



Plugging Your Well

Plugging unused and abandoned wells protects our groundwater supplies.

Abandoned wells

Abandoned water wells can be a serious safety hazard and threat to groundwater resources.

People, especially young children and animals, have been trapped or injured after falling into old, large diameter wells. Uncapped open wells provide a direct pathway for surface contamination to reach a groundwater aquifer putting any neighbouring wells in the same aquifer at risk. Cross contamination between aquifers with differing water quality may also occur if an abandoned well develops holes in the casing. An abandoned flowing well wastes water and may reduce pressure within the aquifer and contribute to regional depletion of groundwater supplies.

Although it takes time and money to properly plug abandoned wells, doing so will eliminate these concerns and protect ourselves and our groundwater resources.

What is an abandoned well?

A water well is considered “abandoned” if it is:

- no longer in use and not intended to be used in the future for water supply.
- no longer being maintained with annual chlorination treatments.
- in a poor state of repair and the pumping equipment has been removed or cannot be repaired or replaced.
- unable to produce water and no longer an asset to the property.

How do I know if I have an abandoned well on my property?

Abandoned wells can be difficult to identify. Look for physical evidence of a well, including:

- pipes sticking out of the ground or basement floor.
- a ring of concrete or bricks surrounding a hole in the ground.
- windmills, wishing wells, hand pumps or hydrants.
- a dip in the land surface or a damp circular depression.
- a pit in the yard or basement.
- a basement offset (small room).
- a waterline or patched hole through the basement floor or wall.
- small outside buildings.



If the abandoned well is located in a pit, extreme caution should be taken if it is necessary to enter the pit during the plugging process. Only someone who is trained and equipped for confined space entry should enter the pit.

See the *Upgrading Your Well in a Pit* fact sheet for more information on well pits.

Are there laws about plugging abandoned wells?

Protecting the quality and quantity of provincial groundwater resources is the responsibility of all Albertans.

Landowners are liable for contamination or injury from unplugged wells. In Alberta, landowners are responsible for ensuring unused abandoned wells are properly plugged, in accordance with Part 7 of the Water (Ministerial) Regulation of Alberta's *Water Act*.

Should I plug my own well?

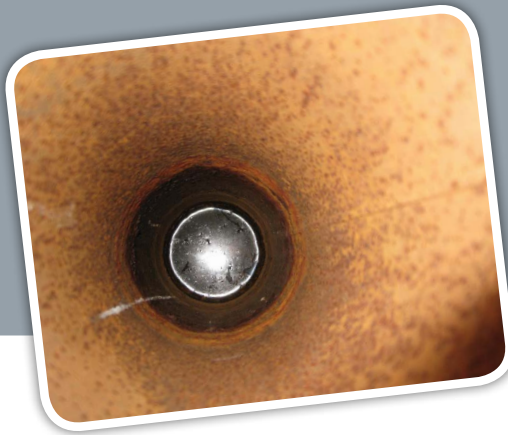
Properly plugging a well can be a complex procedure, especially with: flowing wells; wells that are contaminated or contain obstructions; deeper, small diameter wells located in high risk areas like barnyards and septic fields; or deep wells containing large volumes of water.

Site specific conditions, such as well construction details, local geology and hydrogeological characteristics will dictate the best plugging method to use.

Your licensed water well contractor is the most qualified person to get the job done right.

**WORKING
WELL**

Clean water.
Well protected.



Proper well plugging steps include:

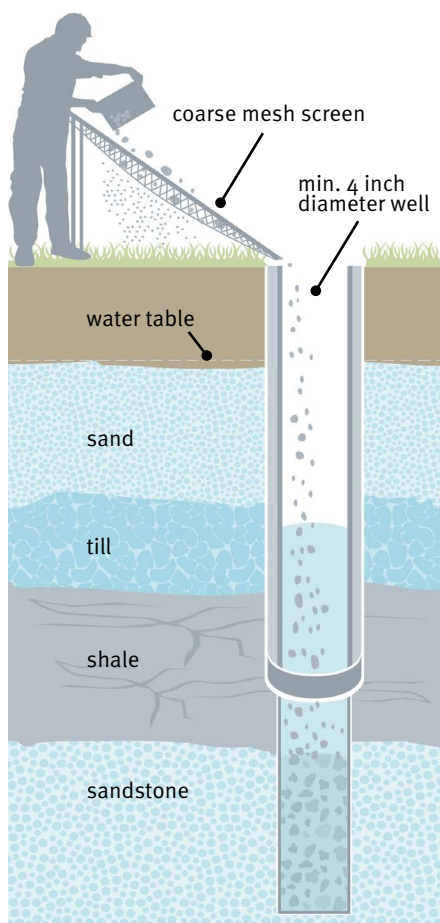
1. Cleaning out debris or remnants of pumping equipment, and making sure the well is open to its original bottom.
2. Measuring the dimensions of the well (diameter, total depth and depth to water level).
3. Disinfecting any standing water in the well.
4. Choosing the appropriate fill material and the correct volume needed. Fill material must be impervious to prevent movement of water.
5. Placing the fill material in the well so the well is filled full length with no bridging or gaps.
6. Removing the well casing if possible and topping up with material appropriate for the intended use of the land.
7. Reporting the details of the plugging to Alberta Environment and Parks.

Well plugging quick facts

- Plugging abandoned wells reduces landowners' environmental liability and increases property values.
- When a replacement well is drilled, it is most economical to have your licensed water well contractor plug the old well before leaving the site.
- Most farmsteads have at least one abandoned well. If left alone or improperly plugged, it could be a significant threat to our provincial groundwater resources.
- An abandoned well is defined as a well that is not in use and is not intended to be used in the future for water supply.

Figure 1:

Plugging an old well



Plugging a well can be a complicated procedure. Landowners are **strongly advised** to contact their local licensed water well contractor to plug abandoned wells because they have the expertise and equipment to do a proper job.



If a well is not currently in use but is intended for future use, it must be properly maintained. Conduct an annual inspection for visual deterioration of the well cap and casing, and an annual shock chlorination treatment. See the *Shock Chlorinating Your Well* fact sheet for more information.

FOR MORE INFORMATION:

Working Well

www.workingwell.alberta.ca

Water Wells That Last

<https://open.alberta.ca/dataset/716-a10>

A comprehensive water well management guide.

Alberta Water Well Drilling Association

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

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

CONTACT US:

General Questions?

Alberta Environment and Parks
Information Centre
Phone: 310-3773 toll free

Technical Questions?

Alberta Agriculture and Forestry
Ag-Info Centre
Phone: 310-FARM (3276) toll free