



Henderson Water Utility  
Drinking Water Quality Report  
for 2007  
Reporting data collected in 2006  
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 the table though representative, may be more than one year old.*

**Water Board Commissioners**

**Jeanne Marie Gadiant, Steve Austin, George Jones, Laffoon (Chip) Williams and Rodger Bird**

From a plant operator,

A few months ago, my wife and I had the pleasure of visiting Savannah, GA. This is one of our country's oldest and most beautiful cities. It is also an area of the country that is well-known for having many beautiful plantations. We toured Boone Hall Plantation which was featured in the TV-movie *North and South*. The driveway leading to the main house is beautifully lined with Live Oak trees, and interestingly, the trees were planted generations before the house was built. I had studied about James Oglethorpe in school years ago but it wasn't until this trip, 40 years later, that the foresight and accomplishments of this amazing city planner had a real impact on me.

Oglethorpe and the owner of Boone Hall Plantation had the vision and desire to plan for future generations. To a large extent we have become a generation of Now. It has been said that the Chinese and Japanese plan for 20+ years into the future. This is what Oglethorpe was doing but to a much larger scale – he was planning for generations into the future.

At Henderson Water Utility we must be concerned with right now. Governmental regulations and your health are "right now" concerns. We also have a responsibility to plan for the future. As technology advances so do the regulations which have to be met.

This past year we completed a filter renovation project at the South Water Treatment Plant that has yielded measurable benefits in reducing costs and producing better quality water. This year we will be implementing process changes that will serve to better protect our water from major spills on the river, disinfection by-product formation, and our distribution system from pressure reduction. Be assured that we are constantly looking for better ways to serve you. Your treatment plant operators are at work 24 hours a day, including holidays, to assist you with any problem or question you might have.

Being compared to James Oglethorpe we could never be, but me and the people who work at Henderson Water Utility are working very hard to provide the best possible service for our customers while looking ahead to ensure that future generations have the same quality of drinking water we enjoy now.

I would like to encourage you to set up an appointment to visit your plants. We are very proud of them and would love to take you on a step by step tour.

James A. Harper  
Plant Operator

**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](http://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.

## **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.*

### **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.

*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).*

## *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.

### ***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).”***

**Nitrates:** As a precaution we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply. Nitrate in drinking water at levels above 10ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

**Fluoride**

Fluoride is being added to the drinking water for dental health purposes. The water system monitors the fluoride levels on a daily basis and sends out samples twice a month to an independent state certified lab for analysis.

*Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage.*

*Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the house hold should be identified and removed, replaced or reduced.*

*Turbidity: Turbidity is a measurement of the clarity of the water; it can provide a medium for microbial Growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system*

**VIOLATIONS**

- A. **HENDERSON WATER UTILITY SOUTH WATER TREATMENT PLANT RECEIVED A 27 MONITORING, ROUNTINE (DBP). THE VIOLATION IS DUE TO A TECHNICALITY—NOT BECAUSE OF WATER QUALITY OR FAILURE TO MONITOR.**

**IN RESPONSE TO, THE KENTUCKY DIVISON OF WATER, HENDERSON WATER UTILITY IMPLEMENTED THE THE FOLLOWING ACTION:**

1. **IN THE FUTURE, HENDERSON WATER UTILITY WILL CONFIRM ALL LABORATORY DATA TO MAKE SURE ALL INFORMATION IS SUPPLIED BEFORE SUBMISSION TO THE DIVISION OF WATER.**

*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 o

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
Turbidity (NTU) * Representative of filtered water 95% of monthly samples	No more than 1 NTU* Less than 0.3 NTU in	0.37	98	No	Soil runoff

### 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	0.2	0 to 0.2	Mar-02	No	Erosion of natural deposits
Combined radi (pCi/L)	5	0	1.3	0 to 1.3	Mar-02	No	Erosion of natural deposits

#### Inorganic Contaminants

Barium [1010] (ppm)	2	2	0.053	0.053 to 0.053	Aug-06	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] sites exceeding 0	AL = 1.3	1.3	0.008 (90 <sup>th</sup> percentile)	0.008 to 0.008	Jun-05	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	1.33	0.64 to 1.33	Nov	No	Water additive which promotes strong teeth
Lead [1030] (ppm) sites exceeding 0	AL = 15	0	0.8 (90 <sup>th</sup> percentile)	0.8 to 0.8	Jun-05	No	Corrosion of household plumbing systems
Mercury [1035] (ppb)	2	2	0.1	0.1 to 0.1	Aug-06	No	Erosion of natural deposits; refineries and factories; landfills; runoff from cropland
Nitrate [1040] (ppm)	10	10	2.24	1.64 to 2.24	Nov-06	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [1041] (ppm)	1	1	0.02	0.0029 to 0.02	Aug-06	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

#### Synthetic Organic Contaminants including Pesticides and Herbicides

Di(2-ethylhexyl)phthalate [2039] (ppb)	6	0	0.8	BDL to 0.8	Oct-06	No	Discharge from rubber and chemical factories
Pentachlorophenol [2326] (ppb)	1	0	0.32	BDL to 0.32	Jan-06	No	Discharge from wood preserving factories

#### Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (measured as percent of total trihalomethanes reported as a ratio)	TT*	N/A	1.06 (lowest average)	1 to 1.78 (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	1.57 (highest average)	0.64 to 2.76	N/A	No	Water additive used to control microbes.
Chlorite (ppm)	1	0.8	0.547 (average)	0.17 to 0.55	Jun	No	Byproduct of drinking water disinfection.
Chlorine dioxide (ppm)	MRDL = 800	MRDLG = 800	400	0 to 400	Jun	No	Water additive used to control microbes.
HAA (ppb) [Haloacetic acids]	60	N/A	44 (highest average)	10.1 to 102	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) [total trihalomethanes]	80	N/A	33 (highest average)	7 to 86.5	N/A	No	Byproduct of drinking water disinfection.