Henderson Water Utility
South Water Treatment Plant
111 5th Street
Henderson, KY 42420
PWSID: KY0510510

Water Quality Report for 2018
Data in this report reflects testing conducted during January - December, 2017
For 24/7 live customer service, call 270.826.2421

Henderson Water Utility works around the clock and is committed to providing a high level of water quality to our customers. One of the ways that we ensure this is involvement in National programs promoting accountability, goals, and peer review. One such program is the AWWA Partnership for Safe Water, of which has more than 200 water utilities as members. This partnership provides a network of resources, technical ideas, and guidance for maintaining high quality water at minimal capital cost. It’s a purely voluntary program that seeks plant optimization so as to exceed governing quality standards at all times.
HWU has been a member since 2010.

General Manager: Tom Williams
Director of Plant Operations: Kevin Roberts
Chief Operator: Nancy Parker

Water Board Commissioners
R. Paul Bird, JR, Chairman
George Jones, Secretary-Treasurer
Gary L. Jennings, DMD | John Henderson | Julie Wischer

Your Right To Know
If you have any questions regarding this report or your water utility, please contact Kevin Roberts or one of our Water Quality Specialists at 270.826.2421. 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 public Water & Sewer Commission Board Meetings scheduled the third Monday of each month at 4:30 PM at the HWU Administration Building, 111 Fifth Street.

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.
Where Does Our Water Come From?

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. Surface water is classified as rivers, lakes, streams, ponds, and reservoirs.

Water Sources

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.
Potential Contaminants

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 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 and gas production and mining activities.

To make sure 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 also establish limits for contaminants in bottled water that must provide the same protection for public health.

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Important Health Information

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).
Water Words and 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.

**Variances & 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.

**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, (µg/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 (pq)** - 1 part per quadrillion corresponds to 1 minute in 2,000,000,000 years, or 1 penny in $10,000,000,000,000.

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

**Not Applicable (N/A)** - does not apply.

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.
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 the 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.

<table>
<thead>
<tr>
<th>Contaminant (units)</th>
<th>Allowable Levels</th>
<th>Highest Single Measurement</th>
<th>Lowest Monthly %</th>
<th>Violation</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity (NTU) TT *Representative samples of filtered water</td>
<td>No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples</td>
<td>0.25</td>
<td>100</td>
<td>No</td>
<td>Soil Runoff</td>
</tr>
</tbody>
</table>

### Regulated Contaminant Test Results

<table>
<thead>
<tr>
<th>Contaminant [code] (units)</th>
<th>MCL</th>
<th>MCLG</th>
<th>Report Level</th>
<th>Range of Detection</th>
<th>Date of Sample</th>
<th>Violation</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Radioactive Contaminants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined Radium (pCi/L)</td>
<td>5</td>
<td>0</td>
<td>1.10</td>
<td>1.10 to 1.10</td>
<td>Aug-14</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td><strong>Inorganic Contaminants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barium [1010] (ppm)</td>
<td>2</td>
<td>2</td>
<td>0.047</td>
<td>0.047 to 0.047</td>
<td>Oct-17</td>
<td>No</td>
<td>Drilling wastes; metal refineries; erosion of natural deposits</td>
</tr>
<tr>
<td>Copper [1022] (ppm) sites exceeding action level 0</td>
<td>AL = 1.3</td>
<td>1.3</td>
<td>0.076 (90th percentile)</td>
<td>0 to 0.152</td>
<td>Jul-17</td>
<td>No</td>
<td>Corrosion of household plumbing systems</td>
</tr>
<tr>
<td>Fluoride [1025] (ppm)</td>
<td>4</td>
<td>4</td>
<td>0.88</td>
<td>0.88 to 0.88</td>
<td>Oct-17</td>
<td>No</td>
<td>Water additive which promotes strong teeth</td>
</tr>
<tr>
<td>Lead [1030] (ppb) sites exceeding action level 0</td>
<td>AL = 15</td>
<td>0</td>
<td>3.5 (90th percentile)</td>
<td>0 to 7</td>
<td>Jul-17</td>
<td>No</td>
<td>Corrosion of household plumbing systems</td>
</tr>
<tr>
<td>Nitrate [1040] (ppm)</td>
<td>10</td>
<td>10</td>
<td>1.870</td>
<td>1.87 to 1.87</td>
<td>Dec-17</td>
<td>No</td>
<td>Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits</td>
</tr>
</tbody>
</table>

