

Bardstown Municipal Water Department
PWSID#KY0900017
2010 Water Quality Report

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide our customers with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. As part of our ongoing commitment to the quality of your drinking water, the Water Treatment Plant is currently undergoing a major renovation and expansion that will increase our filtering capacity as well as add a million gallons of additional water storage.

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 Jessica Filiatreau at 502-348-5947, Wayne Kendall or Geronimo Afbale 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 storm water 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).

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, 2010. 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.

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).

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)

µg/l - micrograms per liter

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 | 0.19 | 100 | No | Soil runoff |

REGULATED CONTAMINANT TEST RESULTS

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/l) ^a | 15 | 0 | 0.02 | 0.02 to 0.02 | 2/14/10 | No | Erosion of natural deposits |
| Uranium (µg/l) ^a | 30 | 0 | 0.09 | 0.09 to 0.09 | 2/14/10 | No | Erosion of natural deposits |
| Beta/photon emitters (mrem/yr) ^a | 4 | 0 | 4 | 4 to 4 | 2/14/10 | No | Decay of natural and man made deposits |

| Contaminant [code] (units) | MCL | MCLG | Level Found | Range of Detection | Date of Sample | Violation Yes/No | Likely Source of Contamination |
|---|-----------|------------|--|----------------------------------|---|------------------|--|
| Inorganic Contaminants | | | | | | | |
| Barium [1010] ppm | 2 | 2 | 0.019 | 0.019 to 0.019 | 2/17/10 | No | Drilling wastes; metal refineries; erosion of natural deposits |
| Copper [1022] (ppm) (# Sites exceeded the AL) ^b | AL=1.3 | 1.3 | 0.048 (90 th percentile) | 0 - 0.118 0 sites exceed AL | 8/24/10 | No | Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives |
| Fluoride [1025] (ppm) | 4 | 4 | 1.02 | 0.86 to 1.27 | Oct 2010 (highest month) | No | Water additive which promotes strong teeth |
| Lead [1030] (ppb) (# sites exceeded the AL) ^b | AL= 15 | 0 | 0 (90 th percentile) | 0 – 4 0 sites exceed AL | 8/24/10 | No | Corrosion of household plumbing systems, erosion of natural deposits |
| Nitrate (as Nitrogen) [1040] (ppm) | 10 | 10 | 1.47 | 0 to 1.47 | 2/17/10 | No | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Synthetic Organic Contaminants including Pesticides and Herbicides | | | | | | | |
| Atrazine [2050] (ppb) ^c | 3 | 3 | 0.12 | 0 – 0.12 | 3/3/10 - 8/04/10 | No | Runoff from herbicide used on row crops |
| Simazine [2037] (ppb) ^c | 4 | 4 | 0.1 | 0 – 0.1 | 3/3/10 - 8/04/10 | No | Herbicide runoff |
| Disinfectants/Disinfection Byproducts and Precursors | | | | | | | |
| Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio) | TT* | N/A | 1.93 (lowest average) | 1.16 to 2.95 (monthly ratios) | Jan-Dec 2010 | 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 | 0.99 (highest average) | 0.20 to 1.85 | Jan-Dec 2010 | No | Water additive used to control microbes. |
| Haloacetic acids or HAA (ppb) ^d | 60 | N/A | 64 (highest average) | 32 to 73 | 1 st QTR- 4 th QTR 2010 | No | By-product of drinking water chlorination |
| TTHM [total trihalomethanes] (ppb) | 80 | N/A | 42 (highest average) | 17 to 64 | 1 st QTR- 4 th QTR 2010 | No | By-product of drinking water chlorination |

^a **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 8:550 Section 1. Our next Radionuclide compliance monitoring will be collected during the 2019 calendar year.

^b **Lead and Copper** - Bardstown Municipal Water Dept. recently completed the first of two (2) consecutive years of reduced monitoring. We did not exceed the action levels for Lead and Copper during the year 2010. Our next sampling will be taken in the warm weather months of June, July, August or September of 2011.

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. Bardstown Municipal Water Dept. 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 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>.

^c The analyses of SOC's in August 2010 detected Atrazine and Simazine. Although the amount was below the MCL, Bardstown Municipal Water Dept. is still required to sample the contaminants for a minimum of four consecutive quarters with results being less than their maximum contaminant level.

^d The current MCL for **Haloacetic Acids** (HAA) is 60 ppb. 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 HAA's annual average in our water is below the MCL, it has been detected above the MCL at times in certain quarters.

Bardstown Municipal Water Dept. received two (2) Notices of Violations in 2010. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct the situations.

The first violation, dated 04/30/2010 number: 2010 – 9950637 was for exceeding the MCL (as an average) of TOTAL HALOACETIC ACIDS (HAA5) in the compliance period 01/01/2010 – 03/31/2010. The reported result of 0.061 mg/l exceeded the MCL of 0.060 mg/l.

The second violation, dated 07/29/2010 number: 2010-9950638 was for exceeding the MCL (as an average) of TOTAL HALOACETIC ACIDS (HAA5) in the compliance period 04/01/2010 – 06/30/2010. The reported result of 0.064 mg/l exceeded the MCL of 0.060 mg/l.

Some people who drink water containing **Haloacetic Acids (HAA5)** in excess of the MCL over many years may have increased risk of getting cancer.

Bardstown Municipal Water Department has increased its flushing frequencies and is currently going through a 4.5 million dollar expansion that includes filter renovations. We believe that these measures will lower our disinfection byproducts.