

2021 Consumer Confidence Report For Lancaster Water Department

Lancaster, Massachusetts
MASSDEP PWSID # 2147000

Introduction

The Lancaster Water Department is committed to serving its customers with high-quality drinking water. This report is designed to inform you about the water delivered to you by the Lancaster Water Department (Public Water Supply ID #2147000). To ensure the safety and quality of your water, the Lancaster Water Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. This water quality report is based on the results of monitoring activities from January 1, 2021 to December 31, 2021.

In addition to the programs mandated by the Massachusetts Department of Environmental Protection (MassDEP), the Town of Lancaster has both a Water Resource By-Law and a Zone I-II Delineation to protect our wells and drinking water. The Lancaster Water Department is committed to serving its customers with high-quality drinking water.

Important Health Information

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. Environmental Protection Agency (EPA)/Centers for Disease Control and Prevention (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 (800-426-4791).



Get Involved!

You can help protect and preserve our water supply by:

- Limiting the use of pesticides and fertilizers around your home and/or business
- Practicing good septic system maintenance to prevent failure and reduce groundwater contamination
- Conserving water by repairing leaky fixtures and not running water unnecessarily
- Limiting lawn watering to early morning and post-sunset hours
- Properly disposing of old chemicals; **do not** dump chemicals on the ground, into catch basins, or down the sink or toilet

To dispose of any chemicals, please contact the Devens Regional Household Hazardous Products Collection Center (978) 501-3943 or visit <http://devenshhw.com/> for more information.

The Public Works Commissioners meet on the first and third Mondays of each month at 5:30 PM at the Water Department office, 392 Mill Street Extension. Public participation is welcomed and encouraged.

*“Water Quality –
Our Commitment,
Our Profession”*

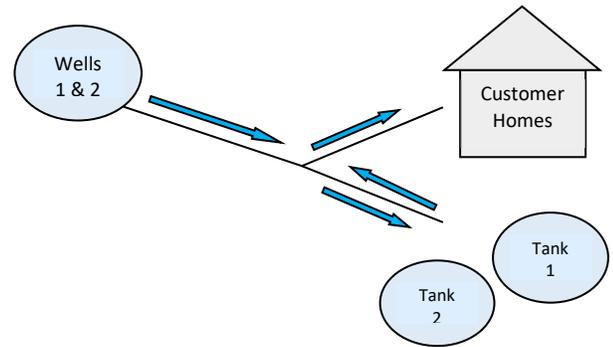
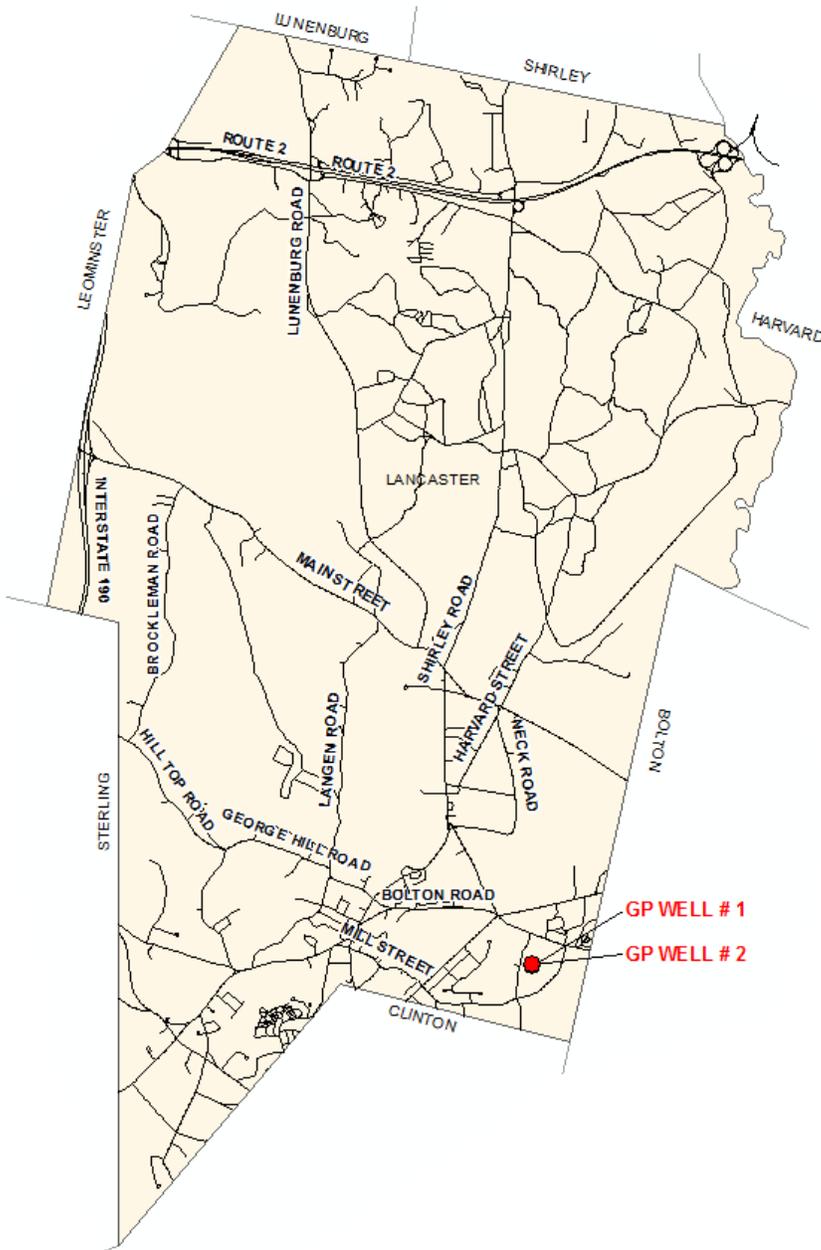




