WATER FACTS & FIGURES

Clearing Away The Clouds Of Turbidity

(NAPSA)—The next time you turn on the faucet and fill a glass from a household well, chances are you'll see crystal-clear, sparkling water.

There's a good reason for that: The ground is an excellent filter for water, and groundwater—the source water for household wells—is usually of better quality than surface water. This is especially true when it comes to "turbidity," an opaqueness or cloudiness in water caused by suspended matter.

When There's A Problem

When the water from a well is cloudy, it may be cause for concern. That murkiness could indicate a breach in your well system. Such breaches could affect the water's clarity, taste and odor—and even present a health risk.

The suspended matter in turbid water can be both inorganic (matter other than plant or animal) or organic. The size of suspended matter can range from microscopic to coarse grains like sand.

The Danger

Of greatest concern are disease-causing microorganisms such as bacteria, viruses and protozoa. Groundwater may contain E. coli, giardia and cryptosporidium, and cause physical symptoms that range from moderate to severe gastrointestinal problems.

The Causes

Sometimes a breach in the well system can be at or near the surface, such as:

- A hole or break in the well casing
- A broken well cap
- Deteriorated grouting that has allowed surface runoff to infiltrate the well.

Turbidity could also be due to a failing septic system that has overloaded the groundwater with untreated or inadequately treated sewage. Shallower wells tend to be more vulnerable to a failing septic system.

At other times, turbidity is related to well construction. After a well is drilled and installed, it still needs what's known as "well development." This process removes loose material resulting from the drilling process. It leaves the borehole more clean, stable and permeable so the water flows more freely into the well. Proper well development can sometimes make a poor well a good one in terms of both water quality and water production.

How To Fix It

The first step toward a solution to turbidity is to have the water tested by a drinking water testing laboratory. The lab can determine whether there are any disease-causing microorganisms, and that could provide clues to their source.



If your water looks like this, get it tested by a drinking water testing lab.

Also, before considering water treatment for turbidity, a water well system professional should inspect your well system. It's always better to treat the cause of a water quality concern—particularly if it presents a health risk—than to simply treat the result.

An inspection can determine whether the well has a breach, is dirty and needs to be cleaned, needs to be developed, or is being affected by a failing septic system.

If water treatment is necessary, a common approach is filtration. Different types of filters include:

- A cartridge sediment filter installed in the service line before the tap
- A back-washing sediment filter
- Reverse osmosis, in which water passes through a semipermeable membrane to remove suspended or dissolved solids.

If turbid water contains microorganisms, filtration is important because turbidity can impede water disinfection. Filtration and disinfection are often used in tandem with filtration first, then disinfection.

When considering a filter, compare its specifications to your water test results to make sure it's designed to treat what needs to be treated. Also, consider whether you want to treat all the water coming into the house or just that coming out of certain taps. This can make a big difference in the system you choose.

Learn More

Use a water well system or water treatment system professional to install a water treatment system. To learn more, visit the National Ground Water Association website, www.WellOwner.org.