

DETERMINING THE DEPTH OF A WELL

The quality and quantity of water from your well depends upon the geology and hydrology of the area in which it lies. Well water comes from underground aquifers, which exist throughout the ground at different depths.

Aquifers act as water storage spaces, containing different amounts of water. Determining how deep your well contractor must drill to gain access to a sufficient supply of water is part science and part educated presumption.

Basic Well Construction

A bedrock well is one drilled into solid rock, tapping cracks in the rock that carry water. Typically, household wells are six inches in diameter, with a six-inch casing, or liner. The casing is the pipe that is installed down to the bedrock in order to keep surface water and sand out of the well. In many cases, a drive shoe or casing seal is attached to the bottom of the casing to create a seal in the bedrock.

When constructing a well, the casing should extend at least 12 inches or more above the surface of the ground. In most cases, it takes one day to drill a well and another day to install the well pump.

All private well construction is based on establishing the right location for the well, sizing the system correctly, and choosing the proper construction techniques. A licensed well contractor knows the hydrogeology in your area and all local codes and regulations for wells. They also have the modern equipment and expertise to make sure your well is properly constructed to meet the water needs of your family.

Determining the Depth of the Well

The depth of a well is a determining factor in figuring the basic cost of drilling and the cost of pipe, since most well contractors charge by the foot. Well contractors will base estimates on what experience shows is an average depth for your area. If the water first tapped is adequate for your family, then drilling can stop. If not, then drilling may have to go deeper.

However, a well contractor cannot tell you exactly how deep to go to get water or predict the exact quality of the water that will be tapped. What a well contractor can do is make reasonable judgments about water quality and quantity based on previous experience.

Most household water wells range from 100 to 800 feet deep, but a few are over 1,000 feet deep.

Well yields can be increased by fracturing the bedrock immediately around the drill hole and intercepted rock faults. One technique to accomplish this fracturing is to pump high volumes of water into the drill hole at high pressure, up to 3,000 pounds per square inch (psi). This process is called hydrofracturing.

The quality of water is much more dependent on the geological formations and aquifers surrounding your well than any specific depth. In general, the deeper the well, the greater the likelihood for increased minerals in the water, which may require a water treatment for your well system. Water testing is recommended first to determine if treatment is necessary.

For More Information on Determining the Depth of a Well

Contact your licensed well contractor, local health department, state environmental agency, or the wellcare® Hotline.



Information to help maintain and protect your water well system:

wellcare® is a program of the Water Systems Council (WSC). WSC is the only national organization solely focused on protecting the health and water supply of an estimated 23 million households nationwide who depend on private wells (according to the U.S. EPA).

This publication is one of more than 100 wellcare® information sheets available FREE at www.watersystemscouncil.org.

Well owners and others with questions about wells and well water can contact the wellcare® Hotline at 1-888-395-1033 or visit www.wellcarehotline.org to fill out a contact form or chat with us live!

JOIN THE WELLCARE® WELL OWNERS NETWORK!

By joining the FREE wellcare® Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit www.wellcarehotline.org to join!