Where Does My Drinking Water Come From?

The drinking water in Lancaster comes from two groundwater wells off Bolton Station Road. The water is pumped directly into the system with a disinfectant added seasonally. When the primary pump is on, any water not being used goes into our two storage tanks off George Hill Road, which have a combined storage capacity of 3 million gallons (MG) of water. When the main pump is off, the drinking water for the Town is supplied by these tanks. In the event of power loss throughout the Town, propane gas-powered pumps with auxiliary engines are available as back-up.

Source Name	MassDEP ID#	Source Type	Location of Source
Well #1	2147000-01G	Groundwater	Bolton Station Road
Well #2	2147000-02G	Groundwater	Bolton Station Road



Source Water Assessment and Protection (SWAP)

Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. We add a disinfectant to protect you against microbial contaminants. The chlorine is added in response to a Level II Assessment. The water quality of our system is constantly monitored by us and MassDEP to determine if any future treatment may be required.

How Are These Sources Protected?

In 2002, MassDEP prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this water system. The SWAP Report assesses the susceptibility, a measure of the water supply's potential to become contaminated, of public water supplies. A source's susceptibility to contamination does *not* imply poor water quality. SWAP aims to protect not only public drinking water, but also the aquifer and watershed.

What is My System's Ranking?

A susceptibility ranking of *high* was assigned to this system using the information collected during the assessment by MassDEP. This is due to the absence of hydrogeologic barriers that can prevent the migration of contaminants and the presence of at least one high threat land use within the water supply protection area.

Where Can I See the SWAP Report?

The complete SWAP report is available at the DPW Office, 392 Mill Street Extension, between the hours of 7:00 AM and 3:00 PM, and online at <https://www.mass.gov/doc/lancaster-water-department-swap-report/download>

For more information, please call Steve Jones, Water Department Foreman, at (978) 365-2412.



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 (MassDEP) 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).

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. The Lancaster Water Department 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 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 <http://www.epa.gov/safewater/lead>.

Cross Connection Education for Customers

As part of this CCR, we are required to inform our customers of our Cross Connection Control Program. A cross connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning, 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. This is called 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. This is called backsiphonage.

Outside water taps and garden hoses tend to be the most common sources of cross connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, pesticides, standing water, or other substances that are harmful to human health. To protect your home, we recommend that all outside faucets be fitted with inexpensive hose bib vacuum breakers to prevent backflow of non-potable water into the home. Improperly installed valves in your toilet could also be a source of cross connection contamination.

MassDEP also requires water systems to survey all commercial, industrial, and institutional buildings to see what kind of backflow prevention devices may be needed to protect the public water supply. All facilities in our service area have been surveyed, and all potential cross-connections have been either eliminated or protected by backflow preventers. We also inspect and test each backflow preventer annually to make sure it is providing maximum protection. Lancaster's Cross Connection Control Program has been in place for 19 years and is in compliance with MassDEP regulations. We now test more than 181 devices every year. For more information, visit the website of the American Backflow Prevention Association (www.abpa.org/) for a discussion of current issues.



