

TASTE and COLOR

WATER TREATMENT SYSTEMS

BACTERIAL CONTAMINATION and DISINFECTING WELLS

It is commonly agreed that most people prefer water that has no taste. Below are some of the most frequently raised issues with regard to private wells, most of which don't

Symptom	Probleme	Health consequence	Solution
Smells like rotten eggs	Sulphur present in the form of H ₂ S.	None	Oxydize one way or another, or allow water to sit or filter in green sand ²
Black spots particularly on clothing	Presence of manganese	Generally none ¹	Filter in green sand ²
Red spots	Presence of iron	Generally none ¹	Filter in green sand ²
Hard water	Presence of calcium	Generally none ¹	Softner ²

1. When there is an overabundance for a long period of time, the pipes clog up and can become a site for bacteria to multiply, some of which can be pathogens.
2. Softeners or filters without a disinfecting system (chlorine etc.) can promote the growth of bacteria; we do not recommend using them on their own, without frequently

For a variety of reasons (contaminants, taste, odour, hardness), many people are installing water treatment systems. There are two broad classes of treatment systems.

A) For the elimination of taste, odour and chemical substances: carbon filters, reverse osmosis, softeners and green sand filters.

They need to be regularly and rigorously maintained as they often promote bacterial growth, especially in water that is not treated specifically for micro-organisms. For this, we recommend that you,

1. As much as possible, use bacteria-free water only.
2. Let the water stand for at least 30 seconds before each use.
3. Change the filters or units frequently.
4. Follow the manufacturer's instructions carefully, being overly careful with water that is not treated with a bacteria-elimination system.
5. Test water frequently for bacteria especially where it is not

B) For the elimination of micro-organisms: ozonizers, chlorinators, ultraviolet devices, distillers.

They should be used in conjunction with systems designed to eliminate taste, odour and chemical substances in residences supplied with untreated water. This method prevents bacteria from developing in the system.

Produced by the Outaouais Public Health Department. It can be

Many people are under the false impression that well water, because it is natural, is safe. Often, bacteria in water changes neither the taste, colour nor smell yet can cause illness.

The only way to be sure of the quality is to have the water tested in an accredited laboratory. Potable water should, among others, have no faecal coliform content.

Wells are most at risk during periods when rainfall accumulations are at their highest, generally in July and August. A water sample should be taken at this time and preferably in the spring and fall as well.

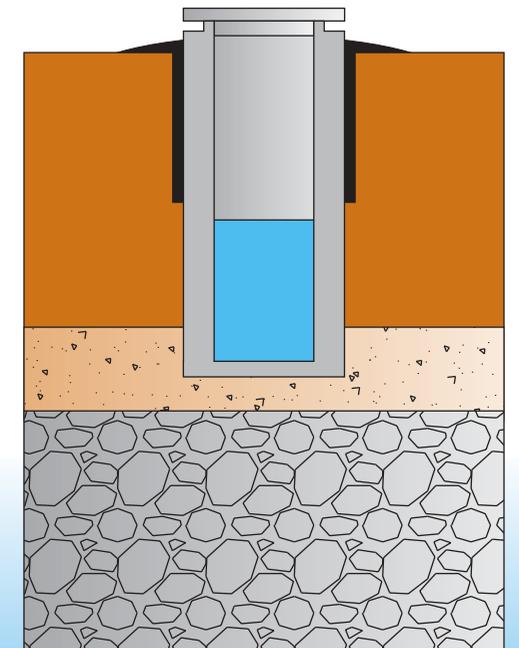
If your well is contaminated, or if you wish to take preventative measures, you can disinfect it.

