

*City of Leominster, Department of Public Works, Water Division  
Public Water Supply ID # 2153000*

# 2022 DRINKING WATER QUALITY REPORT

*The City of Leominster is dedicated to preserving and improving the quality and reliability of its drinking water supplies.*

*In addition to continued source protection efforts and significant upgrades to all the treatment facilities, the City has an aggressive flushing and water main replacement program. Further information about this report or any aspect of the public water supply can be obtained by contacting Mark Piermarini at 978-534-7590, ext. 3639, cell phone 978-660-0061, or e-mail: [Mpiermarini@dpw.leominster-ma.gov](mailto:Mpiermarini@dpw.leominster-ma.gov)*

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## YOUR DRINKING WATER SOURCES

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The City of Leominster lies entirely within the Nashua River basin. It encompasses about 30 square miles of land. Much of the western half of the city includes state forest, watershed lands, and other protected open space. The City obtains its drinking water from the Distributing Reservoir system, including Haynes and Morse Reservoirs at Elm Street; the Fallbrook Reservoir at Wachusett Street; the Notown Reservoir system, including Goodfellow Pond and Simonds Reservoirs at Route 2; and the Southeast Corner Well Fields off Jungle Road. Leominster also has an emergency connection to the Wachusett Reservoir.

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## SOURCE WATER ASSESSMENT AND PROTECTION

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In 2004 the Massachusetts Department of Environmental Protection (MassDEP) completed a Source Water Assessment and Protection (SWAP) report for the sources serving this water system. MassDEP assigned an overall susceptibility ranking of *high* to Leominster's water sources, based on the presence of at least one high threat land use within the water supply protection areas. The City of Leominster continues to actively promote source protection through aggressive land acquisition, conservation restrictions, installation of sanitary sewers, and continued public education efforts. In 2022 the City of Leominster finalized an agreement with the Massachusetts Division of Conservation and Recreation to have a Conservation Restriction on all the City of Leominster watershed properties.

### **Where can I see the SWAP Report?**

The SWAP report and map are available at the Leominster Water Division. The report can also be viewed online at <https://www.mass.gov/lists/source-water-assessment-and-protection-swap-program-documents> under the Central Region: Source Water Assessment & Protection (SWAP) Program, bookmark 2153000.

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## EDUCATIONAL INFORMATION

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In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) and MassDEP 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 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 do not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at 800-426-4791.

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. It 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 water 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 agricultural, 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.

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 guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at 800-426-4791.

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 home plumbing. The Leominster Water Division is responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing and plumbing components. When your water is unused for several hours, you can minimize the potential for lead exposure by running 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 <https://www.epa.gov/lead>. Please feel free to call Mark Piermarini at 978-534-7590 ext. 3639, cell phone 978-660-0061, or email at [Mpiermarini@dpw.leominster-ma.gov](mailto:Mpiermarini@dpw.leominster-ma.gov).

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## WATER SYSTEM IMPROVEMENTS

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The water department has replaced the media in the filters at the Notown Treatment Plant and the Distributing Treatment Plant this past year. The new Granular Activated Carbon filter media will reduce the amount of Total Organic Carbon (TOC) from the raw water entering the Distributing and Notown Water Treatment Plant (WTP), which will in turn reduce the amount of disinfection by-products in the finish water. Over the next year the Water Tank off West Street will be replaced and upgrades at the Fallbrook WTP will begin. In the last fifteen years the Leominster Water Division has built a new plant at Distributing Reservoir, rebuilt and added pre – filter clarification at the Notown Plant, solved a seasonal raw water manganese problem at Fallbrook reservoir, built a new facility for chlorine injection and corrosion control at Southeast Wells and re-built the Pond Street Pump Station. Over the past year the City of Leominster has finalized a Conservation Restriction Easement over all of our watershed properties with the Massachusetts Division of Conservation and Recreation. We continue to inspect and improve our storage tanks, reservoir dams and intakes, and pump stations.

On the distribution system, a total of 8,090 linear feet of new water mains were installed in 2022 on Hamilton Street, Lindell Avenue, North Main Street, Appleton Place, Lincoln Terrace, Eaton Place, Miller Street, Battles Street, Fruit Street, Nile Street, Benjamin Street, Eden Glen, Cross Street and Castle Street. A semiannual water main flushing program has greatly reduced rusty water complaints (weather dependent). We are continuously upgrading our meter reading system. A total of 23 hydrants were repaired or replaced with new hydrants. This type of water system work will continue each year.

To help us provide the highest quality water available to our customers, the Water Division has an ongoing operator training program that encourages staff to achieve the highest qualifications in the field as possible. In addition, the reservoirs and wells are policed by a reservoir patrol person to prevent vandalism and potential contamination of drinking water. The Water Division has a cross connection control program to survey, inspect and test potential sources of cross connections in the commercial, industrial and residential buildings throughout the City of Leominster.

