

Annual Drinking Water Quality Report
Calendar Year 2004
For
LEICESTER WATER SUPPLY DISTRICT
Leicester, Massachusetts
DEP PWSID # 2151000

The Leicester Water Supply District works hard to insure that the drinking water that you use every day is of the highest quality and that it meets all state and federal requirements. This report is a snapshot of drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies.

I. PUBLIC WATER SYSTEM INFORMATION

Address: *Office of Leicester Water Supply, PO Box 86, 124 Pine St., Leicester, MA 01524*

Contact Person: *Frank W. Lyon*

Telephone #: *508-892-8484*

Fax #: *508-892-1812*

Water System Improvements

LWSD personnel and The Department of Environmental Protection (DEP) routinely inspect our water system. The DEP also inspects our system for its technical, financial and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operations of our system.

Opportunities for Public Participation

Do you want to learn more about your drinking water? Do you have questions about information in this report? If you do, please call Frank Lyon, Superintendent of the Leicester Water Supply District. He can be reached at 508-892-8484 or you can come by the office at 124 Pine Street on Monday through Friday between 9:00 AM and 2:00 PM. The Water Commissioners meet at the office on the second Thursday of every month at 7:00 PM. The public is welcome to attend these meetings as well as the Annual Meeting, held on the last Tuesday in April. Please call in advance to confirm meetings.

II. YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

The Leicester Water Supply District is a municipal water supply that provides water to about 3,300 residents in the central core of Leicester. The water that we distribute is groundwater, water that is pumped from deep aquifers in bedrock. The sources include two areas: a well field in the Town of Paxton (source ID # 01G-04G) and two wells within Leicester: the Whittemore Street Well (05G) and the Rawson Street Well (06G). Two water tanks (600,000 gallons each) located just north of the service area near the Leicester High School provide storage for the distribution system. The water is delivered through our distribution system to your home or business.

Update on Testing and Interconnections

We have three inter-municipal connections available. One connection is with the Cherry Valley Rochdale Water District at 564 Main Street and the second with the Hillcrest Water District at 230 Pleasant Street. These two connections allow water to flow to or from the Leicester Water Supply District, depending upon which district requires an additional source. A third inter-municipal connection with the Town of Paxton is available by interconnecting hydrants at the intersection of Route 56 and Route 122 in Paxton. Again, flow may be in either direction, depending which district requires additional flow.

Is My Water Treated?

In order to ensure that tap water is safe to drink and in compliance with the Safe Drinking Water Act (SDWA), your water is treated for corrosion control with a blended polyphosphate product that reduces the amount of copper and lead that leaches from your in-house plumbing.

Protection of Your Drinking Water

All of the drinking water that we deliver to you comes from ground water. To ensure the quality of that water, we have in place protections for the land surrounding wellheads and their recharge areas. In 1993, the Leicester Water Supply District, in cooperation with the Town of Leicester Planning Board and the Zoning Board passed a Zoning By-Law to prevent land use activities that may be detrimental to water quality. The Town of Paxton has similar By-Laws that provide wellhead protection to our Paxton wells.

Residents can help protect sources by:

- *Practicing good septic system maintenance*
- *Supporting water supply protection initiatives at the next town meeting*
- *Taking hazardous household chemicals to hazardous materials collection days*
- *Contacting the water department or Board of Health to volunteer for monitoring or education outreach to schools*
- *Limiting pesticide and fertilizer use, etc.*

Source Water Assessment Plan

A Source Water Assessment Plan (SWAP) of the District's water sources was developed by the DEP in 2003. The SWAP report is available at LWSD's office for your review. For more information, call Frank Lyon at 508-892-8484.

III. SUBSTANCES FOUND IN TAP WATER

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 stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.

Pesticides and herbicides -which may come from a variety of sources such as agriculture, urban stormwater 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 stormwater 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 Department of Environmental Protection (DEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. All 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. 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 some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

IV. IMPORTANT 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 (chlorine, chloramines, chlorine dioxide) 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 (chlorine, chloramines, chlorine dioxide) below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

Action Level (AL) – The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Massachusetts Office of Research and Standards Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (ug/l)

ppt = parts per trillion, or nanograms per liter

pCi/l = picocuries per liter (a measure of radioactivity)

NTU = Nephelometric Turbidity Units

ND = Not Detected

N/A = Not Applicable

mrem/year = millirem per year (a measure of radiation absorbed by the body)

V. WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the table(s) are from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

Asbestos has not been required to be sampled for in this water district for some years.

	Date(s) Collected	90 TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Violation (Y/N)	Possible Source of Contamination
Lead (ppb)	09/19/04	1	15	0	11	0	N	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	09/19/04	0.27	1.3	1.3	11	0	N	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Consistently low values for lead & copper have earned a reduction in DEP required testing for Leicester Water Supply District for this category. The frequency of testing for lead & copper is now once every 3 years. The next scheduled monitoring for this category is in 2007.

	Highest # Positive in a month	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform	0	0	0	N	Naturally present in the environment
Fecal Coliform or E.coli	0	*	0	N	Human and animal fecal waste

* Compliance with the Fecal Coliform/E.coli MCL is determined upon additional repeat testing.

