Risks to groundwater from abandoned wells

Abandoned wells can present a threat to people and well water quality. It is estimated that there are millions of them in the United States.

Abandoned wells can be a physical danger to people and animals who may fall into them, and a pathway for surface contamination into an aquifer being used by drinking water wells.

Other boreholes and wells may affect aquifers, such as ones used for:

- Mineral exploration
- Seismic testing
- Dewatering
- Construction water
- Groundwater monitoring

If you own a water well, look for signs of abandoned wells including:

- Pipes sticking out of the ground

Planning for a well

In planning a well, there are some key considerations. One such consideration is location.

When possible, wells should be located at higher elevations that surrounding areas to lessen the potential for contamination from surface runoff.

A well's location often will be determined by factors other than the subsurface properties, such as the contours of the land, power lines, underground utilities, trees, and the potential route for the water line to the house.

In general, these minimum distances should be maintained from the wellhead unless state or local codes or regulations call for more stringent standards:

- 200 feet from a cesspool receiving raw sewage
- 200 feet from a landfill or garbage dump
- 50 feet from a pit, privy, filter bed, septic tank, tile sewer, or foundation drain
- 20 feet from the outer boundary of any road
- 10 feet from an iron sewer with approved mechanical joints
- 5 feet from a property
• Small buildings that may have been a well house
• Depressions in the ground
• The presence of concrete vaults or pits
• Out-of-use windmills

If you find one, contact a qualified water well system professional.

If the contractor determines the well or hole needs to be plugged, he may start by removing all material such as pump parts, pitless adaptors, pipe, wire, well screens, gravel or other particulates at the bottom of the well.

Once the borehole is properly prepared—including possible disinfection of the well—the contractor can use specialized grout to fill the well from the bottom up to prevent surface water contamination from infiltrating the well.

The cost of well plugging or “decommissioning” a well or borehole can vary.

In Iowa, for instance, plugging drilled household wells ranges from $600 for shallow, easily accessible wells to more than $3,000 for deep drilled wells greater than 500 feet in depth that require the removal and disposal of materials from the well. Large-diameter dug wells can be more expensive to decommission depending on the width and depth of the well.

The property owner is generally liable for paying decommissioning costs.

Some states have programs that will help pay the cost of water well plugging. To check on your state, visit www.WellOwner.org, then click on Water Well Basics/Well Construction Agencies.

To check on what your state might require or recommend, visit www.WellOwner.org, then click on Water Well Basics/Well Construction Agencies to find contact information for the appropriate state agency.

Click on icon to see online lessons and recorded webinars—all free—on topics including what to test water for; how to get and understand a test; water treatment; treating arsenic, bacteria, nitrate and radon; well maintenance; groundwater protection; well flooding; and well construction.

www.wellowner.org

Informing consumers about groundwater and water wells.

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