wellcare® information for you about

Closing an Abandoned Well

Out-of-service wells must be properly closed and sealed. Otherwise, they pose a threat to ground water quality and a potential safety hazard.

Risks of Abandoned Wells

Normally, ground water flows through soil and bedrock formations, known as aquifers, which filter unhealthy organisms, minerals and other substances. Water that enters an abandoned well bypasses this purifying action. Contaminants enter the aquifer through the unsealed well and may eventually harm the water quality in other wells nearby.

Contaminants usually get into an abandoned well through the casing pipe. It may not extend high enough above the ground surface to prevent runoff from washing into the old pipe. Or the well cap could be broken or in poor condition.

Abandoned large diameter, open wells also pose a real threat to children and animals. There have been numerous reports of children being trapped and even drowned in these types of old wells.

Finding Lost Wells

Some states require disclosure of old wells whenever the property is sold. But in thousands of cases, the old wells are forgotten. The well may be covered by a parking area or a building. Or the only evidence might be a depression or an old well casing in the yard close to the house or another outbuilding.

The Minnesota Department of Health offers this checklist for potential abandoned well sites in older houses or on rural properties:

Physical Evidence of Old Wells

- Well casing visible above the ground, concrete slab or basement floor
- Circular ring in cement or a patch in the floor
- Basement offset, a small room off the basement, under a porch or under steps, where old wells were often located
- Glass block or patch in a step or concrete, which provided access for the old well below
- Windmill, typically located directly over the well on a farm or ranch
- Pit in the yard or basement, which may be covered with wood, concrete or steel, signs of a dug well
- Waterline or patched hole through the basement floor or wall
- Water system components, such as a pressure tank or pump, or shadow lines on the basement floor or wall, indicating where such components once rested
- Electrical components, such as wiring through the basement floor and wall or a control box
- Low spot in the yard, a circular depression that may be damp
- Old outbuilding that may once have been a well house
- Additions, false walls or paneling may hide a well

The agency suggests that you check with individuals familiar with the property to determine where old wells were located and if they were sealed. These include: the previous property owners, neighbors, contractors (such as well drillers, pump installers, plumbers or remodelers) who have worked on the property, inspectors (well, plumbing, building and septic system) and/or current or former employees and maintenance staff.

Finally, your well professional can use simple tools – shovels or a backhoe – or high tech ones to locate an abandoned well. The latter include: a metal detector, a tape measure or other tool to follow pipes, and ground penetrating radar to locate buried structures.

Sealing the Well

The only way to safely deal with an abandoned well, new or old, is to seal it properly. Well sealing is a process of permanently and completely filling the well with an approved material, called grout. Some states require that a licensed well contractor conduct the well sealing and file a report with the agency once the work is complete.

The process starts with removal of the pump, the inner pipe to the pump and any material or obstructions in the well. A grout pipe is installed to the bottom of the well's borehole. The grout is pumped to fill the well from the bottom up. The grout usually consists of a special cement, clay or bentonite. In some cases, the contractor may have to remove or perforate the well casing before pumping the grout, to ensure a proper seal.

Different types of wells require different procedures and even special kinds of grout. Your well professional will advise you on the right steps to safely seal the well. Some states assist landowners with the cost of safely sealing an abandoned well. Contact your state department of health or department of natural resources or ask your well contractor.

For more information on closing an abandoned well

Wisconsin Department of Natural Resources: www.dnr.state.wi.us/org/water/dwg/abandon.htm
Minnesota Department of Health: www.health.state.mn.us/divs/eh/wells/disclosures/index.html
Oregon Water Resources Department:
http://powder.wrd.state.or.us/publication/wellcon98/index.shtml#abandoning

For more information on your drinking water

The following sites provide up-to-date information on efforts to protect public water supplies and steps you can take as a private well owner:

Home*A*Syst Program	**www.uwex.edu/homeasyst**
Water Quality Association	**www.wqa.org**
The Groundwater Foundation	**www.groundwater.org**
American Water Works Association	**www.awwa.org**

For more information about wells and other wellcare® publications

wellcare® is a program of the **Water Systems Council (WSC). WSC** is a national non-profit organization dedicated to promote the wider use of wells as modern and affordable safe drinking water systems and to protect ground water resources nationwide.

Contact us at 888-395-1033 or visit www.wellcarehotline.org or www.watersystemscouncil.org

This publication was developed in part under Assistance Agreement No. X-82849101-1 awarded by the U.S. Environmental Protection Agency. It has not been formally reviewed by EPA. The views expressed in this document are solely those of WSC. EPA does not endorse any products or commercial services mentioned in this publication.