Regulated Contaminant	Date(s) Collected	Highest Detect	Range Detected	Highest Average	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants								
Arsenic (ppb)	02/23/04	12						Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
	06/14/04	ND	0 - 21	N/A	10	----	Y	
	09/22/04	21						
	12/16/04	ND						
Nitrate (ppm)	06/14/04	3.0	0 – 3.0	N/A	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrite (ppm)	2003	ND	---	---	1	1	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Volatile Organic Contaminants	No regulated VOC's were detected in the 06/14/04 tests.							

Radioactive Contaminants								
Gross Alpha (pCi/l) (minus uranium)	2004	25	17 - 25	21	15	0	Y	Erosion of natural deposits
GrossBeta/ photon emmitters (pCi/L) ▲	2003	23	12 - 23	16	50	0	N	Decay of natural and man-made deposits
Radium 226 & 228 (pCi/L) (combined values)	2004	4.7	1.9- 4.7	2.8	5	0	N	Erosion of natural deposits
Uranium (ppb)	2004	24	14 - 24	18	30	0	N	Erosion of natural deposits

▲The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Unregulated Contaminant	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Inorganic Contaminants	No requirement to test in 2004					
Radiological Contaminants						
Radon (pCi/L)	06/14/04	11,000	---	---	10,000	Natural sources
Organic Contaminants						
MTBE (ppb)	06/14/04	0 – 5.2	1.7	20-40	70	Fuel additive
Chloroform (ppb)	06/14/04	ND	---	---	---	By-product of drinking water chlorination
Bromodichloromethane (ppb)	06/14/2004	ND	---	---	---	By-product of drinking water chlorination

VI. COMPLIANCE WITH DRINKING WATER REGULATIONS

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. However some contaminants that were tested last year did not meet all applicable health standards regulated by the state and federal government. Due to contaminant violations of *Gross Alpha emitters, Uranium, and Arsenic* during 2003, our system failed to meet the targeted objectives.

Radioactive Contaminants continued to be a concern in 2004; a study of removal technologies was done and submitted to the DEP.

We are pleased to report that the DEP has approved a Plan submitted on January 5, 2005 by Graves Engineering, evaluating the treatment methods for removing the radionuclides from our #3 and #5 wells to meet the new radionuclides requirements of the Safe Drinking Water Acts.

The District will pursue the recommendations in the report to meet these requirements during 2005.

The current limits of 30 ppb (parts per billion) average of Uranium were exceeded by the District in April 2003 and March 2004 for wells #3 and #5. Notifications were sent to the subscribers by a direct mailing on February 2005 and May 2005.

Recent quarterly testing of the wells is currently meeting the requirements of less than 30 ppb and we are now in conformance.

Health Effects Statements

Alpha emitters - Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Uranium - Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon can lead to lung cancer. Drinking water containing radon may also cause increase risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/l) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call the Massachusetts Department of Public Health, Radon Program at 413-586-7525 or call EPA's Radon Hotline (800-SOS-RADON).

Arsenic: The EPA continues to research the health effects of low levels of arsenic which is a mineral know to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

VII. EDUCATIONAL INFORMATON

Cross Connections

A cross connection is an actual or potential connection between potable and non-potable water supplies where contamination of the potable water supply could occur. Cross connections are physical connections that potentially allow water to backflow from the non-potable system to the potable system.

At residential dwellings, potential sources of contamination to a water system are garden hoses (hose bibs) and irrigation systems. If the potable system were to experience a reduction in pressure (during fire fighting, water main breaks, and to a lesser extent during normal operations), water in a garden hose or irrigation system (and any contamination present such as lawn chemicals) may be fed back into the potable system. Therefore, the HILLCREST WATER DISTRICT and the LWSD requests the use of siphon breaks or backflow prevention devices on all hose bibs and irrigation systems to reduce the potential of backflow to our water system. Devices for hose bibs are available at your local hardware stores for approximately \$5.00.

Commercial and industrial users are required to monitor and test their backflow prevention devices on a regular basis

The Leicester Water Supply District
P.O. Box 86
124 Pine Street
Leicester, MA 01524

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Leicester, MA

*This report is issued annually by the
Leicester Water Supply District*

Superintendent
Frank W. Lyon

Board of Water Commissioners
Robert F. Wilson
Leonard S. Gabrilla
J. Donald Lennerton

WATER QUALITY INFORMATION ENCLOSED

Water Conservation Tips

Water conservation measures ensure adequate water reserves for the most critical residential and emergency uses and can also cut the cost of water treatment. They can cut the energy costs at the treatment facility associated with pumping and chemical costs for processing the water. There are a number of measures you as the water consumer can undertake to conserve water usage.

Water conservation outside

- Minimize the size of your lawn as lawn watering may consume more than 30% of summer residential water use.
- Use mulch around plants and shrubs and choose plants that don't need much water.
- Use water from a bucket to wash your car, and save the hose for rinsing.
- Sweep clipping and leaves from walks and driveways rather than using a hose.

Water Conservation in your home

- Fix leaking faucets, pipes, toilets, etc.
- Install water-saving devices in faucets, toilets, and appliances.
- Wash only full loads of laundry.
- Take shorter showers.
- Don't use the toilet for trash disposal.
- When washing hands, brushing teeth or shaving, do not run the water continuously.

Questions or Comments

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