



Is Your Well Drinking Water all Well and Good?

By Bruce Bernard, PhD

Mrs. Joan Betty Bernard (me mum), paraphrasing Senator Adelai Stevenson, told me over and over, “Americans demand simple answers to complex questions”(as you would expect his actual quote was significantly more erudite). Their statements are as true today as they were 50 years ago.

Is private well water safe to drink? Well, that depends on what’s **IN** the water. Evaluating the quality of drinking water from a private well doesn’t have to be that complicated. It all starts with knowing what to look for, the risks associated with what you find, and how to correct it.

Under the Safe Drinking Water Act, the U.S. Environmental Protection Agency (EPA) has the authority to regulate **public** drinking water systems. However, EPA does not have the authority to regulate **private** wells. Private wells supply drinking water to approximately **15 percent of Americans**. To help protect families with private wells, almost every **state licenses or registers water well installers**; most states also have construction standards. In addition, some **city and county health departments** have local rules and permitting procedures. Although these non-Federal provisions help ensure wells are properly **built**, they do not fully guard against **poor water quality**. Consequently, EPA recommends **private well owners test their water periodically to ensure it is safe to drink**. Local health departments may be available, for example, to help with yearly testing for bacteria and nitrates.

A number of factors need to be addressed in order to maintain a healthy private well, that is, a well which provides ‘safe’ water:

1. Construction – How well was it built? If it wasn’t built well, there may be problems at anytime.
2. Location – Where is it located? What problems have your neighbors reported? What is nearby that could cause a problem?
3. Maintenance- How well has it been maintained or the years? Has the water quality been checked periodically?
4. Water Source – What is the quality of the aquifer from which your water is drawn?
5. Human activities – What is going on in your area that could affect your well?

One of the more obvious steps to take to protect well water from contamination is to keep human activities some distance from the well. EPA [recommends](#) the following minimum separation distances to the well head:

Septic Tanks	50 feet
Livestock Yards, Silos Septic and Leach Fields	50 feet
Petroleum Tanks, Liquid-tight Manure Storage, Pesticide and Fertilizer Storage and Handling	100 feet
Manure Stacks	250 feet

Several sources of pollution are easy to detect simply by standing at the well-head and looking, listening and smelling what is nearby. However, many serious problems can be found only by testing your water. Knowing the possible threats in an area will help well owners decide the type of tests needed.

What should you do if testing results reveal your well is contaminated? The type of contamination (and its associated risk) will determine how quickly you need to react and what your options are. For example, one would react differently to water containing a **low level of sulfur** (associated with offensive taste and smell only) versus water containing ***E. Coli*** (associated with gastrointestinal illness and even death in people in a weakened condition). Solutions may include identifying and removing the source of contamination, installing water treatment devices to remove the contamination, or using another water source (e.g., a different aquifer, city water).

Determining when a well is producing quality drinking water is not complicated. It all starts with being aware of the potential risks, taking measures to prevent the obvious ones, and periodically testing for the insidious ones.

For more information, see EPA's Private Wells [Basic Information](#) web page.

Bruce Bernard, PhD, is President of SRA International, Inc. and Associate Editor of the International Journal of Toxicology. - See more at: <http://www.waterandhealth.org/drinking-water-good/#sthash.wn1OKF0m.dpuf>