

KRWA Helps with Private Well Inspection

The Kansas Rural Water Association has provided help to private well owners on a limited basis over many years. Recently KRWA received notice of a small contract award with the National Rural Water Association with funding through US EPA to help with costs associated with providing tech assistance to owners of private wells.

There are three basic types of well designs. They are shallow dug wells, drilled bedrock wells, or driven gravel wells. The type of a well on the property is important because some wells are more susceptible to factors such as drought, contamination, etc.

Private wells should have a good seal to prevent unwanted insects, snakes, and small furry animals from entering. Old, cracked or broken covers should be replaced. Dug wells should have a concrete cover that is difficult to remove by virtue of its weight to prevent children or unauthorized persons from gaining access to the well.



This photo shows the very good seal on this private well.

When inspecting a private well it is important to make sure that all the seals and gaskets are in good condition. It is also important to make sure the electrical wiring and components are in good condition.

The location of the well on the property in relation to other features on or near the well. There are many pollution risks. If possible, the well should be located on the uphill side of features such as a septic tank, fuel storage tank or chemical storage.



This photo shows a wellhead that is equipped with a pitless adapter.

Products such as household cleaners, fertilizers, pesticides, petroleum, and automotive materials such as antifreeze, brake fluid, etc. should not be stored near a well. The area around the well should be graded in a manner to prevent puddling around the wellhead. Runoff water should be diverted from going towards the wellhead.

Private well inspections

It is important to do a good well inspection to help ensure a private well is in good working order and that it can provide enough water to meet the needs and a safe, quality of water.



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Conducting a drawdown test . . .

Water well drawdown occurs during withdrawal of groundwater through the well screen. The natural water level in the aquifer depresses from the stress of the pumping in the aquifer and the removal of the water. The drawdown test measures the water level in the well at different times to determine how much drawdown occurs during pumping. A few quick measurements will help determine how much drawdown the well will exhibit over time.

First, after allowing the well to rest for up to 24 hours, read the water level depth from the graduated drawdown tape when the electronic meter sounds a solid tone. This measurement is the static water level, which is the natural water level in the well.

The next step is to turn the well pump on and measure the water level in the well at period intervals of five to 10 minutes and record the data. As the pump runs, the time and the amount of drawdown is recorded. Frequently the rate of pumping is also logged. This process is continued until there is no change in the water level measurement.

Last, subtract the measurements from the original static level. That result is the drawdown.



The photo shows KRWA Tech Assistant Lonnie Boller testing drawdown in a privately-owned well in mid-September 2022. KRWA's newest gauges prove a method to also collect video of the well.

A well inspection should include the following aspects . . .

1. Seal and gaskets
2. Electrical
3. Area around the well
4. The lining of the well (casing)
5. Any visible holes or cracks in the well casing
6. Well cap should be vermin-proof, watertight, and securely attached to the well casing
7. Is there any corrosion visible at the fitting or pressure/storage tank?
8. Water quality should be tested for bacteria, nitrate/nitrite, lead, arsenic, and other contaminants

In most counties, the local county health department will help with well testing

In my opinion, is very important to test private wells to ensure the water quality is safe for consumption.

Lonnie Boller is a Technical Assistant at KRWA. He has been employed by KRWA since 2001. Lonnie is a Class II certified operator; he previously was Water Plant Supervisor for the City of Horton. He has also attended and completed training at the University of Kansas Law



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