

Ten Ways to Protect Your Well and Groundwater Supply

Proper care and management of your well and land activities are key to protecting your groundwater supply.

1. Design and build a good well

Use a licenced water well contractor and know what to ask for. See the *Water Well Design and Construction* fact sheet for details.

2. Get rid of your well pit

Well pits were installed to provide a frost free location for the pressure system. Over time, well pits have proven to be a significant source of contamination to water wells so they are no longer permitted for newly constructed wells. If you have a well pit, have a licenced water well



Figure 1:
Pitless adaptor

contractor install a pitless adaptor (Figure 1) on the well casing. This mechanical device provides a frost free, sanitary connection to the distribution line. The well casing can then be extended above ground surface and the well pit can be filled in.

3. Plug old wells and holes

Old or unused wells and seismic holes should be plugged from bottom to top with bentonite to prevent surface water from draining into your water supply.

4. Understand your water well drilling report

Licensed water well contractors are required to submit all water well drilling reports to Alberta Environment and Protected Areas. This record contains important information that will help you manage and protect your well. Get a copy from your water well contractor or from the Alberta Environment and Protected Areas Groundwater Information Centre at 780-427-2770. Have the legal description of your property ready.

5. Manage activities on your land

If you are not careful, manure, fertilizers and chemicals can seep into your groundwater, especially if you have sandy or gravelly soils or a shallow well (Figure 2). Avoid over-applying these materials.

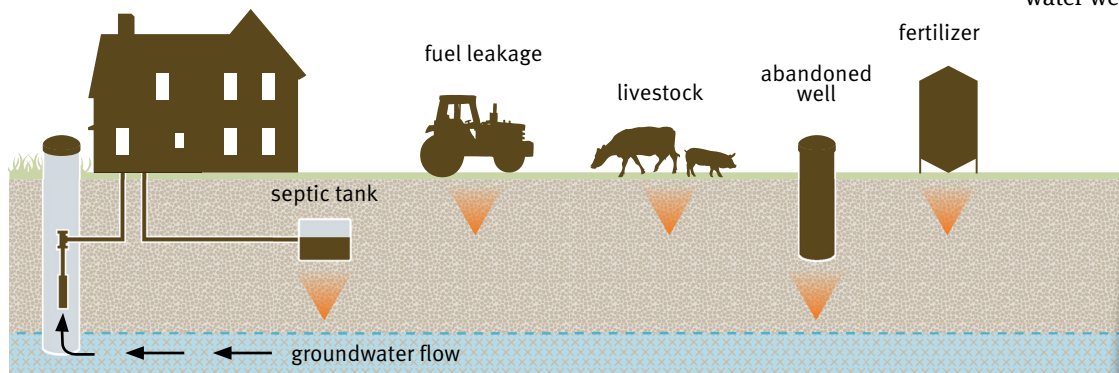
6. Test your well water

Contact your local Community Health Centre (Public Health Unit) for sample bottles and information on how to collect a water sample and transport it to the Health Unit. For a list of local Health Units visit: <https://myhealth.alberta.ca>.

Do a standard coliform bacteria test twice a year (or more often if your well is less than 50 feet deep). You should also do a routine water chemistry test every two years and test your water if there are any changes in its colour, odour, taste or if you notice any new staining.

Regular shock chlorination will keep bacteria build-up in check. If biofouling is excessive, your well may need to be inspected and cleaned by a licenced water well contractor.

Figure 2:
Potential contamination sources



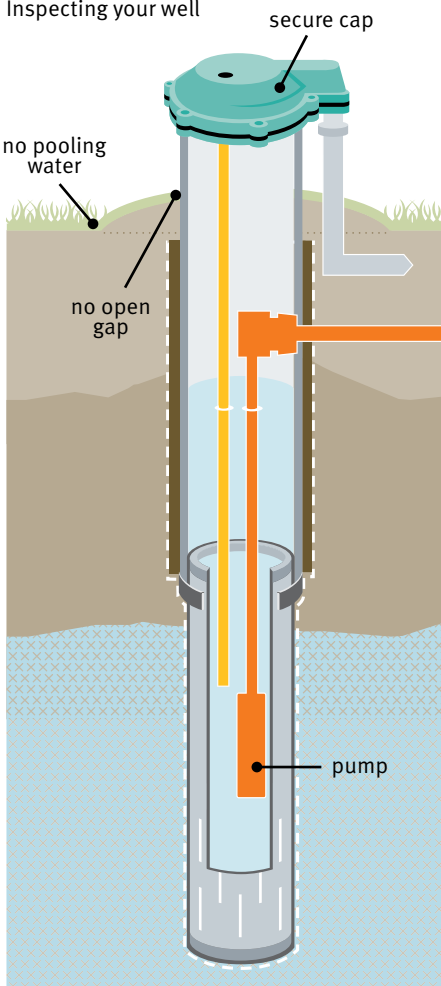


7. Shock chlorinate your well

If your well tests positive for coliform bacteria, you may have to shock chlorinate. See the *Shock Chlorinating Your Well* fact sheet for details.

Regularly check your toilet tank for slime build-up, which can be a sign of iron or sulphate-reducing bacteria biofouling in your well. These bacteria won't hurt you and will not show up on a standard bacteria test. However, they can affect the taste and smell of your water, and can permanently damage well equipment, or cause well plugging.

Figure 3: Inspecting your well



8. Inspect your well and property

Regularly check the area around your well and your well system (Figure 3) to make sure:

- the well cap is secure and vents are not blocked.
- there are no open gaps around the outside of the well casing.
- there is no ground settling or water pooling around the well casing.
- potential contaminants (e.g., manure storage, septic systems, chemical and fuel storage) are properly managed and far enough away from your well.
- the pump, pressure tank and water treatment system are operating properly.
- your septic system is working properly. Tanks should be inspected regularly and pumped out when necessary by a qualified sewage hauler.

9. Never over-pump your well

Over-pumping your well can cause significant problems. For new wells, make sure your licenced water well contractor does a full pump test and gives you a recommended sustainable pumping rate. Older wells may need a current pump test to determine a safe pumping rate. Be careful with low yielding wells. To avoid putting excessive stress on them, extra storage may be required to meet household needs during peak periods.

10. Keep records – build history

Track your well's performance by keeping copies of your water well drilling reports, well inspections, water tests and treatments. Give this information to the new owners if you sell your property.

➔ FOR MORE INFORMATION:

Working Well

workingwell.alberta.ca

Water Wells That Last

<https://open.alberta.ca/publications/9781460143414>

A comprehensive water well management guide.

Alberta Water Well Drilling Association

<https://www.awwda.ca/>

For a list of licenced water well contractors in your area, visit the Association's website.

➔ CONTACT US:

General Questions?

Alberta Environment and Protected Areas
Information Centre
310-3773 toll free
epa.outreach-services@gov.ab.ca

Technical Questions?

Alberta Agriculture and Irrigation
Ag-Info Centre
310-FARM (3276) toll free
310farm@gov.ab.ca