

Who Can Plug An Abandoned Well and How Can They Do It?

Activity At A Glance

Participants will discuss who has the authority to plug an abandoned well, and the steps that must be taken.

Learning Objectives

Upon completion of this session, participants will be able to:

- Identify who can plug an abandoned well.
- List what types of wells the landowner can plug, and the types that require a licensed well driller.
- Identify and discuss the steps that must be taken in plugging a well.

Suggested Materials

- Chalkboard, flipchart dry erase board or other means to record and post group responses. to record group responses.

Vocabulary

Bentonite - A sodium hydrous aluminum silicate clay mineral (montmorillonite) commercially available in powdered, granular, or pellet form which is mixed with potable water and used for a variety of purposes including the stabilization of borehole walls during drilling, the control of potential or existing high fluid pressures encountered during drilling below a water table, and to provide a seal in the annular space between the well casing and borehole wall.

Bentonite grout - A fluid mixture of sodium bentonite and potable water mixed at manufacturers' specifications to a slurry consistency which can be pumped through a pipe directly into the annular space between the casing and the borehole wall. Its primary function is to seal the borehole in order to prevent the subsurface migration or communication of fluids.

Bridge - Plugging materials that lodge part way down in a well bore so as to obstruct passage of subsequent plugging materials in reaching the bottom of the well bore.

Casing - A watertight pipe which is installed in an excavated or drilled hole, temporarily or permanently, to maintain the hole sidewalls against caving, advance the borehole, and in conjunction with cementing and/or bentonite grouting, to confine the ground waters to their respective zones of origin, and to prevent surface contaminant infiltration.

- a. Plastic casing - National Sanitation Foundation (NSF-WC) or American Society of Testing Material (ASTM) F-480 minimum SDR 26 approved water well casing.
- b. Steel Casing - ASTM A-53 Grade B or better and have a minimum weight and thickness of American National Standards Institute (ANSI) schedule 10.
- c. Monitoring wells may use other materials, such as fluoropolymer (Teflon), glass-fiber-reinforced epoxy, or various stainless steel alloys.

Cement - A neat portland or construction cement mixture of not more than seven gallons of water per 94-pound sack of dry cement, or a cement slurry which contains cement

along with bentonite, gypsum or other additives.

Groundwater conservation district - Any district or authority created under Article III, Section 52, or Article XVI, Section 59 of the Texas Constitution or under the provisions of Chapters 35 and 36 of the Texas Water Code that has the authority to regulate the spacing or production of water wells.

TDLR - Texas Department of Licensing and Regulation.

TNRCC - Texas Natural Resource Conservation Commission.

Well - A water well, injection well, dewatering well, monitoring well, piezometer well, observation well, or recovery well

State well report (Well Log) - A log recorded on forms prescribed by the Department, at the time of drilling showing the depth, thickness, character of the different strata penetrated, location of water-bearing strata, depth, size, and character of casing installed, together with any other data or information required by the Executive Director.

Presentation

1. **Introduction**

Today we will talk about who has the authority to plug an abandoned wells and how they can plug them.

2. **Discuss**

a. **According to the video what type wells can the landowner plug himself?**

Allow them to brainstorm aloud. You may want to record their responses on a chalkboard or flipchart.

b. **Who should you contact when considering plugging a well?**

Allow them to brainstorm aloud. You may chose to record participant responses onto flip chart or chalkboard. Before moving on make sure they have covered state and local groundwater districts, licenced well driller in the area

c. **Where are these authorities located?**

Allow them to brainstorm aloud.

d. **What are some of the common misconceptions when plugging a well?**

ex. Just dump materials into the well until it is full.

e. **Even with a type I-V well, why might it be better to hire a contractor?**

Allow them to brainstorm aloud. Before moving on to the next question make sure they understand a contractor may have better equipment and understanding of the soil conditions that affect how the well should be plugged.

3. **Summarize the Major Points**

- Landowners have the authority to plug type I-V wells.
- Only licensed well drillers should plug type VI-VIII wells.
- In some cases it may be better to hire a contractor for type I-V wells.
- When considering plugging a well you should contact any local groundwater conservation district and local licenced well driller.
- Before starting the plugging procedure you should have an understanding of the geology of the area and the type of well to be plugged