Water Sampling

As part of ensuring you receive high-quality drinking water, and in compliance with MassDEP requirements, we regularly test water samples for contaminants as follows:

Monthly:	Total Coliform Bacteria
Yearly:	Inorganics, Nitrates, Secondary Contaminants
3 Years:	Lead, Copper, Volatile Organic Compounds, Nitrite
4 Years:	Radioactivity

What Does This Data Represent?

The water quality information presented in the tables on the following page is 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 tables.

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.

MassDEP requires 14 total coliform samples a month, or 168 samples per year. In these samples, there were no total coliforms detected in 2021.

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.

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.

Variations and Exemptions – State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Unregulated Contaminants – Unregulated contaminants are those for which EPA has no established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

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

Running Annual Average – The average of four consecutive quarters of data.

Secondary Maximum Contaminant Level (SMCL) – The highest level of a contaminant that is allowed in drinking water for the secondary contaminants. 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.

Parts per million (ppm) – equivalent to milligrams per liter (mg/l)

Parts per billion (ppb) – equivalent to micrograms per liter (ug/l)

Picocuries per liter (pCi/L) – a measure of radioactivity

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 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 contamination.

Level 1 Assessment – A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water system.

Level 2 Assessment – A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in the water system on multiple occasions.



Sampling Results

	Highest # Positive in a month	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform*	0	1	0	N	Naturally present in the environment
Fecal Coliform or <i>E.coli</i>	0	**	0	N	Human and animal fecal waste

	Date(s) Collected	90 TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppb)**	7/9/19	0.0008	0.015	0	21	0	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	7/9/19	0.931	1.3	1.3	21	0	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Regulated Contaminant	Date(s) Collected	Highest Result/ Running Ave Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Barium (ppm)	5/13/20	0.004	0.004	2	2	N	Erosion of natural deposits
Nitrate (ppm)	4/5/21 4/13/21	1.54	1.38 – 1.54	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrite (ppm)	4/13/21	ND	ND	1	1	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	7/13/21 7/19/21 8/5/21	0.14	0.11-0.14	2	N/A	N	Rocket propellants, fireworks, munitions, flares, blasting agents
Radioactive Contaminants							
Gross Alpha (pCi/l) (minus uranium)	4/10/18	0.8	0.5-0.8	15	0	N	Erosion of natural deposits
Radium 226 & 228 (pCi/L) (combined values)	4/10/18	0.0	0.0	5	0	N	Erosion of natural deposits
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	8/10/21	2.4	2.2–2.4	80	N/A	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	8/10/21	0	0	60	N/A	N	Byproduct of drinking water disinfection
Chlorine (ppm) (free, total or combined)	2021	0.30	0.22-0.37	4	4	N	Water additive used to control microbes



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Town of Lancaster

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Secondary Contaminants						
Sodium (ppm)***	5/13/20	12.6-12.7	12.65	N/A	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Iron (ppb)****	4/5/21	ND-7	3.5	300	N/A	Natural and industrial sources as well as aging and corroding distribution systems and household pipes
Perfluorobutanesulfonic acid (PFBS)(375-73-5) ppt	2021	ND-2.07	1.04	N/A	†	-
Perfluorohexanoic acid (PFHXA)(307-24-4)	2021	ND-2.10	1.05	N/A	†	-

Regulated Contaminant	Date(s) Collected	Range Detected	Highest Quarterly Average	MCL	Violation (Y/N)	Possible Source(s) of Contamination
PFAS6 (ppt)*****	10/5/21 10/15/21	2.71-3.28	3.0	20	N	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including the 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.

Most of the data presented in this table is from testing done between January 1 – December 31, 2021. We monitor for some contaminants less than once per year, because the concentrations for those contaminants are not expected to vary significantly from year to year. As a result, some of our data, though representative, is more than a year old. For those contaminants, the date of the last sample is shown in the table.

† There is no ORS Guideline for this compound.

* Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments. Compliance with the Fecal Coliform/E.coli MCL is determined upon additional repeat testing.

** Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

*** Some people who drink water containing sodium at high concentrations for many years could experience an increase in blood pressure.

**** Use of water containing iron at concentrations above the secondary MCL may result in aesthetic issues including the staining of laundry and plumbing fixtures and water with an unpleasant metallic taste and rusty odor.

***** Some people who drink water containing these PFAS in excess of the MCL may experience certain adverse effects. These could include effects on the liver, blood, immune system, thyroid, and fetal development. These PFAS may also elevate the risk of certain cancers.

Questions?

For more information about this report, contact:

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<http://www.ci.lancaster.ma.us>