Opportunities to discuss water quality issues
MLGW holds meetings of its Board of Commissioners, which are open to the public, on the first and third Thursday of each month at 3 p.m. The meetings are held in MLGW's Administration Building, 220 South Main Street, Memphis, Tennessee.

Public meetings are also held periodically by The Shelby County Groundwater Control Board. For more information on the time and location of future meetings, please call Greg Parker, Supervisor, Water Quality Branch at the Memphis and Shelby County Health Department at (901) 379-7254.

For more information about your drinking water, please contact Fred P. Von Hofe, Ph.D, P.E., Manager, Water Quality Assurance Laboratory at (901) 320-3901 during the business hours of 7:30 a.m. – 4 p.m., Monday through Friday.

Copies of this report
- To obtain a copy of this report online visit: www.mlgw.com
- You can e-mail your comments to us at: waterlab@mlgw.org

En español
Información para personas de habla hispana: Este reporte contiene información muy importante sobre su agua potable. Hágalo traducir o pida que se lo lea alguien que lo entienda bien. O mejor aún, lea la versión en español en nuestro sitio de red, www.mlgw.com.

Memphis Light, Gas and Water Division
General Information
(901) 544-MLGW (6549)

MLGW

MLGW/KF/02/11/230M

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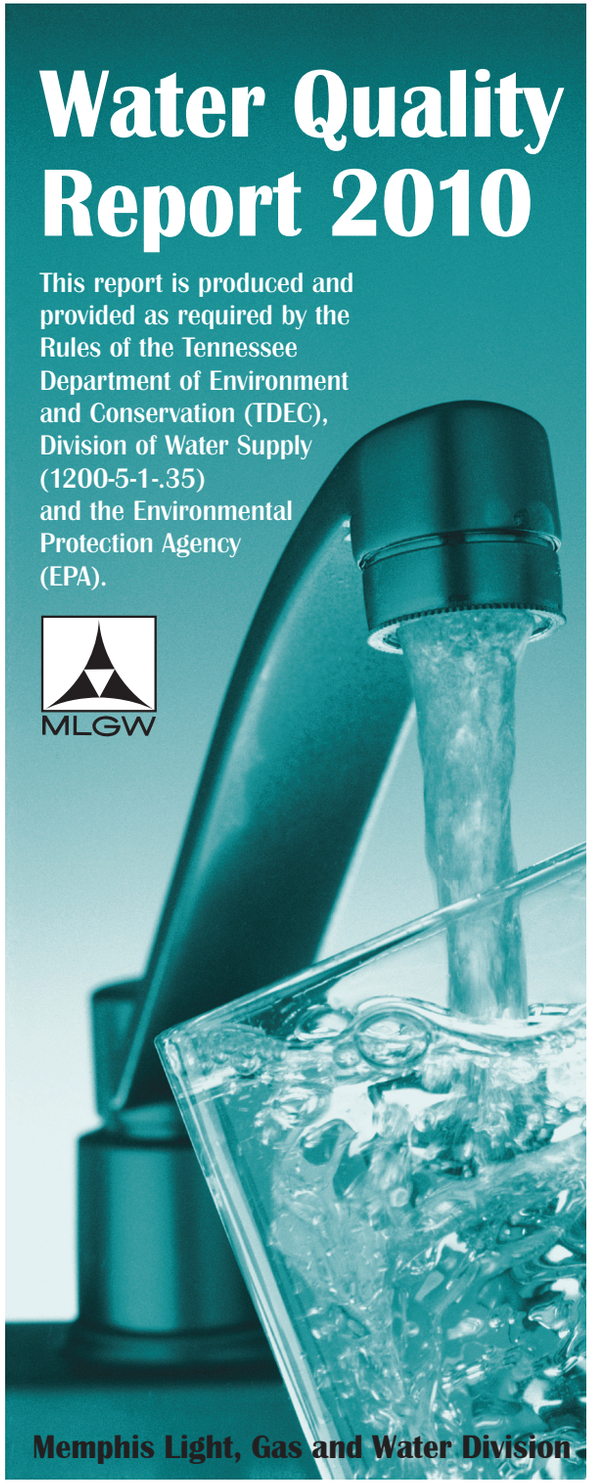
MLGW

Water Quality Report 2010

This report is produced and provided as required by the Rules of the Tennessee Department of Environment and Conservation (TDEC), Division of Water Supply (1200-5-1-.35) and the Environmental Protection Agency (EPA).

