



Drinking Water

Get my water tested

To proceed with the analysis of water from a well, please contact AGAT Laboratories Customer Service. The laboratory will notify you immediately if the water does not meet established standards.

Sampling methods

- Always use the containers provided by the laboratory.
- Never rinse the containers provided by the laboratory, which contain the preservatives required for the analyses.
- Wash and dry your hands before taking any samples.
- Use a tap accessible to users, located inside the building.
- Avoid the use of outdoor faucets that are used to connect garden hoses.
- Take water representative of the drinking water distribution system using a tap that is not connected to an individual treatment system.
- Make sure the cold water faucet is in use and the hot water faucet is closed.
- Collect water representative of that consumed by users when individual treatment devices are installed to replace central treatment, using a tap connected to an individual treatment system.
- Remove any object under the faucet spout such as aerators, screens, sprinkler heads, hoses; otherwise choose another valve.
- Clean the exterior and interior of the faucet spout with a clean single-use cloth soaked in bleach for all samples intended for microbiological analysis.
- Let the water run for 5 minutes before sampling to ensure that the water sampled is representative of that circulating in the distribution system.
- A mixing faucet supplying water at a controlled temperature must not be used for sampling.
- Adjust tap water pressure to avoid splashing and losing preservatives inside collection containers.
- Close all containers carefully and tightly after collection.
- Cool samples in the refrigerator, if possible, before shipment.
- Properly complete the appropriate analysis request forms.
- Pack samples to prevent breakage or spillage and use identified and appropriate shipping containers for transporting samples.
- Store samples in a cooler during transport.
- **Do not freeze.**
- **Send the samples to the laboratory as soon as possible.**



In the case of raw water sampling, the following elements must also be taken into account:

- Take the sample from a raw water tap located as close to the wellhead as possible.
- Open the faucet and let the water run long enough to empty the faucet line.
- Drain the well before sampling to remove stagnant water.
- Make sure to take the sample while the well pump is running, so that the water taken is representative of the water in the well.

In addition to these general precautions, all samples for microbiological analysis should always be collected in sterile containers provided by the laboratory, leaving an air space of at least 2.5 cm between the surface of the liquid and the stopper. Certain hygiene principles must be respected when taking the sample (i.e. avoid putting fingers or any other object inside the neck and cap of the container and limit exposure to the open air of the container during sampling).

Microbiological indicators of water

The majority of pathogenic microorganisms likely to be found in water come from human or animal waste. The analysis of total coliforms, *E.coli* and enterococci are good microbiological indicators of contamination.

Total coliforms are bacteria of fecal and environmental origin. Most species can be found naturally in soil and vegetation. Their presence in the water does not generally indicate fecal contamination or a health risk, but rather surface water infiltration into the well. The analysis of total coliforms therefore provides information on the possible vulnerability of a well to surface pollution.

Acceptable limit \leq 10 coliforms Total/100 ml.

Escherichia coli (*E.coli*) is a bacterial species belonging to the group of total coliforms. This bacterium is always found in the feces of warm-blooded animals, but, unlike total coliforms, it is not present in the environment and does not colonize the biofilm of distribution networks. *Escherichia coli* is therefore a specific indicator of fecal contamination and its presence in water indicates the possible presence of enteric pathogenic microorganisms.



Acceptable limit: No enterococci/100 ml.

Gastroenteritis is the most common illness associated with ingesting water contaminated with feces. Although this disease is often mild, it can sometimes have very serious health consequences. This risk concerns not only the members of a family who consume water from a well, but also all their visitors.

Well disinfection

The disinfection of a well is carried out as follows:

1. Clean the well using a scoop to remove animal or vegetable matter.
2. Pour bleach into the well according to the quantities mentioned in the table.
3. Mix bleach with well water and brush the inside wall. Using a garden hose, flush the inside wall of the well, to ensure complete mixing of chlorine and water throughout the well.
4. Open all faucets. When the smell of chlorine is perceptible, stop the pump and close the taps.
5. Wait 24 hours before running water through the pipes.
6. Run the water until the chlorine smell disappears. Then open all the taps to flush the piping.
7. Carry out new analyzes of the water 7 days after disinfection and 4 weeks later, in order to know if the water meets the quality standards.

Acceptable limit: No E.coli/100 mL

Enterococci bacteria are less abundant in the intestinal flora of humans and animals than coliforms and some species are not of fecal origin. Detection of enterococci bacteria in well water may indicate fecal contamination or surface water infiltration. However, it is prudent to consider the presence of enterococci bacteria as an indicator of fecal contamination.

Identify the source of contamination

Contamination can be caused by poor construction of the well, an inadequate slope of the surrounding soil, the spreading of manure or chemical fertilizers, or faulty septic systems. You can contact a representative of the regional office of the Ministry of Sustainable Development, Environment and Parks in your area to find an appropriate solution.

Required amount of bleach for disinfection of a well

Surface well							
Well diameter (millimeters)	Depth of water in the well (meters)						
	1	1.5	2	2.5	3	3.5	4
Milliliters (ml) of bleach							
914	700	1 000	1 300	1 600	2 000	2 300	2 600
1 067	900	1 400	1 800	2 200	2 700	3 100	3 600
1 219	1 200	1 800	2 300	2 900	3 500	4 000	4 700
1 372	1 500	2 200	3 000	3 700	4 400	5 200	5 900
1 524	1 800	2 700	3 700	4 600	5 500	6 400	7 300
1 676	2 200	3 300	4 400	5 500	6 600	7 700	8 800

Artesian or tubular well				
Well diameter (millimeters)	Depth of water in the well (meters)			
	15	30	45	60
Milliliters (ml) of bleach				
50	30	60	90	120
65	50	100	150	190
76	60	140	200	270
89	90	190	280	400
102	120	250	370	500
127	190	380	570	800
152	270	540	820	1 100

A **surface well** is generally made up of stacked concrete pipes, the diameter of which is most often greater than 600 mm. Its depth rarely exceeds nine meters.

A **tube well** is drilled when the groundwater table is deep or when the surface is rocky. It is made of a steel pipe with a diameter of less than 80 mm and a length of more than six meters.

It is recommended to use a concentration of 50 mg/l of free chlorine to ensure effective disinfection of an existing well (use 5% bleach, available on the market, checking the concentration).

For a new well, the volumes of bleach listed must be multiplied by 5, since a concentration of 250 mg/l of free chlorine is recommended.



Please contact our customer service for any information regarding our rates. We will be happy to inform you about all the services offered by our laboratory.

To Join Us

AGAT Laboratories

9770 Route Transcanadienne,
St-Laurent, QC H4S 1V9

Phone: 514.337.1000

Fax: 514.333.3046

Toll Free: 1.866.417.5227

AGAT Laboratories

350 rue Franquet,
Québec, QC G1P 4P3

Phone: 418.266.5511

Fax: 418.653.2335

Reference: Regulation respecting the quality of drinking water of Quebec.