



# Laurel County Water District No. 2 2005 Water Quality Report

We're very pleased to provide you with this year's Annual Water Quality Report. This brochure is a summary of the quality of water provided to our customers during 2005 and highlights all the hard work and dedication of our employees in order to bring you safe drinking water.

This report is to inform you about the excellent water service that we deliver each day. Our constant goal is and always will be, to provide you with a safe and dependable supply of drinking water. We continually strive to improve the water treatment process and protect water resources. We are committed to ensure the delivery of the highest quality of your water at the lowest price as we meet our community needs.

Our water source is from the Big Laurel River Lake at the Dorthae Dam. It is a surface water supply made up of the Big Laurel River and Robinson Creek. Our lake has a volume of 450 acre-feet and holds approximately 147 million gallons. Our watershed of 97 sq. miles is made up of residential, farmland and timberland.

### Dorthae Dam



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, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharge, oil and gas production, mining, or farming. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production can, also come from gas stations, urban storm water runoff, and septic systems. Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and 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 and bottled water that shall provide the same protection for public health. USEPA defines where and how often samples for each substance must be collected.

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 Environmental Agency's Safe Drinking Hotline at 1-800-426-4791.

The US Environmental Protection Agency (USEPA) ensures that consumers know what is in their drinking water. This report shows and explains Laurel County Water District No. 2's water quality. According to this report, your drinking water is safe and meets Federal and State requirements. If you have any questions about this report or concerning your water utility, please contact James Sensabaugh at (606) 878-2494. We want our valued customers to be informed about their water utility. You are invited to attend the publicly held Board Meeting on the Second Tuesday of each month at 5:00 P.M. at 3910 South Laurel Road.

### Water Office



The final Source Water Assessment and Protection Plan (SWAPP) has been completed for the water supply for the Laurel County Water District # 2. The analysis of the susceptibility of the Laurel County water supply to contamination indicates that this susceptibility is high. Potential areas of concern include forested land coverage and agriculture. These activities increase the susceptibility of the water source to contaminants such as siltation, excess nutrients, and pesticides. It has been determined that there are water quality impairments for the District's intake. These impairments are created by nutrients and sedimentation. Two general sources of nutrients in Laurel County's water are derived from natural and man-made sources. Natural sources include input from atmospheric deposition and a slight amount of nutrients leached from the soils. A much larger portion of the nutrients that enter area waterways are created by human and animal sources such as commercial fertilizers, livestock manure, industrial discharges, and human sewage.

Nutrients are either dumped directly into waterways or swept through the areas when rain washes over the land and creates polluted runoff. Sedimentation is the process where a suspended partial settles out of water. Water picks up sediment (sand and silt) as it moves down stream. As fast moving water slows down, the sediment becomes heavy and settles to the bottom of the stream. This act causes the destruction of aquatic life habitats. The assessment was prepared by the Cumberland Valley Area Development district (CVADD). A copy of the plan is available for inspection at the CVADD office, 342 Old Whitley Road, London, KY 40741.

We purchased 18.9% of our water from the City of London Utilities Commission. This source of water is surface water supplied from the Laurel River Lake. There SWAPP has been completed for the water supply for the City of London. An analysis of the susceptibility of the London Water supply to contamination indicated that this susceptibility is generally moderate. Potential areas of concern include forested land coverage and agriculture. These activities increase the susceptibility of the water source to contaminants such as siltation, excess nutrients, and pesticides. The assessment was prepared by the Cumberland Valley Area Development District (CVADD). A copy of the plan is available for inspection at the office which is located at 342 Old Whitley Road, London, KY 40741.

### Violations:

Laurel County Water District # 2 received a monitoring and reporting violation for failing to comply with the content requirements in the 2004 Consumer Confidence Report (CCR). Content deficiencies were observed in the mandatory language, which must be stated verbatim; errors were observed in the lead and copper information in the "Table of Detected Contaminates;" and errors or omissions were observed in the violation list. There were no health effects associated with this violation. The Laurel County Water District No. 2 has implemented a new recording keeping system which should prevent this violation in the future.

### Definitions:

This report may contain many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand the terms:

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

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

**Nephelometric Turbidity Unit (NTU)** - A measure of the turbidity in excess of 5 NTU is just noticeable to the average person.

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

**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 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.

**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.

**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

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer, undergoing chemotherapy, who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infection. 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/EPA (800-426-4791).



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. System A is water supplied by and System B is supplied by LUC.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
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*Turbidity is a measure of the cloudiness of the water. We measure it because it is a good indicator of the filtration system. High Turbidity can hinder the effectiveness of disinfectants.*

Turbidity (NTU) TT * Representative sample: of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly sample:	0.572	96	No	Soil runoff
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**Regulated Contaminant Test Results**

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
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**Radioactive Contaminants**

Alpha emitters [4000] (pCi/L)	15	0	0.2	0 to 0.2	Jul-02	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	0.5	0 to 0.5	Jun-02	No	Erosion of natural deposits

**Inorganic Contaminants**

Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.29 (90th percentile)	0 to 0.47	Aug-03	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	1.57	0.67 to 1.57	Aug	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	1 (90th percentile)	0 to 3	Aug-03	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	0.7	0.7 to 0.7	Jul-05	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	1.01 (lowest average)	0.7 to 1.26 (monthly ratios)	N/A	No	Naturally present in environment.
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\*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual avg. of monthly ratios must be 1.00 or greater for compliance.

Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.05 (highest average)	0.20 to 2.80	N/A	No	Water additive used to control microbes.
Chlorite (ppm)	1	0.8	0.918 (average)	0.05 to 0.92	Aug	No	Byproduct of drinking water disinfection
Chlorine dioxide (ppb)	MRDL = 800	MRDLG = 800	350	0 to 350	Oct	No	Water additive used to control microbes.
HAA (ppb) [Haloacetic acids]	60	N/A	55 (highest average)	21 to 140	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) [total trihalomethanes]	80	N/A	53 (highest average)	16 to 191	N/A	No	Byproduct of drinking water disinfection

EPA has not established drinking water standards for unregulated contaminants. There are no MCL's and therefore no violations if found.

**Laurel County Water District No. 2**  
**3910 South Laurel Road**  
**London, Kentucky 40744**

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**London, KY 40741**  
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