wastewater systems, but much work remains to be done. In the next several months, you will see a lot of construction activity in Henderson's Downtown, as some of the oldest water and sewer lines in our community are replaced. We ask for your patience and cooperation, and if you have any suggestions, comments or concerns, please feel free to call our office at 270- 826-2421.

Tom Williams, P.E.
HWU Board Member

Type and Location of Your Water Source

The source of your drinking water is the surface water from the Green River, located at approximately river mile marker 41.3 or 9000 Hwy 2096 in Robards, Kentucky. The area around your water source is 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 Utility, the Main office of Henderson Water Utility or at the Green River Area Development District office in Owensboro, Kentucky. Following is a summary of the system's susceptibility to contamination, which is a part of the completed Source Water Plan (SWAP). 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 a few areas of high concern. Potential contaminant sources of concern include bridges, waste generators or transporters, landfills; river ports a railroad, row crop land coverage, urban and recreational grass coverage and sewer lines.

Water Sources

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 can 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems. Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities. 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 that provide the same protection for public health.*

Customers' Right to Know Information

For information about contaminants and potential health effects, you may contact the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791. Also, Henderson Water Utility wants to keep our customers informed. If you have any questions concerning this report, or about Henderson Water Utility (HWU), please contact Lucy Fry: at (270) 826-2421 or visit our web site at www.hkywater.org. You may also attend one of our meetings on the Third Monday of every month at 4:30 PM, at the Bob Gish Administration Building, 111 Fifth Street in Henderson, KY.

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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

One in a Million

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 everyday at the MCL level for a lifetime to have a one-in-million chance of having the described health effect.

Possible Health Risk

"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)."

VIOLATIONS

HENDERSON WATER UTILITY SOUTH WATER TREATMENT PLANT RECEIVED A VIOLATION FOR TURBIDITY
HENDERSON WATER UTILITY SOUTH PLANT FAILED TO MEET THE TREATMENT TECHNIQUE
REQUIREMENT FOR TURBIDITY BY EXCEEDING 0.3 NTU IN OVER 5% OF THE COMBINED FILTER EFFLUENT
SAMPLES COLLECTED IN THE COMPLIANCE PERIOD 02/01/2009 - 02/28/2009

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, and diarrhea and associated headaches.

Definitions & Abbreviations

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system shall follow.

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 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.

N/A - not applicable.

Nephelometric Turbidity Unit (NTU) - measurement of the clarity of water. Turbidity more than 5 NTU is just noticeable to the average person.

Non-Detects (ND) - laboratory analysis indicates that the contaminant is not present.

Parts per Billion (ppb) - one part per billion corresponds with one minute in 2,000 years or a single penny in \$10,000,000.

Parts per Million (ppm) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Picocuries per liter (pCi/L) - a measure of the radioactivity in water.

Treatment Technique (TT) -- a required process intended to reduce the level of a contaminant in drinking water.

Unregulated Contaminants - require monitoring, but no MCL has been set at this time.

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.

Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

HENDERSON WATER UTILITY JOINS THE AWWA PARTNERSHIP FOR SAFE WATER

Henderson Water Utility is constantly striving to deliver the best quality water and service that we can. From hiring staff to implementing a treatment strategy, your well-being and your trust are our primary objectives. We consider this to be a high stewardship.



Earlier this year, Henderson Water Utility joined the American Water Works Association's *Partnership for Safe Water*. This is an extra step that HWU is taking in the effort to assure our customers of the quality and safety of their water. The Partnership is a national and voluntary effort that aims towards the continual optimization of water treatment. Developed by the EPA, the Partnership includes more than 200 water utilities and collectively serves more than 85 million people. Under the parameters of this Partnership, Henderson Water Utility will submit to a rigorous review of treatment practices that have been developed by national experts. It will also include a four-step self-assessment and peer-review process that is designed to reduce even more the risk of exposure to microbial contaminants, such as *Cryptosporidium*, and increase the efficiency of all aspects of treatment operations.

Henderson Water Utility is committed to our community in providing the best quality product that we can. This is your water so we sincerely encourage you to be involved. From answering a question to scheduling a tour, HWU is at your service.

Kevin Roberts, Treatment Manager

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>.

We at Henderson Water Utility work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

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 sample of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.662	93	Yes	Soil runoff

Turbidity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Regulated Contaminant Test Results

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

Radioactive Contaminants

Alpha emitters [4000] (pCi/L)	15	0	0.83	0.3 to 1.4	Nov-07	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	0.23	0.1 to 0.6	Aug-07	No	Erosion of natural deposits
Uranium (µg/L)	30	0	0.28	0 to 0.7	Mar-07	No	Erosion of natural deposits

Inorganic Contaminants

Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.4 (90 th percentile)	0.4 to 0.4	Nov-08	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.99	0.84 to 1.19	Jan 2009	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	2 (90 th percentile)	2 to 2	Nov-08	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	2.720	2.24 to 2.72	Jul-09	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [1041] (ppm)	1	1	0.004	0.004 to 0.004	Mar-09	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.14 (lowest average)	1.00 to 1.68 (monthly ratios)	N/A	No	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.

Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.80 (highest average)	0.64 to 3.06	N/A	No	Water additive used to control microbes.
Chlorite (ppm)	1	0.8	0.59 (average)	0.12 to 0.7	Dec	No	Byproduct of drinking water disinfection.
Chlorine dioxide (ppb)	MRDL = 800	MRDLG = 800	160	0 to 160	Jan	No	Water additive used to control microbes.
HAA (ppb) (all sites) [Haloacetic acids]	60	N/A	36 (system average)	17 to 58 (range of system sites)	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) (all sites) [total trihalomethanes]	80	N/A	30 (system average)	8 to 59 (range of system sites)	N/A	No	Byproduct of drinking water disinfection.

Cryptosporidium: We constantly monitor the water supply for various contaminants. We believe it is important for you to know that cryptosporidium may cause serious illness in 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. These people should seek advice from their health care providers. We are required to monitor the source of your drinking water for Cryptosporidium in order to determine whether treatment at the water treatment plant is sufficient to adequately remove cryptosporidium from your drinking water. Henderson Water Utility South's Cryptosporidium are below detectable levels in all samples tested.