WATER TALK

BE WELL AWARE:

Protect and clean your well

How can you protect your well?

The best way to protect your well is to prevent contamination from getting into your well water. Contamination can be caused by bacteria, viruses and parasites or chemicals like gasoline or fertilizer.

How does your well water become contaminated?

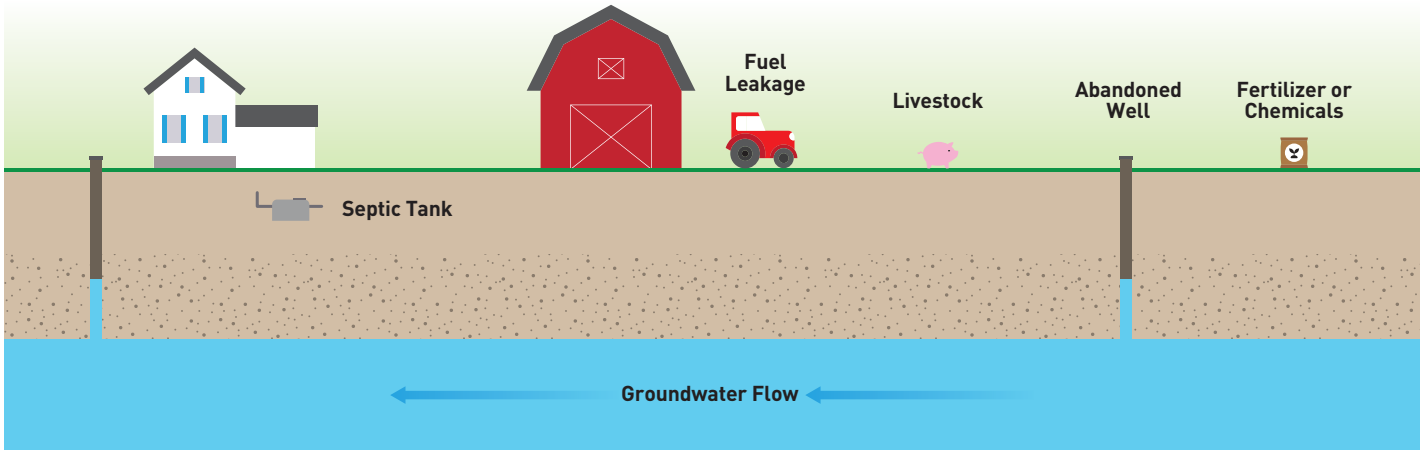
Some common sources of contamination include:

- a septic system that is either too close to your well or not being properly maintained;
- manure or waste from pets or livestock, fertilizers or chemicals that are near or uphill from your well, as rainwater can cause the waste to drain towards your well;
- surface water that pools around or near your well; and/or damage or problems related to the construction of your well.

How can you tell if your well is contaminated?

- Inspect your well and property – see *Checklist 1*;
- Test your well water regularly to see if it contains bacteria or chemicals – See *Be Well Aware - Test Your Well Water*;
- Investigate any changes in water quality such as cloudiness, tastes or smells.

Potential Contamination Sources



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Checklist 1: What to look for when inspecting your well and property

- An information tag on your wellhead. Note the tag number and any other information.
- The well cap is secure and vents are not blocked.
- There are no open gaps around the outside edges of the well casing.
- There is no ground settling or water pooling around the well casing.
- Potential contamination sources are properly managed and stored far from your well.
- The pump, pressure tank and water treatment system are operating properly.
- Your septic system is working properly.
- If you discover an old, abandoned well, seek advice from a licenced well contractor and ensure it is properly sealed.

If you find a source of contamination, what can you do?

- Fix possible sources of contamination;
- Repair your well;
- Treat your well water.

When should I treat my well water?

After you have found and fixed or removed the source of contamination.

In the case of microbial contamination, you will need to shock disinfect the well and plumbing system.

For chemical contamination or ongoing problems - See *Be Well Aware – Treat your well water*

Shock disinfecting your well for microbial contamination:

You will need:

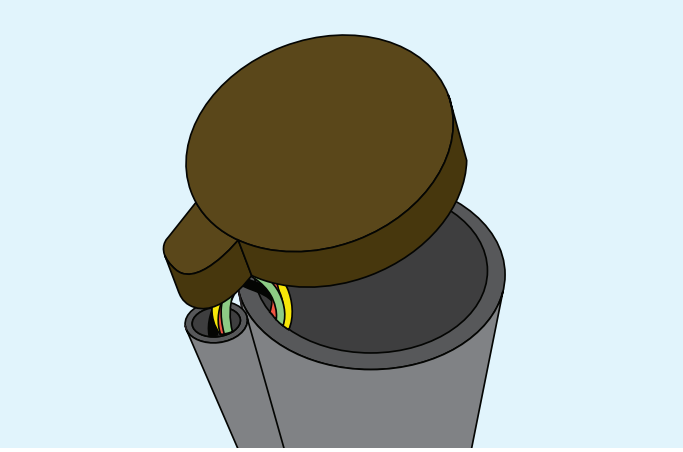
- Safety glasses and rubber gloves
- A wrench or pliers
- Unscented household bleach
- A garden hose

