

Well Logs

Private Wells and Public Water Systems

Owners of new water wells should know that one of the most important components of their household water well system can be kept filed away—the well log.

A well log is a document containing vital information on the history of the well and the ground surrounding it. Contractors must file well logs with their respective states upon completion of all new wells. However, well owners should have a copy, too, in case a need for maintenance arises over the lifetime of the well. Quick access to and understanding of the well log can be crucial at such times.

Well logs differ from state to state. In fact, some are called water well records or drilling reports. Most, however, contain the same basic information. Following is an explanation of the details contained in well logs.

Well Log Layouts

A reference number—unique to the well—will be at the top, usually in the left corner, followed by areas that provide the owner and location, construction and contractor details, well testing information, and geologic formations encountered by the contractor. Most well logs also will have an area titled “Comments” where the contractor can provide additional notes.

Owner and Location Information

This area lists the owner and the address of the property at the time the well was drilled. This information helps locate the well on topographic maps. In some states, this area also will feature the name of the contractor.

Construction and Contractor Details

The construction section is essential if the owner has problems with the water well system, as it describes the materials found in the well. On some reports, this is where the contractor information is listed.

Other items listed here on nearly all reports include the reason for the well, the drilling method used, the depth of the well, the amount and type of casing used, the size and type of screen used, and the type of pump in the well. Some reports also give information on the grout used in the construction process.

Well owners should know the definitions of the items listed in this area. A well’s casing is the tubular, watertight structure that goes down the drilled hole to maintain the well opening and prevent pollutants from entering the waterway.

The screen is a filtering device below the casing that allows water, but not unwanted materials, to enter the well. The grout is the material used to seal the casing in place.

Well Testing Information

After constructing the well, contractors test it for an extended period of time. Among the tests performed are those for production rate, measured in gallons per minute; static water level, the distance from the ground level to the top of the water in the well; and drawdown, the difference between the static water level and the level of water during pumping.

The information gathered from these tests forecasts the long-term yield of the well. Most families will need a yield of 6 to 12 gallons per minute. Storage tanks may be needed for wells producing less than 6 gallons per minute.

Geologic Formations Encountered

This area is usually called the well log—just like the name of the reports. It details what the contractor encountered underground when drilling the well. It gives the information in precise fashion. For instance, if the first 10 feet below the surface consists of yellow clay, followed by 6 feet of sand and 20 feet of gray clay, the report will list: 0-10, yellow clay; 10-16, sand; 16-26, gray clay. This information helps identify the aquifer being used for the water supply and can be beneficial if problems arise.

Where can I get more information?

For more information on your private water well, contact your local contractor. Also, visit the website of the National Ground Water Association, www.ngwa.org, and its site just for well owners, www.wellowner.org.