If possible, brush the well walls to remove adhered particles. Pour bleach directly into well at a ratio of 1 liter to every 1000 litres of water, for example:

Water depth (meters) (feet)	Diameter (cm) (feet)	5% bleach (litres) (gallons)
3 meters (10 ft)	91 cm (3 pi)	2 Litres (0.5 gallons)
60 meters (200 ft)	15 cm (0.5 ft)	1,1 Litres (0.25 gallons)

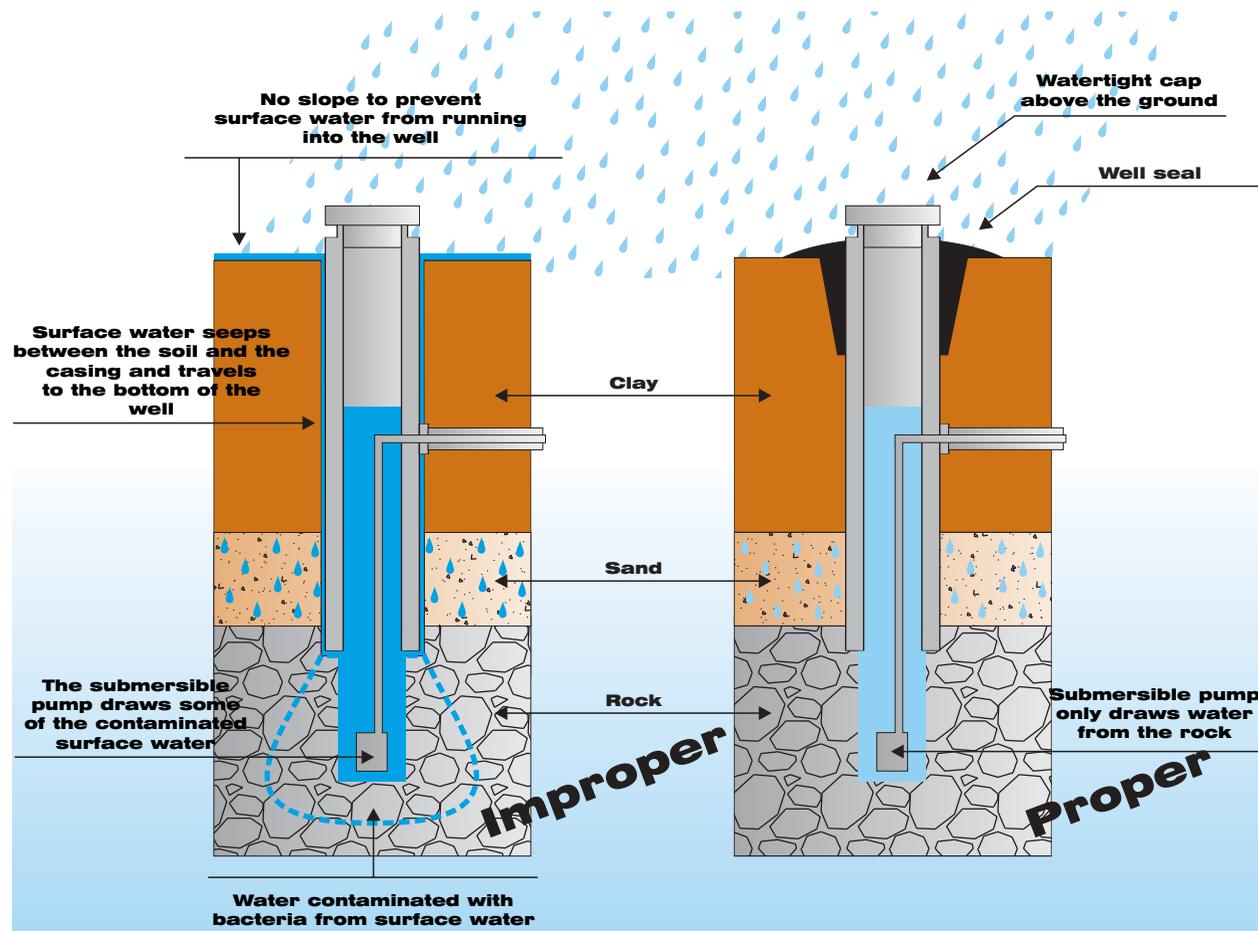
Mix bleach with the well water if possible. Start the pump and turn on all taps, allowing them to run until you detect the odour of bleach. Turn off the taps and let the bleach stand in the pipes for 24 hours. Then run the water until the odour of bleach can no longer be detected. New tests should be taken after several days

