

Producing more than 3 Billion gallons of drinking water a year, with more than 200 miles of water line, Henderson Water Utility is at your service!



2015 Consumer Confidence Report

DRINKING WATER QUALITY REPORT FOR
2015

REPORTING DATA COLLECTED IN 2014
SOUTH WATER TREATMENT PLANT

PWSID: KY0510510



**WATER BOARD
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JULY 2015



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 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 Supply Plan. The plan is available for inspection at

HWU, or the GRADD office in Owensboro, KY. An analysis of the susceptibility of Henderson's Green River water supply to contamination indicates that this susceptibility is generally moderate. However, there are areas of high concern. Potential 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 susceptibility because of the contaminant type, proximity to the intakes, and chance of release. Our surface water source comes from the Green River at river mile marker 41.3, or 9000 Hwy 2096, Robards, KY. Surface water is classified as rivers, lakes, streams, ponds, and reservoirs.

CRYPTOSPORIDIUM

We constantly monitor the water supply for various contaminants. 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 healthcare 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 levels are below detectable limits on all Cryptosporidium testing.

AVAILABILITY OF MONITORING DATA FOR UNREGULATED CONTAMINANTS

Our water system has sampled for a series of unregulated contaminants. These contaminants do not yet have a drinking water standard set by USEPA. The purpose of monitoring for these contaminants is to help EPA decide whether they should have a standard. As our customers, you have a right to know that this data is available upon request.

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>.

Henderson Water Utility works around the clock to provide the best quality water to every tap. We ask that all of our customers help us protect our water sources—they 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 of Contamination
Turbidity (NTU) TT *Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.283	100	No	Soil Runoff

Regulated Contaminant Results

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

Combined Radium (pCi/L)	5	0	1.10	1.10 to 1.10	Aug-14	No	Erosion of natural deposits
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Inorganic Contaminants

Barium [1010] (ppm)	2	2	0.033	0.033 to 0.033	Nov-14	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.994	0.994 to 0.994	Nov-14	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	2.240	1.60 to 2.240	Mar-14	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	2.06 (lowest average)	1.26 to 3.67 (monthly ratios)	N/A	No	Naturally present in environment
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*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	1.43 (highest avg)	0.21 to 3.5	N/A	No	Water additive used to control microbes
Chlorite (ppm)	1	0.8	0.63 (average)	0.15 to 0.70	Jan-14	No	Byproduct of drinking water disinfection
Chlorine Dioxide (ppb)	MRDL = 800	MRDLG = 800	470	0 to 470	Apr-14	No	Water additive used to control microbes
STAGE 1 HAA (ppb) (all sites) [Haloacetic Acids]	60	N/A	19 (system average)	13 to 27	N/A	No*	Byproduct of drinking water disinfection
STAGE 1 TTHM (ppb) (all sites) [Total Trihalomethanes]	80	N/A	17 (system average)	8 to 25	N/A	No*	Byproduct of drinking water disinfection

* Stage 1 represents less than one (1) year of sampling due to Stage 2 beginning the third quarter of 2014 calendar year.

STAGE 2 HAA (ppb) (all sites) [Haloacetic Acids]	60	N/A	32 (Highest Location Average)	32 to 32	Aug-14	No*	Byproduct of drinking water disinfection
STAGE 2 TTHM (ppb) (all sites) [Total Trihalomethanes]	80	N/A	50 (Highest Location Average)	50 to 50	Aug-14	No*	Byproduct of drinking water disinfection

* Stage 2 represents less than one (1) year of sampling due to Stage 2 being sampled once every calendar year.

WATER WORDS & DEFINITIONS

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.

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

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

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

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.

Below Detection Levels (BDL) - laboratory analysis indicates that the contaminant is not present. *MCLs 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 at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.*

Parts per million (ppm) - or milligrams per liter, (mg/l). One part per million corresponds to 1 minute in 2 years, or 1 penny in \$10,000.

Parts per billion (ppb) - or micrograms per liter, ($\mu\text{g/L}$). One part per billion corresponds to 1 minute in 2,000 years, or 1 penny in \$10,000,000.

Parts per trillion (ppt) - One part per trillion corresponds to 1 minute in 2,000,000 years, or 1 penny in \$10,000,000,000.

Parts per quadrillion (ppq) - 1 part per quadrillion corresponds to 1 minute in 2,000,000,000 years, or 1 penny in \$10,000,000,000,000.

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 EPA's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemo-therapy, 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).



TYPE & LOCATION OF YOUR WATER SOURCE

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water source is the Green River. 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, livestock operations, and wildlife.

Inorganic Contaminants such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil gas production, mining, or farming.

Pesticides & 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 & 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 must provide the same protection for public health.



YOUR RIGHT TO KNOW

If you have any questions regarding this report or your water utility, please contact Kevin Roberts (270-869-6616) or Ashley Cooper (270-869-6591). We want you to be informed about your water utility. You can also access our website at

www.hkywater.org. You are also invited to attend any of our regularly scheduled Water & Sewer Commission Board Meetings scheduled the third Monday of each month at 4:30 PM at the Bobby Gish Administration Building, 111 5th Street.

HWU MANAGEMENT & STAFF

Tom Williams—General Manager
Rodney Michael—Director of Field Operations
Kevin Roberts—Director of Plant Operations
Joe Bentley—Utility System Superintendent
Jeff Roberts—Automation Manager
Ashley Cooper—Water Quality Specialist
Nancy Parker—Chief Operator, South Plant
Josh Thompson—Chief Operator, North Plant



STORMWATER: WHEN IT RAINS IT DRAINS

Stormwater runoff occurs when precipitation flows over the ground. Impervious surfaces like driveways, sidewalks, streets, and rooftops prevent stormwater from naturally soaking into the ground. To manage this, communities have storm sewers that help to carry stormwater away from homes and businesses.