### Synthetic Organic Contaminants including Pesticides and Herbicides

<p>| Di(2-ethylhexyl) phthalate [2039] (ppb) | 6 | 0 | 0.400 | BDL to 1.6 | Apr-17 | No | Discharge from rubber and chemical factories. |</p>
<table>
<thead>
<tr>
<th>Contaminant [code] (units)</th>
<th>MCL</th>
<th>MCLG</th>
<th>Report Level</th>
<th>Range of Detection</th>
<th>Date of Sample</th>
<th>Violation</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Organic Carbon (ppm)</td>
<td>TT * (Treatment Technique)</td>
<td>N/A</td>
<td>1.99 (lowest average)</td>
<td>1.20 to 4.01 (monthly ratios)</td>
<td>N/A</td>
<td>No</td>
<td>Naturally present in environment</td>
</tr>
<tr>
<td>Chlorine (ppm)</td>
<td>MRDL = 4</td>
<td>MRDG = 4</td>
<td>1.77 (highest avg)</td>
<td>0.93 to 2.40</td>
<td>N/A</td>
<td>No</td>
<td>Water additive used to control microbes</td>
</tr>
<tr>
<td>Chlorite (ppm)</td>
<td>1</td>
<td>0.8</td>
<td>0.62 (average)</td>
<td>0.14 to 0.65</td>
<td>Dec-17</td>
<td>No</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Chlorine Dioxide (ppm)</td>
<td>MRDL = 800</td>
<td>MRDG = 800</td>
<td>230</td>
<td>0 to 230</td>
<td>Jul-17</td>
<td>No</td>
<td>Water additive used to control microbes</td>
</tr>
<tr>
<td>STAGE II HAA (ppb) (Stage II) [Haloacetic acids]</td>
<td>60</td>
<td>N/A</td>
<td>29 (high site average)</td>
<td>12 to 26</td>
<td>N/A</td>
<td>No</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>STAGE II TTHM (ppb) (Stage II) [total trihalomethanes]</td>
<td>80</td>
<td>N/A</td>
<td>27 (high site average)</td>
<td>8 to 37</td>
<td>N/A</td>
<td>No</td>
<td>By-product of drinking water disinfection</td>
</tr>
</tbody>
</table>

We constantly monitor the water supply for various contaminants. 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). Cryptosporidium can be present wherever warm-bodies are and can contaminate a water supply that people are exposed to. As summer pool season is upon us, ensure proper hygiene with yourself, kids, and especially diapers.

Henderson Water Utility levels are below detectable limits on all Cryptosporidium testing.
A Word About Lead

A common material used in plumbing until the 1980s, lead is also a powerful toxin that is harmful to human health. Pregnant women, infants, and young children are particularly vulnerable because even low levels of lead in the blood of children can result in behavior and learning problems, lower IQ and hyperactivity, slowed growth, hearing problem, and anemia.

We take our responsibility to protect your health very seriously and want you to make informed decisions about your drinking water. Lead is not present in the water when it leaves our community’s treatment facility or in the water mains that run below the streets. However, lead can be present in old service lines connecting homes to the water system or in home plumbing.

We take steps at the treatment plant to reduce the potential of lead dissolving into the water and ending up at the tap. But as long as lead is in contact with water in the service line or home, some risk remains. We test high risk homes in the community to evaluate if lead may be dissolving into the water. The results of our testing are provided in this report.

According to blueprints and records available to us, all lead service lines have been eliminated. However, there have been instances when we have discovered service lines that were not documented. If you believe your home is at risk, we encourage you to have your water tested by a certified laboratory, particularly if there are children under 6 or pregnant women in the household. More information on water testing is available on our website at www.hkywater.org/i-didnt-know-that/lead-and-copper-in-your-drinking-water. You can also call one of our Water Quality Specialists at 270.826.2421.

If your water does contain lead, there are immediate steps you can take to minimize your family’s exposure. That information is also available online, or through contacting us directly at 270.826.2421.

While Henderson Water Utility meets all federal regulations for lead, levels can vary among neighborhoods or even from house to house, depending upon the materials used in plumbing system construction. We strongly encourage you to visit the EPA’s website (www.epa.gov/lead) and learn more about what you can do to protect your family. Together, let’s get the lead out.

Do You Have Lead Pipes In Your Home?

We encourage customers with lead service lines or lead in home plumbing to consider replacing these potential sources of exposure.

“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. Henderson Water Utility 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 www.epa.gov/safewater/lead.”
A Great Place To Schedule a Field Trip or Tour!

HWU offers free plant tours for your school, club, homeschool co-op, group, or organization. We love giving tours for children and work pretty hard to make it interactive, educational, and, most importantly, **FUN**. We can customize tour lengths at the plant from one to three hours and can handle group sizes up to 30.

Additionally, our water quality staff loves the opportunity to come to you. If you’d like to have a presentation in your class or for your school, we can do that.

The water treatment field is full of exciting and rewarding career opportunities, from Graphic Design to Molecular Chemistry to Civil Engineering. While they might not see the full spectrum of these opportunities during a plant tour or a basic presentation of what we do, we love any opportunity to speak to young adults who are preparing to enter college or the workforce about what is available in the water treatment industry.

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Commumity Outreach

**BOO TO YOU FROM HWU**

We had a blast this past Halloween participating in the downtown trick-or-treat. We gave out tons of candy to some sweet children of Henderson. They had the best costumes!