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## IMPORTANT DEFINITIONS

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**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.

**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, which a water system must follow.

**Running Annual Average (RAA)** – The average of four consecutive quarters of data.

**Range:** This column shows the lowest and highest values found in our tests.

**90<sup>th</sup> Percentile:** Lead and copper compliance is based on the 90<sup>th</sup> percentile value, which is the highest level found in 9 out of every 10 homes sampled. This number is compared to the action level for each contaminant.

**Unregulated Contaminants:** Unregulated contaminants are substances without MCLs for which EPA requires monitoring. For some of these substances, the Massachusetts Office of Research and Standards (ORS) has developed state guidelines or secondary MCLs.

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

**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.

**Per- and polyfluoroalkyl substances (PFAS)** – a family of chemicals used since the 1950s to manufacture stain-resistant, water-resistant, and non-stick products. PFAS are widely used in common consumer products as coatings, on food packaging, outdoor clothing, carpets, leather goods, ski and snowboard waxes, and more.

**PFAS 6** - The six regulated PFAS compounds are perfluorooctane sulfonic acid (PFOS); perfluorooctanoic acid (PFOA); perfluorohexane sulfonic acid (PFHxS); perfluorononanoic acid (PFNA); perfluoroheptanoic acid (PFHpA); and perfluorodecanoic acid (PFDA)

**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 expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

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

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

**NTU** = nephelometric turbidity units

## WATER QUALITY TESTING RESULTS

The following test results were from monitoring performed during 2022 or during the most recent sampling period for each contaminant group, as required by MassDEP. Only detected contaminants in finished water are shown.

Bacteria Detections	Highest % Positive in a Month	Total # Positive	MCL	MCLG	Violation (Y/N)	Possible Source
Total Coliform	0 %	0	<5%	0	N	Naturally present in the environment
E. coli	0 %	0	*	0	N	Human and animal fecal waste

\* Compliance with the E. coli MCL is determined upon additional repeat testing.

Lead and Copper	Date Collected	90th Percentile	Action Level (AL)	MCLG	# of sites sampled	# of sites above AL	Exceeds AL (Y/N)	Possible Sources
Lead (ppb)	MAY 2022	5	15	0	60	2	N	Corrosion of household plumbing
	NOV 2022	4	15	0	60	1		
Copper (ppm)	MAY 2022	0.158	1.3	1.3	60	0	N	Corrosion of household plumbing
	NOV 2022	0.246	1.3	1.3	60	0		

Regulated Contaminants	Date(s) Collected	Highest Result or Highest RAA	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Sources
<b>Inorganic Contaminants</b>							
Nitrate (ppm)**	4/13/2022	0.11	<0.05 – 0.11	10	10	N	Runoff from fertilizer use; leaching from septic tanks; natural deposits
Perchlorate (ppb)	7/13/2022	0.74	0.13 – 0.74	2	----	N	Fireworks, firearms, blasting materials
Barium (ppm)***	4/13/2022	0.01	0.006 – 0.01	2	2	N	Erosion of natural deposits
<b>Synthetic Organic Contaminants</b>							
Atrazine (ppb)**	1/19/2022 7/13/2022	0.10 0.10	<0.1 – 0.10 <0.1 – 0.10	3	3	N	Runoff from herbicide used on row crops
<b>Disinfection Contaminants</b>							
Haloacetic Acids (HAA5s) (ppb)*	Quarterly	40	12 - 86	60	--	N	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHMs) (ppb)*	Quarterly	61	16 - 91	80	--	N	Byproduct of water chlorination
Chlorine (ppm)	60 -75 samples per month	2.06	0.05 – 2.06	4.0	4	N	Water additive used to control microbes
<b>PFAS 6 Contaminants</b>							
Combined PFAS 6 (ng/L)	2/21/2022	2.01	0.0 – 2.01	20	0	N	See Below****

\* Location Running Annual Average (LRAA) is the highest average of four consecutive quarters.

\*\* Found only at the Southeast Wells.

\*\*\*Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

\*\*\*\*Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.

Unregulated and Secondary Contaminants	Date(s) Collected	Range	Average	SMCL	ORSG or Health Advisory	Possible Sources
Manganese (ppb)*	4/13/2022	<4 - 18	4.5	50	300	Naturally Occurring
Iron(ppb)	4/13/2022	<4 - 165	55	300		Naturally Occurring
Sodium (ppm)**	4/13/2022	15.8 - 3.1	18.9	--	20	Natural sources; runoff from road salt
Chloroform (ppb)	4/13/2022	<0.5 – 9.9	5.8	--	70	By-product of drinking water chlorination
HAA9 (ppb)	1/15/2020	28.2 -38.5	33.66	--	--	By-product of drinking water chlorination
Bromodichloromethane (ppb)	4/13/2022	<0.5 - 3.1	1.55	--	--	By-product of drinking water chlorination
Radium 226 PCI/L	4/14/2021	0.1 +/- 0.2	--	5	--	Decay of natural and manmade deposits
Radium 228 PCI/L	4/14/2021	0.2 +/- 0.4	--	5	--	Decay of natural and manmade deposits

Unregulated contaminants are those of which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

\* EPA and MassDEP have established a health advisory of 300 ppb for manganese to protect against potential neurological effects.

