

**Coliform Bacteria:** Acceptable results: Absent

Coliform bacteria are microorganisms found in the intestinal tract of warm-blooded animals. It can also be found in soil. Coliform bacteria are easy to culture in the lab and have been selected as the primary indicator for the presence of disease causing organisms in drinking water.

Common sources of coliform bacteria are livestock waste, septic systems, and surface water that get into a well. If your water test shows the presence of coliform bacteria your water has some degree of contamination.

**Health issues:**

Most coliform bacteria are harmless to humans. There are two concerns. The first is that E. coli, a type of coliform bacteria, can be quite harmful. The second, and probably more important, is that the presence of coliform bacteria suggests contamination of the water supply that may include other harmful microorganisms.

**How do I get rid of the bacteria in my well?**

To disinfect your home water system you must completely spread chlorine throughout the well and plumbing system.

Well disinfecting instructions are enclosed if your water tested positive for coliform bacteria.

**Nitrate as Nitrogen:** Acceptable levels: less than 10 mg/L

Nitrate is a nitrogen/oxygen compound that naturally occurs in low concentrations in ground water. Nitrogen is an element that occurs naturally in many different forms in the environment. When nitrogen enters the soil, it is converted to nitrates by microorganisms. Plants use some of these nitrates. Any excess is carried down through the soil into the ground water in a process known as “leaching”

At times, far more nitrogen enters the soil than plants can use, leading to dangerously high levels in ground water. There are several ways this can occur:

- Animal and human waste contains nitrogen in the form of ammonia. A concentrated source of waste (for instance, a feedlot or leaking septic system) can lead to high nitrate levels in the water.
- Runoff from agricultural lands can cause elevated nitrate levels because fertilizer contains a lot of nitrogen.
- Decomposing plant and animal material can also generate nitrates.

Therefore, the presence of nitrates in a water supply indicates possible pollution of the water.

**Health Issues:**

Infants and young livestock can develop methemoglobinemia (Blue Baby Syndrome). The ability of the blood to carry oxygen is decreased and the baby becomes ill and may die.

There is also a potential for birth defects associated with high nitrate levels. Pregnant women should avoid drinking water with nitrates higher than 10mg/L.

**How do I get rid of the nitrates in my well?**

Partial removal of nitrate can be accomplished by Reverse Osmosis Filtration. Reverse Osmosis may reduce the nitrates by about 40-90%. Complete removal of nitrates may be accomplished by deionization system. If the nitrate content cannot be reduced to an acceptable level, it is suggested that bottled water be used for drinking.

Do not boil the water. This will only increase the level of nitrates.

A single test for either nitrates or coliform bacteria is not enough to guarantee that a well is safe to drink from. A heavy rainfall, a failed sewage system, a chemical spill or any other similar event may render a water supply unsafe in a short period of time. A water analysis should be performed whenever repairs or alterations are made to a water supply system or if contamination of the well is suspected.