



Caveland Environmental Authority

Annual Water Quality Report



We are pleased to present the Annual Water Quality Report for the year 2004. 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 would like the public to be assured that we will continue to protect, monitor, and improve the water system and deliver a high quality water direct from the tap.

The water for Caveland Environmental Authority is purchased from Glasgow. The City of Glasgow has two water treatment plants within Barren County supplying our water. Barren River Reservoir Treatment Plant, located in Lucas, Kentucky, treats surface water from the Barren River Reservoir. Beaver Creek Treatment Plant, located in Glasgow, Kentucky, treats surface water from Beaver Creek. The water from both plants are blended together in the distribution system. The table enclosed within this report indicates the most relevant analysis results from both treatment plants for the period January 1 through December 31, 2004.

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 human activity. Contaminants that may be present in source water include microbial contaminants, inorganic contaminants, pesticides and herbicides, organic chemical contaminants, and radioactive contaminants. In order 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 which must provide the same protection for public health.

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).

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).

Source Water Assessment for Glasgow

If you have any questions about our utility or concerning information in this report, please contact David Peterson at (270) 773-2887. You are also invited to attend one of our regularly scheduled board meetings held the third Thursday after the first Monday of every month at 5:30 P.M. at the Caveland Environmental Authority office in Cave City.

An analysis of the susceptibility of the Glasgow Water Company public water supply from Barren River Lake and Beaver Creek to contamination indicates that this susceptibility is generally moderate for both sources. There are some areas of concern. There is an oil well located in the immediate area of the Barren River intake and two bridges near the Beaver Creek intake. The susceptibility for contamination from these potential sources has been ranked high due to the potential for accidental release of contaminants. Other areas of concern include a KPDES permitted discharger, underground storage tanks, agricultural chemical users, and other oil and gas wells. This is a summary of the Source Water Assessment Plan developed for Glasgow. The complete assessment is available for inspection at Glasgow Water Company office and at the Barren River Development District office in Bowling Green, Ky.

Definitions

To help you better understand the terms in this report we are providing the following 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.

Below Detection Levels (BDL) - laboratory analysis indicates that the contaminant is not present.

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

Parts per million (ppm) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

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

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

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

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

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.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation Yes/No	Likely Source
Turbidity (NTU) TT	Never more than 1 NTU Less than 0.3 NTU 95% of samples each month.	0.656	99	NO	Soil runoff

REGULATED CONTAMINANT TEST RESULTS

Contaminant [code] (units)	MCL	MCLG	Level Found	Range	Date of Sample	Violation Yes/No	Likely Source of Contamination
Total Coliform Bacteria (# positive samples)	1	0	1	N/A	Aug. Sep.	NO	Naturally present in the environment
Total Organic Carbon (ppm) measured as ppm, but reported as a ratio.*	TT	N/A	2.28 (lowest average)	1.0-2.87 (monthly ratios)	2004	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.							
Alpha emitters [4000] (pCi/1)	15	0	1.9	BDL-1.9	2002	NO	Erosion of natural deposits
Combined radium (pCi/1)	5	0	1.4	BDL-1.4	2002	NO	Erosion of natural deposits
Barium [1010] (ppm)	2	2	0.0231	0.0172-0.0231	2004	NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper [1022] (ppm) Samples exceeding AL=0	AL=1.3	1.3	0.0156 (90 th percentile)	BDL 0.805	2002	NO	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	1.4	0.62-1.4	2004	NO	Water additive which promotes strong teeth
Nitrate (as Nitrogen) [1040] (ppm)	10	10	2.23	BDL-2.23	2004	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.13 (highest average)	0.6 – 1.9	2004	NO	Water additive used to control microbes.
Haloacetic acids or HAA (ppb)	60	N/A	54 (highest average)	16-90	N/A	NO	Byproduct of drinking water disinfection
TTHM [total trihalomethanes] (ppb)	80	N/A	44 (highest average)	15-73	N/A	NO	By-product of drinking water chlorination

Violations:

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2004 we did not complete all monitoring or testing for total coliform bacteria and therefore cannot be sure of the quality of our drinking water during that time. Normally the water system is required to submit two total coliform bacteria samples per month. If a bacteriological sample indicates the possibility of the presence of bacteria an additional set of three follow-up check samples are required. Furthermore, we were then required to take at least five routine samples the following month. We failed to collect these additional samples and this resulted in a series of violations. The table below lists some of the details associated with these violations.

Contaminants not properly tested and time periods:

Contaminant	Required Samples	Number taken	Time Period
Bacteriological	3 (check)	0	August 2004
Bacteriological	5 (routine)	2	September 2004
Bacteriological	5 (routine)	2	October 2004

Since we did not take the required number of samples during the indicated months, we cannot be sure of the quality of your water during that time. The water system personnel have been instructed on the regulatory requirements for sampling and reporting and efforts are being made to prevent these violations from occurring in the future.

In August 2004 we received a Notice of Violation for failure to submit a certification for the Consumer Confidence Report for calendar year 2001. We were unaware of this violation since we purchased the water system after that date. We have submitted a certification to the Division of Water to address this violation. There are no adverse health effects for failing to submit the required reports. The water system personnel have received instructions on the regulatory requirements for submitting monitoring and reporting records to prevent these violations in the future. For more information, please contact David Peterson at 270-773-2887.

Please share this information with all other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.