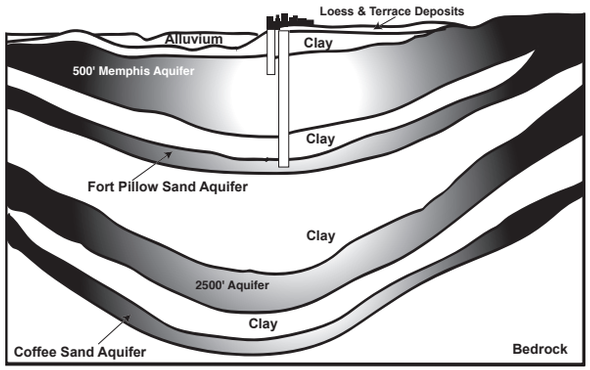
MLGW



Memphis Light, Gas and Water Division

Memphis water...exceeds expectations

Memphis Light, Gas and Water (MLGW) is proud to present the 2010 Water Quality Report. Our water not only meets, but exceeds the standards set by the EPA. Memphis water is obtained from underground aquifers. The water we consume in our city has undergone a slow, natural filtering process through outcropping sands. From this high-quality water source, MLGW pumps and further treats the water to obtain a product that ranks among the finest in the world.



EPA and TDEC required language for this report

The EPA has asked all public water suppliers, including MLGW, to include the following language in their Water Quality Reports for your general knowledge:

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 from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, 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, and 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, the EPA and TDEC prescribe regulations which 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 EPA's Safe Drinking Water Hotline, (800) 426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Individuals with complex immunological conditions such as people with cancer undergoing chemotherapy, people 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 outlining 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 and wellhead protection

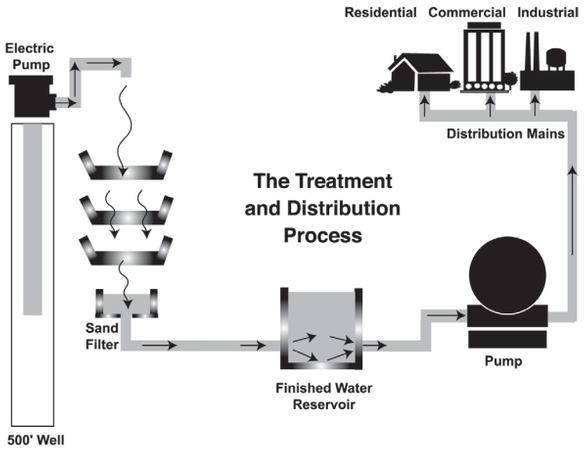
An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scorings, and the overall Tennessee Department of Environment and Conservation (TDEC) report to EPA can be viewed online at: www.state.tn.us/environment/dws/dwassess.shtml.

MLGW's wellhead protection plan and source water assessment are available for public review by calling Odell Johnson, P.E., Manager, Water Engineering and Operations, at (901) 320-3939 during the business hours of 7:30 a.m. – 4 p.m., Monday through Friday.

For more information on groundwater protection, call the EPA at (800) 490-9198 to request a copy of the EPA's Citizen's Guide to Ground Water Protection or view online at: www.epa.gov/safewater/sourcewater/pubs/guide_citguidegwp_1990.pdf.

Unregulated Contaminant Monitoring Rule

EPA requires MLGW to participate in the Unregulated Contaminant Monitoring Rule (UCMR). This testing identifies chemical contaminants in drinking water that may require future regulation. None of the targeted compounds were found in Memphis water.



2010 Water Quality Table

(results surpass state and federal drinking water regulations)

Results of inorganic and disinfection by-products analyses

(results surpass state and federal drinking water regulations)

Component	Maximum amount detected	Maximum contaminant level (MCL)	Maximum contaminant level goal (MCLG)	Major sources in drinking water
Fluoride	*1.3 parts per million	4 parts per million	4 parts per million	Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate	1.54 parts per million	10 parts per million	10 parts per million	Erosion of natural deposits; leaching from septic tanks; sewage; runoff from fertilizer use.
Chlorine	2.2 parts per million	MRDL-4 parts per million	MRDLG-4 parts per million	Water additive used to control microbes.
Sodium	8.24 parts per million	Not available	Not available	Not available
Total Trihalomethanes	**14.5 parts per billion	80 parts per billion		By-products of chlorination used in the water treatment process.
HAA5 Haloacetic Acids	1.66 parts per billion	60 parts per billion	Not available	By-products of drinking water disinfection.

