

Abandoning and Plugging Water Wells in Indiana

An abandoned water well is potentially a conduit between the ground surface and an underground *aquifer*, a water-bearing layer of sand and gravel or porous or fractured bedrock. Ground water can be contaminated if floodwater, farm wastes, or spilled chemicals are able to flow down from the surface through or around the casing of an abandoned well. To limit ground water contamination, the 1988 Indiana water well drilling statute, Indiana Code 25-39, requires abandoned wells to be sealed at the surface or plugged with impervious materials. Plugging prevents the migration of gases, liquids, and solids up or down the well. Detailed requirements for plugging are in Rule 10 of the well drilling & pump installer regulations in the Indiana Administrative Code, 312 IAC 13.

What is an abandoned well?

Time of non-use is the usual way to define an abandoned well. If the original purpose and use of the well have been discontinued for more than five (5) years, the well is abandoned. A well is also abandoned, by definition, if it is in such a state of disrepair that using it to obtain ground water is impractical or a health hazard.

When must an abandoned well be plugged?

The statute requires a well to be plugged within one year after it is abandoned. Under the statute's definition of abandonment, this could be nearly six years after use of the well was discontinued. The Division of Water urges well owners who decide to discontinue use of their wells to plug them immediately (this is not necessary for temporary non-use due to real estate transactions or part-year residencies). Many well drillers offer to plug an old well after they install a replacement well.

Who is responsible for plugging an abandoned well?

Although Indiana law makes well drillers responsible for proper well construction, the owner of land upon which an abandoned well is situated is responsible for having the well plugged. If the well was abandoned after January 1, 1988, the effective date of the drilling statute, a licensed water well driller or pump installer must be employed to plug the well. The driller or pump installer will send a record of the abandoned well and plugging procedure to the Division of Water.

What impervious materials should be used to plug an abandoned well?

A well must be plugged with one or a combination of the following:

- Neat cement, with not more than five percent (5%) by weight of bentonite additive
- Bentonite slurry (which can include polymers to retard swelling)
- Pelletized bentonite or medium-grade or coarse-grade crushed bentonite

Neat cement is a mixture of cement and clean water in a ratio equivalent to 94 pounds of cement and no more than six gallons of water. Bentonite is a clay derived from volcanic ashfall deposits that swells when wet. It is mined in the western U.S., mainly in Wyoming, and is

available in bags from well suppliers. Specific combinations and amounts of these materials are required by Rule 10 for different types of abandoned wells.

What should be done about an old abandoned well discovered during inspection or development of a property?

The well drilling and pump installation statute requires all abandoned wells to be sealed or plugged; the method depends in part on the abandonment date. Determine or estimate when use of the well was discontinued. If the well was abandoned *before* January 1, 1988, it may be sealed at the surface by a watertight welded or threaded cap. Old hand-dug or large-diameter wells abandoned *before* January 1, 1988, may be covered with a reinforced concrete slab or a reinforced, water-repelling wooden cover. Sealing of pre-1988 abandonments does *not* have to be done by a licensed well driller or pump installer, and may be done by the property owner. The Division of Water urges those who discover old wells to have them plugged in accordance with the standards for recently abandoned wells. They may employ a licensed well driller for this job or do it themselves after consulting the Division or the Purdue University Cooperative Extension Service. Extension Publication WQ 21 (1995), co-written with the Division of Water, is helpful for property owners who want to plug old abandoned wells.

What should be done about “dry holes”—new well boreholes that do not produce water?

A well that is not equipped with casing must be plugged by the driller within 72 hours (three days) after drilling is completed. Some dry holes produce so little water that no casing is installed in the borehole and no yield test is performed; others have the pump and casing removed after an unsatisfactory yield test.

What should be done about an unusual well or cistern that is not described in Rule 10?

The Division of Water will advise property owners and well drillers or pump installers on plugging methods that fit unusual circumstances and closely approach the requirements of Rule 10. Preventing ground water contamination by effective grouting and plugging of wells is one of the most important goals of the well drilling & pump installation statute and rules. The Division believes that devising a workable method to close an abandoned well is better than leaving the well open.

—For more information on well plugging—

Contact the Water Rights & Use Section of the DNR Division of Water
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The Division’s phone number is (317) 232-4160 or toll-free (877) 928-3755.