

Bardstown Municipal Water Department
PWSID#KY0900017

2008 Water Quality Report

We are proud to report in this Annual Water Quality Report, that the water provided to our customers in 2008 met all established water quality health standards set by the Environmental Protection Agency and the State of Kentucky. Water quality is monitored 24 hours each day by a staff of nine certified operators. The Bardstown Water Treatment Plant was presented an award by Kentucky Water and Wastewater Operators Association for being nominated by their peers for Plant of the Year Award for outstanding performance in water quality for the Commonwealth of Kentucky. Our commitment will always be to provide our customers with a safe, clean, and reliable supply of drinking water. As in years past, we would like the public to be assured that we will continue to produce a high quality product to every tap.

We know that 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. Please report any suspicious activity that you may see around water storage tanks, fire hydrants, pump stations or Sympson Lake to Law Enforcement Agencies or City Hall employees. Informed consumers are our best allies in maintaining safe drinking water. We encourage public interest and participation in our community's decisions affecting drinking water. Regular City Council meetings occur on the second and fourth Tuesdays, at the City Annex Building, 220 North Fifth Street at 7:00 P.M.

The staff at the Bardstown Water Treatment Plant work around the clock to provide top quality water to every tap. If you want further information or want to discuss matters included in this report, please contact George Greenwell at 502-348-5947, Wayne Kendall or Geronimo Afile at 502- 348-3064.

Water Source

Our water comes entirely from surface water sources – Sympson Lake and the Beech Fork River. An 8.8 square mile area of the Buffalo Creek watershed feeds Sympson Lake. A 669 square mile area extending upstream from Bardstown toward Chaplin, Springfield and Lebanon feeds the Beech Fork River Pumping Station. 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 and through the ground, it dissolves naturally occurring minerals, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in our source water include:

- a. Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- b. Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- c. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- d. 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.
- e. 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, U.S. 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 shall provide the same protection for public health.

A source water assessment of the system's susceptibility to potential sources of contamination has been completed. Following is a summary of the system's susceptibility to contamination, which is a part of the completed Source Water Assessment Plan (SWAP). The completed plan is available for inspection at the Lincoln Trail Area Development District, 613 College St. Rd., Elizabethtown, KY 40601, or by telephone at 270-769-2393. The Bardstown Municipal Water Department withdraws approximately five (5) million gallons per day of raw water from Sympson Lake. Areas of high concern at the intake consist of row crops, bridges and culverts, urban and recreational grasses. These high areas of concern do not represent a danger to the environment. It is the potential for chemical spills, leaks, or hazardous material accidentally spilling into the water source that gives these sites the susceptibility ranking of *high*. However, when all aspects of the source assessment are analyzed, the overall ranking for Bardstown's water source is *moderate*.

A Message from the EPA

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 (1-800-426-4791).

Additional Health Information

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 (1-800-426-4791).

An Explanation of the Water-Quality Data Table

The Bardstown Municipal Water Department routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our required monitoring for the period of January 1st to December 31st, 2008. It is important to remember that the presence of these constituents does not necessarily pose a health risk. The table shows the results of our water-quality analysis. Every regulated contaminant that we detected in the water, even in the minutest traces, are listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement.

Definitions and Abbreviations

Maximum Contaminant Level or 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 or MCLG - the level of a contaminant in the drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level or 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 or 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.

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

Treatment Technique or TT – A required process intended to reduce the level of a contaminant in drinking water.

NTU – Nephelometric Turbidity Units. NTU is a measure of the cloudiness of water. Low turbidity is an indicator of the effectiveness of the filtration process.