When it rains, the stormwater runoff is carried away by pipes and ditches or our storm sewers. These pipes and ditches are different than our regular sewers because the water goes directly into our streams, rivers, and lakes. Unlike sewage, stormwater runoff does not drain to a treatment plant. As it flows, stormwater picks up debris, chemicals, dirt, and other pollution and carries it into our waterways where it can harm fish, frogs, and other aquatic life. This is the same water we use for swimming, fishing, and drinking.

Communities like Henderson are facing new federal regulations to reduce pollution. These regulations focus on improving the quality of our waterways by reducing the pollution in stormwater runoff.

What Can You Do?

1. Don't dump anything down storm drains
2. Use pesticides and fertilizers sparingly
3. Collect yard waste & keep it out of storm drains/street
4. Business owners can keep dumpster doors closed, covered, and clean

5. Sweep driveways (do not spray wash)
6. Put litter in its place
7. Use a car wash (they recycle dirty water)
8. Recycle used motor oil
9. Check and repair fluid leaks in vehicles
10. Inspect your septic tank every 3—5 years
11. Promote recycling
12. Pick up after your pet
13. Dispose of hazardous materials properly
14. Cover or seed exposed soil to prevent erosion
15. Store and apply manure away from waterways



Taking an interest in keeping our waterways safe and unpolluted will go a long way towards sustaining them for the future of our children in this community. Report any pollution that you see because **YOU** are the solution to pollution!

To find out more about stormwater, visit these internet sites:

www.epa.gov/npdes/stormwater www.epa.gov/owow/nps
www.epa.gov/owow/kids/ www.water.ky.gov

You can also view our homepage at www.hkywater.org
 or email stormwater@hkywater.org

QUESTIONS & ANSWERS

SEWER BACKUPS IN HOMES OR BUSINESSES

A sewer backup in your home or business caused by a blockage in the Henderson collection system can be an unfortunate and frustrating situation. The Henderson Water Utility staff takes every precaution possible to prevent such events from occurring, but occasionally a line blockage or other circumstance can cause a backup to occur in a home or business.

HOW DO I DETERMINE IF MY HOME OR BUSINESS IS AT RISK FROM A SEWER BACKUP?

Your home or business is at risk if the elevation of your lowest floor, containing plumbing fixtures or floor drains, is lower than the top of a manhole near your property. The Henderson Water Utility staff will be happy to assist you in determining if your home or business is at risk.

HOW DO I PREVENT A BACKUP? If your home or business is at risk of a backup, to prevent a backup from happening and possibly causing damage to your home or business, HWU strongly suggests you install either a sump pump or a backwater valve. A backwater valve may be required under city ordinance Section 23-18. A sump pump is the most reliable alternative; but it is also the most expensive. At the bottom of this page you will find specific information about a backwater valve including installation and maintenance information. You should contact your plumber for cost information and other details on the installation of a backflow valve or sump pump.

WHAT DO I DO IF I HAVE A BACKUP? If you suspect the backup is in your line between the home or business and the main line in the street, call your plumber. If you believe the backup is in HWU's line call us at 826-2824. This number is answered 24 hours a day, seven days a week. If you have a backup and need to contact a company to clean up the area in your home where the backup occurred, below is a list of some companies that do this type of clean up. For current contact information, you may also look in the phone book yellow pages under "Water Damage Restoration", "Water Damage Emergency Service", or "Fire & Water Damage Restoration".

WILL MY HOMEOWNER'S INSURANCE COVER A SEWER BACKUP? Every homeowner's insurance policy is different. Check with your insurance company to see if you're covered.

GRAVITY BACKWATER VALVE SPECIFICATIONS, INSTALLATION, & INSPECTION/MAINTENANCE

Specification

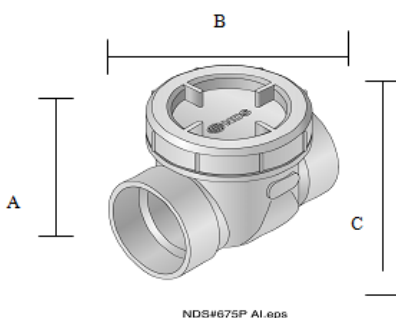
The gravity backwater valve should be a PVC Company part number 375 P for 3", 475 P for 4", and a 675 P for 6", or an approved equal.

Installation

The backwater valve should be installed in the sewer line either outside the house or in the floor of the basement. The backwater valve should be accessible for maintenance. If it is installed at a depth of 30" or less below the ground or floor, a meter box or 16" pipe is adequate for the access. If the below ground or below floor elevation is greater than 30", a concrete, PVC or polyethylene pipe manhole of 30" diameter or larger should be installed around the valve to allow access for maintenance.

Inspection and Maintenance

After significant rainfall events or at least once every 6 months the backwater valve should be inspected. The cleanout top should be opened and the flapper in the valve removed and inspected. Before replacing the flapper the inside of the backwater valve should be inspected and the area cleaned as necessary. After replacing the flapper, the cleanout top should be replaced.



How to Specify

NDS #375P, #475P, or #675P PVC Backwater Valve, threaded access cap, elastomeric flapper gasket, neoprene access cap gasket, and removable uni-directional flow flapper.

Desc	Part #	A	B	C
3"	375P	1.5"	7.5"	5.5"
4"	475P	2.0"	10.5"	7.0"
6"	675P	2.25"	15.5"	8.7"