Gather information about your well:

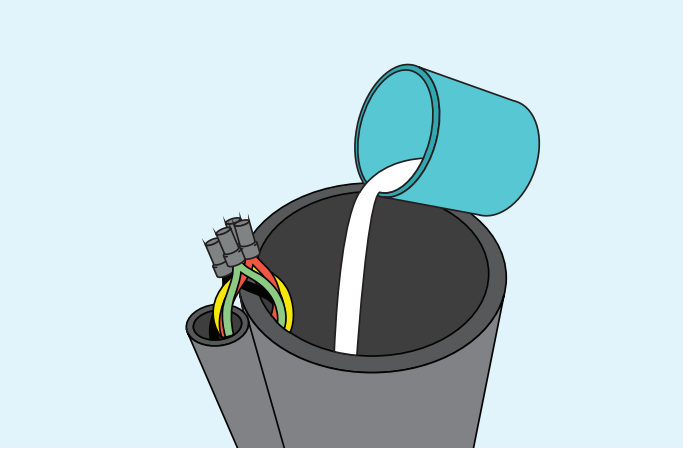
- If you have a copy of the well contractor's report, keep it handy as a reference. It has information you will need, such as the overall depth of your well, the water level inside the well casing (static water level) and the diameter of the well casing.
- If you don't have a copy of the well contractor's report, look for a tag on your wellhead. Well contractors are required to register and tag each well and submit their report to an authority in your provincial or territorial government. You can use your well tag number to find a copy of the report online or by contacting the authority.
- If it's your first time shocking your well, hire a well contractor to provide advice and assistance.

Step 1:
Subtract the static water level from the overall depth of your well to calculate the depth of water in your well. Use this with Table 1 to determine the approximate amount of bleach you will need.

Step 2:
Remove the well cap, cover, or seal. You may need a wrench or pliers to remove a few bolts. Some wells that have been installed in a well pit have a seal, with a pump or intake lines that are held in place by the seal. In this case, it may be possible to either use the vent hole or remove a plug in order to add chlorine bleach to your well.



Step 3:
Use only unscented bleach. Be careful handling bleach as it contains chlorine. Use safety glasses and rubber gloves. Pour the required amount of unscented bleach into the well. Mix the bleach with the water by connecting a clean garden hose to a nearby tap and washing down the inside wall of the well casing. This will make sure that the chlorine from the bleach mixes properly with the water throughout the well.



Step 4:
If you have a water treatment system, disconnect it or switch it to "bypass" before turning on the indoor faucets. Open all taps in the house and allow the water to run through all taps until a smell of chlorine is detected, then turn off the taps. If the water does not smell strongly of chlorine, add more bleach to the well. Contact the manufacturer of your water treatment system to find out how to disinfect it.

Step 5:
Allow the water to sit in the system for 12–24 hours once enough chlorine has been added. It is important not to drink, cook, bathe, or wash with the water during this time period to ensure thorough disinfection and since high levels of chlorine can cause irritation.

Step 6:
Clear the bleach from the well by running water through an outside hose away from grass and shrubbery until the strong smell of chlorine disappears. Be sure that the water does not enter any watercourse such as a lake, river, or stream. Finally, to clear the bleach from the household plumbing, open all indoor taps until the water no longer smells of chlorine.

Step 7:
Wait 48 hours, then collect a sample of the water using the instructions and the bottle provided by the laboratory. In the meantime, either find another source of water or boil the water for 1 minute before drinking it. Two "safe" tests in a row over a period of 1–3 weeks shows that the shock treatment has probably worked well. You should test one more sample after 3–4 months to be sure that the water has not become contaminated again.

See *Be Well Aware – Test your well water* for information on testing.

Table 1: How much bleach should you use? (Based on regular, unscented 5.25% household bleach found in most grocery stores)

Depth of Water in Well	Diameter of Casing			
	15 cm (6") (drilled)		90 cm (36") (dug)	
	New well (250 mg/L chlorine concentration)	Existing well (50 mg/L chlorine concentration)	New well (250 mg/L chlorine concentration)	Existing well (50 mg/L chlorine concentration)
1.0 m	100 mL	20 mL	3.2 L	0.6 L
3.0 m	300 mL	60 mL	9.6 L	1.8 L
5.0 m	500 mL	100 mL	16.0 L	3.0 L
10.0 m	1000 mL	200 mL	32.0 L	6.0 L

What if you can't find and/ or fix or remove the source of contamination, or it returns?

In any of these situations, you can choose from the following solutions:

- continuously treating the well water, using a water treatment system – See *Be Well Aware – Treat your well water*;
- installing a new well; or
- finding another supply of drinking water (for example, bottled water).

Talk with a water treatment professional for advice on your particular situation.

Need more information?

For more information on drinking water quality:

Visit Health Canada's Water Quality website

www.canada.ca/en/health-canada/topics/health-environment/water-quality-health.html

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