

ANNUAL

WATER  
QUALITY  
REPORT

*Water testing performed in 2009*



PWSID#: Hillcrest 2151002

This report was prepared by:  
Hillcrest Water District  
PO Box 317 | 124 Pine Street  
Leicester, MA 01524

## Maintaining High Standards

Once again we are proud to present our annual water quality report. This report covers all testing performed between January 1, 2009, and December 31, 2009. The events of the past few years have presented many of us with challenges we could not have imagined. Yet in spite of this, we have maintained our high standards in an effort to continue delivering the best quality drinking water possible. There may be other hurdles in the future, but know that we will always stand behind you and the drinking water we work diligently to provide.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions, we are always available to assist you.



For more information about this report, or for any questions relating to your drinking water, please call Frank W. Lyon, Water Superintendent, at (508) 892-7585.

## Community Participation

You are invited to voice your concerns about your drinking water at the monthly Commissioners Meetings. We meet the second Monday of each month at 7 p.m. at the office of the Leicester Water Supply District, 124 Pine Street, Leicester, Mass. Please call to confirm date and times.

## Where Does My Water Come From?

The Hillcrest Water District is a Municipal Water System that provides water to 1,200+ residences along Pleasant Street from Hillcrest Road to King Street and includes the areas of Dawn Acres, Mayflower, Crestwood, Cricklewood, and Lauralwood. The water we distribute is ground water, water that is pumped from aquifers in the bedrock. The sources included source ID #01G and #02G, which are located about 200 feet west of the intersection of Pleasant Street and Route 56 in Leicester. The 02G well has been off-line since 2004 because of water level issues. A “standpipe” storage tank is located on Lehigh Road next to the Memorial School and delivers water through our distribution system to your homes and businesses.

We also purchase water from the Leicester Water Supply District from a connection at Newfield Street during high usage times.

## About Our Violations

During the routine sampling for coliform bacteria in December 2009, one of three samples tested confirmed positive for coliform bacteria but negative for *E. coli*. Repeat samples taken showed NO presence of coliform bacteria. As a result of the coliform presence in December, we were required to take 2 additional samples at the routine sample site during January 2010; however, only the routine samples were taken (three) in January, which resulted in a monitoring violation and public notice in February 2010.

Because the District purchases water from Leicester Water Supply District the following information is being provide.

During the first quarter 2009, the Rawson Street #5 well in Leicester was in violation of the MCL for arsenic. Public notices of this violation were distributed by mail, quarterly, April 1 through December 31, 2009.

MassDEP approved the construction of a treatment plant in April 2009 for the removal of arsenic for Well #5. The activation of the treatment systems came online in April 2010. The test results with the treatment have resulted in no detection of arsenic or uranium since the treatment plant has been on-line.

Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.



## Substances That Could Be in Water

To ensure that tap water is safe to drink, the Department of Environmental Protection (Department) and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations limiting the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) 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 these contaminants does not necessarily indicate that the water poses a health risk.

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.

Substances 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, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 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 which may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## What's a Cross-connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. For more information, review the Cross-Connection Control Manual from the U.S. EPA's Web site at [www.epa.gov/safewater/crossconnection.html](http://www.epa.gov/safewater/crossconnection.html). You can also call the Safe Drinking Water Hotline at (800) 426-4791.

