

WHAT MATERIALS CAN BE USED TO PLUG A WELL

Activity At A Glance

Participants will discuss the different materials used in plugging an abandoned well.

Learning Objectives

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

- Identify the proper materials used to plug abandoned wells.
- Understand the characteristics of the plugging materials for preventing the transport of surface water to groundwater.
- Understand the importance of using clean materials.

Vocabulary

cement, Bentonite, Bentonite Grout

Suggested Materials

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

Presentation:

1. Introduction

We will now discuss the different materials used to plug abandoned wells.

2. Discuss

a. **According to the video what materials are used to plug abandoned wells?**

Allow them to brainstorm aloud. You may choose to record participant responses onto flip chart or chalkboard. Before moving on to the next question be sure that they have covered cement, Bentonite, Bentonite grout, and compacted clay or caliche for large diameter wells.

b. **What are some of the reasons behind using these materials?**

Allow them to brainstorm aloud. Before moving on to the next question be sure that the participants recognize the need to use a slowly permeable material to prevent surface water contamination and mixing of groundwater sources.

c. **Why should you use potable water when mixing cement or Bentonite grout?**

Allow them to brainstorm aloud. Before moving on to the next question be sure the participants recognize the need not to add contaminants to closed well by mixing the plugging materials with contaminated water.

3. Summarize the Major Points

- The different acceptable materials used to plug abandoned wells are cement, Bentonite, and Bentonite grout.
- When plugging a large diameter well compact clay or caliche may be used.
- The plugging materials provide a barrier to prevent rapid movement of surface water down to the aquifer and the mixing of water between different aquifers through the well casing.