Maintenance and management of your **well**



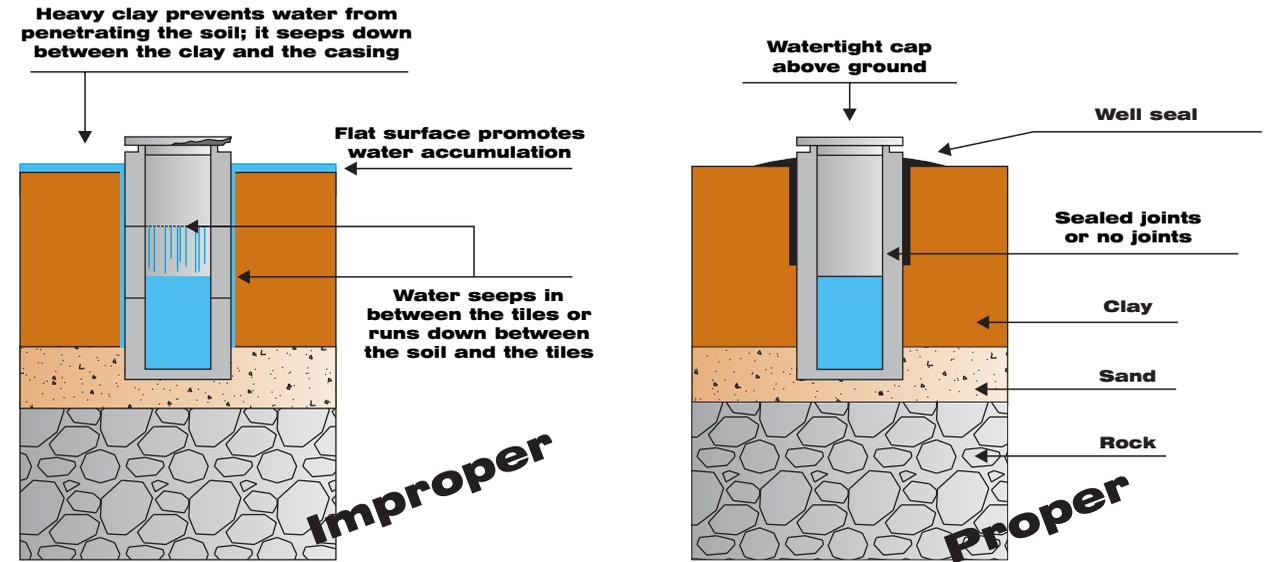
Artesian Wells

Generally speaking, this is the best type of well, but only if properly constructed by the well digger. In other words, the joint between the casing and the rock must be watertight, the wellhead tightly sealed with a platform and collar (well seal) of impermeable material (cement), as in the diagram below. Even though



Surface Wells in Clay

They often cause problems because the tiles are rarely sealed and when they are, the water runs down between the casing and the clay to the bottom of the well and contaminates the



To prevent this problem, the following principles must be respected:

- The well must meet a water table below the clay (usually in sand) which is the only location that can provide a sufficient quantity of water.
- Wells should not have joints, for example, by using 6-meter culverts. If cement tiles are being used, the joints between them must be sealed with rubber.
- A waterproof well seal must be installed around the well.
- Water should be tested frequently with this type of well. (See

Surface wells in sand

Sand is a natural filter for bacteria. For it to do its job properly:

1. Surface water must be prevented from reaching the casing as it could run down between the casing and the sand without being filtered. In the case of a well point, if it is possible to ensure that the pipe remains underground until it enters the house; if the pipe comes out of the ground, the area where the pipe meets the ground must be watertight.
2. The well must be deep enough.