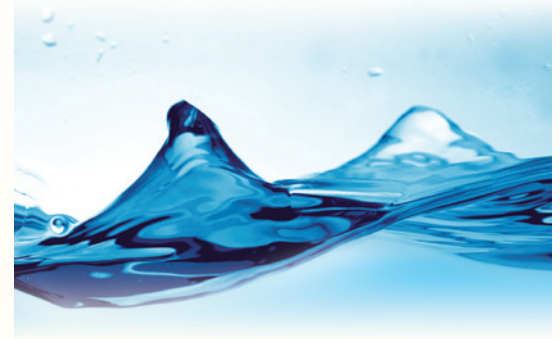
## Water Treatment Process

The District completed construction of a Treatment Plant in April 2009 which removes both arsenic and uranium from the drinking water. It consists of two treatment skids, each of which has two pressurized vessels. The vessels contain a specialized resin media that absorbs and removes the arsenic and uranium. Periodically, the vessels are back-washed to the sanitary sewer and the media is regenerated to begin the removal process over again. Chlorine is added before the treatment process to aid in the treatment and to remove the hydrogen sulfides (rotten egg smell) that some residents have problems with. The treated water is then pumped from a clear well in the treatment building to the water tank and distribution system.

Since the Treatment Plant began operation on April 1, 2009, there have been no detections of arsenic or uranium in the drinking water.

## Lead and Drinking Water

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. We are 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



## Radon

Radon is a radioactive gas that occurs naturally in some ground water. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Radon is released into homes and ground water from soil. Samples taken in the Leicester system show a radon concentration of 11,111 pCi/L. Inhalation of radon gas has been linked to lung cancer; however, the effects of radon ingested in drinking water are not yet clear. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested, call (800) SOS-RADON.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or [www.epa.gov/safewater/hotline/](http://www.epa.gov/safewater/hotline/).

## Source Water Assessment

A Source Water Assessment Plan (SWAP) is available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

If you would like to review the Source Water Assessment Plans for Hillcrest Water District and Leicester Water Supply District, please feel free to contact our office at 124 Pine Street during regular office hours.

## Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES									
				Hillcrest Water District		Leicester Water Supply District			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2009	10	0	0.014	ND-0.014	13	ND-13	Yes	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Combined Radium (pCi/L)	2009	5	0	2.7	ND-2.7	3.1	1.8-3.1	No	Erosion of natural deposits
Haloacetic Acids [HAA] (ppb)	2009	60	NA	0.55	ND-0.55	NA	NA	No	By-product of drinking water disinfection
Heterotrophic plate count (Units)	2009	TT	NA	3,734	ND-3,734	NA	NA	No	Heterotrophic plate count is an indicator method that measures a range of naturally occurring bacteria in the environment
Nitrate (ppm)	2009	10	10	NA	NA	2.6	ND-2.6	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2009	80	NA	3.5	3.1-8.3	NA	NA	No	By-product of drinking water disinfection
Total Coliform Bacteria (# positive samples)	2009	1 positive monthly sample	0	1	NA	1	NA	No	Naturally present in the environment
Uranium (ppb)	2009	30	0	26	ND-26	14	5.9-14	No	Erosion of natural deposits
Xylenes (ppm)	2009	10	10	0.68	ND-0.68	NA	NA	No	Discharge from petroleum factories; Discharge from chemical factories

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2007	1.3	1.3	0.3	0/10	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2007	15	0	2	0/10	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES (LEICESTER WATER SUPPLY DISTRICT)							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Iron (ppb)	2009	300	NA	0.060	ND-0.060	No	Leaching from natural deposits
Manganese (ppb)	2009	50	NA	0.0189	ND-0.053	No	Leaching from natural deposits

## UNREGULATED SUBSTANCES (HILLCREST WATER DISTRICT) <sup>1</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
<b>Bromochloromethane</b> (ppb)	2009	1.2	ND–1.2	By-product of drinking water disinfection
<b>Chlorodibromomethane</b> (ppb)	2009	0.66	ND–0.66	By-product of drinking water disinfection
<b>Chloroform</b> (ppb)	2009	1.7	ND–1.7	By-product of drinking water disinfection

<sup>1</sup>Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

### Definitions

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

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

**MCL (Maximum Contaminant Level):** 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.

**MCLG (Maximum Contaminant Level Goal):** 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.

**MRDL (Maximum Residual Disinfectant Level):** 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.

**MRDLG (Maximum Residual Disinfectant Level Goal):** 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.

**NA:** Not applicable.

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

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