\*\* Sodium-sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of sodium levels in their drinking water where exposures are being carefully controlled.

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.

Distributing Water Treatment Facility (Filtered)	MCL	Lowest Monthly % of Samples	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Turbidity (NTU)	1	-----	0.47	N	Soil runoff
Monthly Compliance*	At least 95% < 0.3 NTU	99.90	-----	N	
Notown Water Treatment Facility (Filtered)	TT	Lowest Monthly % of Samples	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Daily Turbidity Compliance (NTU)	1	-----	0.66	N	Soil runoff
Monthly Compliance*	At least 95% < 0.3 NTU	99.70	-----	N	
Fallbrook Water Treatment Facility (Filtered)	TT	Lowest Monthly % of Samples	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Daily Turbidity Compliance (NTU)	1	-----	0.16	N	Soil runoff
Monthly Compliance*	At least 95% < 0.3 NTU	100	-----	N	

\*Monthly turbidity compliance is related to a specific treatment technique (TT). This treatment facility filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.

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## CROSS CONNECTION INFORMATION FOR RESIDENTIAL CUSTOMERS

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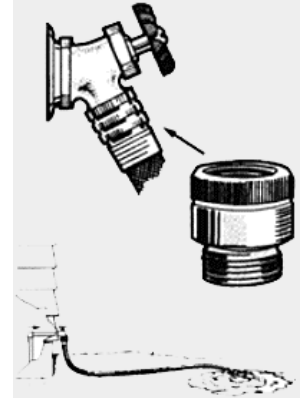
As users of a shared valuable resource, we should all be aware of the potential for drinking water contamination by cross connections. A cross connection occurs whenever a pipe or hose is placed in any container or machine, such as a hose placed in a pool or a pipe feeding a lawn sprinkler system.

When there is a reverse flow, caused by a water main break or other sudden loss of pressure, the drinking water pipes may get contaminated with whatever the line was feeding – such as pool water, fertilizers, or pesticides. This can be avoided by installing the proper backflow prevention device for a given application or maintaining an air gap between the outlet and the container being filled.

*Hose Bib Vacuum Breakers* are simple, low-cost devices that should be used to help prevent backflow of water when using water hoses. They are easy to install and available at many plumbing supply stores.



*hose bib vacuum  
breaker*



*What is backpressure?*

A backpressure is due to a higher pressure in the building piping than in the supply piping pressure.

*What is backsiphonage?*

Negative or sub-atmospheric pressure in the supply piping pulls water into the system from a building.

*What does a backflow device do?*

A backflow device (BFD) prevents water from flowing backward from your plumbing into the public water system if the system loses pressure. You need a backflow prevention device if your water use may introduce the potential for contamination.

*Who needs a backflow device?*

Anything that you attach to your plumbing that uses chemicals or can possibly introduce contaminants into our drinking water supply is a potential cross-connection. Some common examples include irrigation systems, fire protection systems, alternative water sources, and processes that involve the use of equipment, chemicals, or tools.

*What type of backflow device am I required to install?*

A Reduced Pressure Zone Backflow (RPZ), double check valve, chemigation valve, atmospheric vacuum breaker, hydrostatic loop and an air gap are different types of backflow devices that can be installed on potential cross connection plumbing lines. Please contact a licensed plumber for the specific type needed for your building use and any additional information.

A copy of this report is available to view and download on the City of Leominster website under the Departments and Services pull down menu, on the Department of Public Works main page at the bottom of the page.

For more info, call Mark Piermarini at 978-534-7590, extension # 3639.

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## PUBLIC PARTICIPATION

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The Leominster Water Division recognizes that it exists to meet the needs of its customers and welcomes comments from any person it serves. Please feel free to call 978-534-7590, ext. 3639, cell phone 978-660-0061 email – [Mpiermarini@dpw.Leominster-MA.gov](mailto:Mpiermarini@dpw.Leominster-MA.gov). For customers wishing to be more involved in the affairs of the Leominster Water Division, the public is welcome to attend meetings of the Leominster City Council's Public Services Committee, which oversees Water Division operations. To find out when the committee is meeting, please contact Claire Freda at [CFreda@leominster-ma.gov](mailto:CFreda@leominster-ma.gov) or call 978-537-5032. Information about the Water Division is also posted on the City's website at <https://www.leominster-ma.gov/depts/safety/pw/water/default.asp>

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

Le rapport contient des informations concernant la qualité de l'eau de votre communauté. Faites-le traduire, ou parlez-en à un ami qui le comprend bien.