



Eric R. Greitens, Governor • Todd Sampsell, Acting Director

DEPARTMENT OF NATURAL RESOURCES


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MEMORANDUM

2017-013

DATE: January 17, 2017

TO: All Soil and Water Conservation Districts

FROM:  Colleen Meredith, Director
Soil and Water Conservation Program

SUBJECT: N351 Well Decommissioning

The Soil and Water Conservation Program has had discussion with the Missouri Department of Natural Resources' Missouri Geological Survey, Wellhead Protection Section, regarding the N351 Well Decommissioning cost share practice. Personnel with the Wellhead Protection Section are available to answer questions from soil and water conservation districts (SWCDs) regarding well decommissioning. If a SWCD is working with a landowner to decommission a bedrock well please refer the landowner to the Wellhead Protection Section so they can discuss with the landowner the special requirements for closing a bedrock well. Please remind your landowners that whenever any type of well is decommissioned the landowner must record the decommissioned well with the Department of Natural Resources' Geological Survey Program, Wellhead Protection Section, by submitting the "Well Plugging Registration Record."

The Wellhead Protection Section is also interested in providing training to SWCD staff on plugging abandoned wells. Details on this training will be provided at a later date. The attached brochure has additional information on plugging abandoned wells and contact information for the Wellhead Protection Section. If additional copies of the attached document are needed they can be found on the following link: <https://dnr.mo.gov/pubs/pub2281.pdf>. Thank you.

CM:djs

Attachment



Recycled paper

Required Reporting

Missouri law (RSMo 256.600 to 256.640) requires that the plugging of abandoned wells be registered with the Department within 60 days of the work being completed. Staff will review the record to ensure that the well was plugged according to the Missouri Well Construction Rules.

If the record shows that the well was plugged properly, a registration number and letter will be sent to the landowner. It is important to keep this documentation, because some lending institutions and local governments require such proof upon sale or refinancing.

Finding Abandoned Wells

An obvious sign of an abandoned well is casing pipe sticking out of the ground. Casing pipe usually is 2 to 6 inches in diameter and made of either steel or PVC. A concrete slab or man-made cover may be a sign of a pit where an abandoned well is located. Windmills or hand pumps often are found on top of abandoned wells.



Contact Us

If you have questions or concerns about plugging abandoned wells, please contact:

**Missouri Department of Natural Resources
Missouri Geological Survey
Geological Survey Program
Wellhead Protection Section**

Phone: 573-368-2165

Fax: 573-368-2317

welldrillers@dnr.mo.gov

P.O. Box 250, Rolla, MO 65402

Permitted contractors and existing well records are available online at: dnr.mo.gov/mowells/

Additional Resources

**Missouri Department of Health and
Senior Services**

dhss.mo.gov

573-751-6400

Natural Resource Conservation Service

nrcs.usda.gov

573-876-0900

Nothing in this document may be used to implement any enforcement action or levy any penalty unless promulgated or authorized by statute.

Missouri Geological Survey Director: Joe Gillman



Plugging Your ABANDONED WELL



Abandoned Wells

A water supply well is an important source of water to many Missourians. Many things have changed since the days when wells were dug by hand, yet many of these wells remain, abandoned and unplugged. A well is considered abandoned when it can no longer be used or when it has not been in use for two years or more.

All unplugged abandoned wells present a hazard. Cisterns and wells with wide openings pose a serious physical hazard, especially to children and animals. Contaminants can enter our groundwater through all types of abandoned wells, including drilled wells.

Plugging Abandoned Wells

It is the responsibility of landowners to plug any abandoned wells on their property. State regulations allow landowners to plug wells on their property as long as they do so in accordance with the Missouri Well Construction Rules. Wells that are plugged improperly leave our aquifers susceptible to contamination.

Chlorination

Any water in an abandoned well should be chlorinated prior to plugging. This helps prevent bacteria from entering the aquifer. To chlorinate a well, pour liquid household bleach in the well before adding the clean fill material. Examples of clean fill include gravel, varied-size agricultural lime or sand. For most wells, 1 gallon of liquid bleach is sufficient. If there is not water in the well, the fill must be chlorinated prior to putting it in the well.

Approved Grout

The most commonly used grout is sodium bentonite, which usually comes in ⅝-inch chips. Wells may also be grouted with neat cement, which is a mix of one 96-pound bag of Portland cement and no more than 6 gallons of clean water.

Concrete is not acceptable.

Types of Abandoned Wells and Plugging Requirements

Bedrock Wells

Private bedrock water supply wells typically have steel or PVC casing that is 6 inches in diameter. The amount of casing and the total depth of these wells varies widely with geologic conditions across the state.

To plug a bedrock well, remove the pump and any debris. Dig around the casing to 3 feet below the surface and cut off the casing. Clean fill material may be used from the bottom of the well to a point 50 feet below the bottom of the casing. Grout is then used from the top of the fill to within 2 feet of the surface, extending into the excavated area at least 1 foot. The remaining 2 feet should be filled with clay or clay-rich soil. If the casing depth is unknown, the well must be plugged full length with approved grout.

Unconsolidated Material Wells

In general, private water wells that are constructed in unconsolidated materials such as clay, silt, and sand have small diameter casing (less than 6 inches) or large diameter casing (12 to 36 inches). These wells are found mostly in northern Missouri and the Bootheel. The casing pipe in these wells is usually PVC. The lower portion of the well below the casing is a slotted pipe or well screen. This allows water to enter the well without the sand and gravel clogging up the well and pump.

To plug such a well, remove the pump and any debris. Dig around the casing to 3 feet below the ground surface and cut off the casing. If the well is greater than 50 feet deep, use clean fill material to a point 50 feet below the ground surface. Place the grout so it fills the upper 50 feet and extends into the excavated area at least 1 foot. The remaining 2 feet should be filled with clay or clay-rich soil. Wells 50 feet deep or less must be filled completely with grout.

Hand-dug Wells

Wells that were dug by hand usually are 3 to 6 feet in diameter and 10 to 30 feet deep. They are lined with material such as brick or fieldstone.

To plug a hand dug well, carefully push in the upper 3 feet of the lining. Fill the well to within 3 feet of the surface with clean fill material. The remainder of the well should be filled with clay or clay-rich soil.

Cisterns

Wells that are less than 10 feet deep and all cisterns are exempt from these rules and do not have specific plugging requirements. However, the Department recommends plugging these the same way a hand dug well would be plugged.

Public Water Wells

The specifications for plugging a public water supply well are determined on a case-by-case basis. Please contact the department for more information.