BDL – below detection level

ppm – parts per million, or milligrams per liter (mg/l)

ppb – parts per billion, or micrograms per liter (ug/l)

pCi/l – picocuries per liter (a measure of radioactivity)

N/A – Not Applicable

The data presented in this report is 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	No more than 1 NTU Less than 0.3 NTU in 95% of monthly samples	0.26	100	No	Soil runoff

REGULATED CONTAMINANT TEST RESULTS

Contaminant [code] (units)	MCL	MCLG	Level Found	Range of Detection	Date of Sample	Violation Yes/No	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform Bacteria [3100] (% positive samples)	5 %	0	4 %	0	August 2008	No	Naturally present in the environment

Radioactive Contaminants							
Contaminant [code] (units)	MCL	MCLG	Level Found	Range of Detection	Date of Sample	Violation Yes/No	Likely Source of Contamination
Alpha emitters [4000] (pCi/1) ^b	15	0	5.8 +/- 1.5	0 - 7.3	2/20/02 to 11/6/02	No	Erosion of natural deposits
Combined radium (pCi/1) ^b	5	0	1.9 +/- 0.8	0.8 - 2.7	2/20/02 to 11/6/02	No	Erosion of natural deposits
Inorganic Contaminants							
Copper [1022] (ppm) (# Sites exceeded the AL) ^c	AL=1.3	1.3	0.061 (90 th percentile)	0 - 0.195 0 sites exceed AL	7/30/08	No	Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives
Fluoride [1025] (ppm)	4	4	1.13 (Maximum)	0.80 to 1.13	Dec (highest month)	No	Water additive which promotes strong teeth
Lead [1030] (ppb) (# sites exceeded the AL) ^c	AL= 15	0	1 (90 th percentile)	0 – 3.0 0 sites exceed AL	7/30/08	No	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen) [1040] (ppm)	10	10	1.65 (maximum)	0 to 1.48	Feb 2008	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	2.05 (lowest average)	0.68 – 3.72 (monthly ratios)	Jan-Dec 2008	No	Naturally present in the environment
* Monthly ratio is the % TOC removal achieved to % TOC removal required. Annual average of the monthly ratio must be 1.00 or greater for compliance							
Chlorine (ppm)	MRDL 4	MRDLG 4	1.09 (highest average)	0.22 – 1.96	1-2-08 to 12-9-08	No	Water additive used to control microbes.
Haloacetic acids or HAA (ppb)	60 ^d	N/A	42 (highest average)	23 - 79	1 st QTR-4 th QTR 2008	No	By-product of drinking water chlorination
TTHM [total trihalomethanes] (ppb)	80 ^d	N/A	38 (highest average)	13 - 86	1 st QTR-4 th QTR 2008	No	By-product of drinking water chlorination

^a **Total Coliform.** Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present. We had two positive samples for Total Coliform Bacteria in the month of August, due to a cross-connection inside of a building that was on our sampling site list. (2 out of 486 samples taken for the entire year of 2008 tested positive for Coliform bacteria.)

^b **Radioactive Contaminants**– The data presented in this report are from the most recent testing done in accordance with the administrative regulations in 401 KAR Chapter 8. Our next Radionuclide compliance monitoring will be conducted on the first calendar quarter of 2010.

^c **Lead and Copper** - Bardstown Municipal Water Dept. recently completed the first of two (2) consecutive six months periods of Standard Monitoring. The level found and the date of sampling is shown on the table above. Although our levels are down, it is possible that lead and copper levels at your home are higher because of materials used in your plumbing. If you are concerned about the possibility of elevated levels of lead and copper, run your faucet for two (2) minutes before using your water. Use cold water for drinking, cooking and preparing baby formulas.

^d The current MCL for **Total Trihalomethanes** (TTHM) is 80 ppb and for **Haloacetic Acids** (HAA) is 60 ppb respectively. The results shown above are reported in a rolling annual average, which is the average of the quarterly tests for the most recent quarters. Although the TTHM's and HAA's annual average in our water is below the MCL, it has been detected above the MCL at times in certain quarters.

Some people who drink water containing TTHM's and HAA's in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. To understand the possible health effects described for many regulated constituents, a person would have to drink two (2) liters of water everyday at the MCL level for a lifetime to have a one-in-a-million chance of having an adverse health effect.

The Bardstown Water Treatment Plant is currently monitoring for Cryptosporidium and Giardia which are microscopic organisms that, when ingested, may cause gastrointestinal symptoms in some people. Sampling started in October 2007 and will continue through September 2009 as required by the Long Term 2 Enhanced Surface Water Treatment Rule.