2011 Water Quality Report

"The mission of McCreary County Water District is to provide safe and clean drinking water, in compliance with all state and federal regulations, while also serving McCreary County residents by protecting our source water, continuing to improve our technology and treatment methods, engaging in community events, providing educational assistance opportunities, and offering excellence in customer service."

PWSID # *KY0740276* **www.mccrearywater.com** *Billing Information: (606) 376-2540*

This report is to inform you about the excellent water and services that we deliver each day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We are committed to ensuring the quality of your water remains at the highest level as we meet the needs of our community. A vulnerability assessment has been conducted and we are continuing to take every effort to maintain a high level of security for our facilities and distribution system.

The surface water source of your drinking water is the Laurel Creek Reservoir and Lake Cumberland near Big Creek. The area around the lake is mostly residential but also contains some agricultural, recreational, and light industry activities.

The 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 Water District Office located on U.S. 27, in Whitley City. The sources of raw water for McCreary County Water District are Lake Cumberland water intake and Laurel Creek Reservoir in McCreary County. An analysis of the overall susceptibility to contamination of the McCreary County Water District water supply indicated that this susceptibility is generally low. Within the critical protection area of the Lake Cumberland intake there are three potential sources of contamination that are ranked high, four ranked medium, and none ranked low. Areas of concern include forest and woodland cover, one major roadway and power lines with potential herbicide usage. Within the critical protection area of the Laurel Creek intake there are eighteen potential sources of contamination that are ranked high, thirteen ranked medium and none ranked as low. Area of concern includes a railroad, row crops, underground storage tanks; KPDES permitted discharges, mining, and waste generators or transporters. The location of the Lake Cumberland water intake and remote area of the watershed make the routine non-point contaminate sources of low concern. The Laurel Creek Reservoir intake is more susceptible too short-term hazards due to numerous contaminate sources located in the critical protection area. However water system impact is limited due to the secondary withdrawal nature of this location.

McCreary County Water District routinely monitors for contaminants in your drinking water according to Federal and State regulations. The table enclosed within this report shows the results of our monitoring for the period of Jan. 1 through Dec. 31, 2011.

McCreary County Water District received a violation for exceeding the MCL (as an average of samples) for Carbon, Total.Our water treatment process lowers the TOC levels. However, during the month of August 2010 our contract lab reported the value for the treated water TOC higher than the source water TOC. We have no explanation for how this happened. It could have been that the sample bottles were switched or analysis values recorded incorrectly. Regardless of the cause, the calculation provided a negative value for that month and when the annual average was calculated for the 2nd quarter of 2011 the ratio was below the required ratio of 1.00. This problem has been resolved. Total organic carbon (TOC) has no health effects. However, total organic carbon, provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes, or THMs, and haloacetic acids, or HAAs. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

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.

KY. Energy and Environmental Cabinet recognized McCreary County Water District for meeting the Area-Wide Optimization Program goals for both settled and filtered water in 2007, 2008, 2009, 2010 and again in 2011.

Improvements in 2011

1. Water Storage Tank Retrofit Project.
2. 319 Grant from EPA Division of Water for Watershed Based Planning/Source Water Protection and Water Watch Program.

Proposed Improvements for 2012 & 2013

1. Water Treatment Plant #1Renovation & Upgrade.
2. Pine Knot Area & Marshes Siding Area Water Storage Tanks.
3. New Maintenance Shop.

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 may be obtained by calling the EPA Safe Drinking Water Hotline (800) 426-4791.

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 may 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, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities). 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 to provide the same protection for public health.

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. Your local public water system 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: http://www.epa.gov/safewater/lead

If you have questions about our water system you can contact Stephen T. Owens or Stephen Whitaker at (606) 376-2540. You are also invited to attend the regular board meetings held the last Tuesday of every month at 9:00 A.M. at the Water District Office located on U.S. 27, Whitley City. Customer views are welcome. Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien

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. Unless otherwise noted, the report level is the highest level detected.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.155	100	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
Alpha emitters [4000] (pCi/L)	15	0	0.5	0.5 to 0.5	Dec-07	No	Erosion of natural deposits
Barium [1010] (ppm)	2	2	0.022	0.02 to 0.022	Feb-11	No	Drilling wastes; metal refineries; erosion of natural deposits
Chromium [1020] (ppb)	100	100	6	6 to 6	May-11	No	Discharge from steel and pulp mills; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level	AL = 1.3 0	1.3	0.137 (90^{th} percentile)	0 to 0.164	Jun-10	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.95	0.78 to 1.25	Mar-11	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level	AL = 15 1	0	0 (90^{th} percentile)	0 to 127	Jun-10	No	Corrosion of household plumbing systems
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	0.96 (lowest average)	1.00 to 1.53 (monthly ratios)	N/A	Yes	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	2.28 (highest average)	1.00 to 2.80	N/A	No	Water additive used to control microbes.
HAA (ppb) (all sites) [Haloacetic acids]	60	N/A	50 (system average)	16 to 95 (range of system sites)	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) (all sites) [total trihalomethanes]	80	N/A	43 (system average)	16 to 117 (range of system sites)	N/A	No	Byproduct of drinking water disinfection

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 every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

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) - or micrograms per liter, (µg/L). One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
Parts per trillion (ppt) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
Picocuries per liter (pCi/L) - a measure of the radioactivity in water.
Millirems per year (mrem/yr) - measure of radiation absorbed by the body.
Million Fibers per Liter (MFL) - a measure of the presence of asbestos fibers that are longer than 10 micrometers.
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.
Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
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.