Results of 2009 lead and copper sampling at residential water taps

(results surpass state and federal drinking water regulations)

Component	Amount detected	Maximum contaminant level (MCL)	Maximum contaminant level goal (MCLG)	Major sources in drinking water
Lead	***90% of the homes tested had lead levels less than 6.55 parts per billion	Action Level: 90% of the homes tested must have lead levels less than 15 parts per billion	Zero parts per billion	Corrosion of household plumbing systems: erosion of natural deposits
Copper	90% of the homes tested had copper levels less than 0.33 parts per million	Action Level: 90% of the homes tested must have copper levels less than 1.3 parts per million	1.3 parts per million	Corrosion of household plumbing systems: erosion of natural deposits

Results of microbiological testing

(results surpass state and federal drinking water regulations)

Component	Maximum amount detected	Maximum contaminant level (MCL)	Maximum contaminant level goal (MCLG)	Major sources in drinking water
Total Coliform Bacteria	Presence of coliform bacteria in less than 1% of monthly samples	Presence of coliform bacteria in 5% of monthly samples	Zero bacteria detected	Naturally present in the environment

Terms Used in This Report

To protect public health, state and federal agencies set maximum contaminant levels, maximum contaminant level goals or action levels for contaminants. These measures are defined as follows:

Maximum contaminant level (MCL)
The highest level of a contaminant allowed in drinking water. MCLs are set as close to MCL goals 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.

(mg/L) Milligrams per Liter or parts per million
(µg/L) Micrograms per Liter or parts per billion

Action level
The concentration of a contaminant that, if exceeded, triggers a treatment or other requirement that a water system must follow.

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.

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 the control of microbial contaminants.

Treatment technique
A required process intended to reduce the level of a contaminant in drinking water.

Fluoride

* Maximum Amount Detected refers to the highest monthly average at any one of MLGW's 10 treatment plants during the 2010 year. The average daily level is 1.0 parts per million for all MLGW treatment plants.

A certain percentage of people who drink water with levels of fluoride well over the MCL for many years are prone to bone disease, which could include pain and tenderness of the bones. Children's teeth may also become discolored.

MLGW is required to add fluoride and chlorine to the water supply according to mandates set by a City of Memphis Ordinance and Tennessee Department of Environment and Conservation (TDEC) respectively.

Total Trihalomethanes (disinfection by-products)

As a result of a chemical reaction between chlorine and naturally occurring organic matter in water, certain by-products form during the process of disinfection.

** The amount of total trihalomethanes detected indicates the highest measured in the distribution system for 2010.

The average total trihalomethanes in Memphis drinking water is 7.10 parts per billion. A certain percentage of people who drink water with levels of trihalomethanes well over the MCL for many years could have liver or kidney problems, deficiencies in the central nervous system, and a higher cancer risk.

Lead and Copper

Plumbing materials could contribute to lead and copper levels at the tap. There is no detectable lead in Memphis' source water. Regarding copper, very low levels of this metal occur naturally. Standing water in pipes for six hours or more along with lead or lead component plumbing may yield low levels of lead at the tap. It is rare that the lead levels exceed the action level. Depending on the specific circumstances, copper levels at the tap may be high.

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. Memphis Light, Gas and Water 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 two 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.

The results reported here on lead and copper are from tests performed in 2009 at a targeted group of homes served by MLGW in areas of Memphis and Shelby County.

*** Fifty homes, most of which had some lead plumbing constituents, were tested. Out of that number, only three exceeded the lead action level and none exceeded the copper action level. The samples were collected after six to eight hours of no water usage. (The 90th percentile value for lead was 6.55 parts per billion and for copper was 0.33 parts per million.)

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's tap water, flush your tap for 30 seconds to two minutes before using water for drinking, cooking or preparing baby formula. You may also wish to test your water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791.

Radionuclide analyses: Radon

For general information visit the EPA Web site concerning radon in drinking water at http://www.epa.gov/safewater/radon.html or contact the Safe Drinking Water Hotline at (800) 426-4791. The Safe Drinking Water Hotline is open Monday through Friday, excluding federal holidays, from 10 a.m. to 4 p.m., Eastern Time. For more information on radon in indoor air, contact the National Safety Council's Environmental Health Center hotline at (800) SOS-RADON (800-767-7236). Or, visit the EPA's Web site concerning radon in indoor air at http://www.epa.gov/radon/index.html.

MLGW