

Private Homeowner Drinking Water Supply Explanation of Bacteriological Results

Coliform Bacteria - what is it?

Coliform bacteria are microorganisms which occur naturally in soil, on vegetation and in surface water runoff. There are several types of bacteria in the coliform group. Some are fecal in origin and occur naturally in the intestines of humans and other warm blooded animals.

Why test for coliform bacteria in drinking water?

Organisms which are carried into the ground by rain or melting snow are usually filtered out as water percolates through soil to the well. However, poorly constructed or improperly sealed wells, shallow wells and underground rock formations may provide a path for coliform bacteria and other organisms to enter the ground water. Because they are easy to detect, coliforms are used as indicator organisms for drinking water contamination meaning that whenever they are present, there is a possibility that other disease-causing organisms (bacteria, viruses and parasites) may also be present. Therefore, any presence of coliform in drinking water means that the water is not safe for drinking according to State and Federal standards. Drinking water drawn from private wells should be tested for coliform at least once a year or whenever there is a change in taste, color, odor or appearance of the water.

What about E. Coli?

Whenever a certified laboratory discovers the presence of total coliform in drinking water, a scan for the presence of E. Coli is performed. E. Coli is naturally occurring in the intestines of humans and other animals, and is passed into the environment in solid waste. E. Coli is a pathogen and can cause severe illness, especially in the young, elderly and immuno-compromised. The presence of E. Coli in drinking water indicates the presence of raw sewage in the water; water containing E. Coli must not be consumed.

What do my test results mean?

If Total Coliform is Absent, that means that none was found, and we report that your water sample did meet satisfactory drinking water quality standards. Whenever total coliform is absent, E. Coli is also absent.

If Total Coliform is Present with E. Coli Absent, that indicates that soil-dwelling coliforms have gotten into your drinking water supply, and we report that your water did not meet satisfactory drinking water quality standards. There are many ways that this can occur. Coliform contamination generally occurs during periods of drought, after periods of heavy rains, whenever a water system is repaired or serviced, whenever a new well is drilled, and even during long periods of non-use (i.e., a home that's been vacant for several months). Something as simple as collecting the water sample from a dirty faucet can cause the test to fail.

If Total Coliform is Present with E. Coli Present, that indicates that sewage has gotten into the drinking water supply, and we report that your water did not meet satisfactory drinking water standards. **Water that contains E. Coli is a health hazard** and should not be consumed. Water that contains E. Coli should not be used for bathing, brushing teeth, washing dishes or cooking. E. Coli can enter a well during periods of drought, periods of continual heavy rain, or when a septic system is located too close to a well.

What do I do if Coliform is Present?

Some homeowners choose to repeat the coliform test using a different sample tap to determine if a dirty tap was the cause of the test failure. If coliform are detected in this second test, the next step is to have your entire drinking water system disinfected with chlorine. Plumbers and well drillers call this "shocking the well", and many perform this service for homeowners. You can shock the well yourself; the Dutchess County Health Department has developed a four-page set of instructions for homeowners. If you choose to do so, be sure to wear the recommended safety equipment, as chlorine is very corrosive. Once the procedure is completed (after the two-week recharge period), take another sample to see whether the disinfection took effect. If your water tests positive for Coliform bacteria after your well has been properly disinfected, the use of a permanent water treatment system should be considered. Chlorinators and Ultra-Violet treatment devices are accepted methods of removing bacteria and viruses from drinking water. Until permanent treatment is installed, purchase bottled drinking water or boil tap water at a rolling boil for 5 to 10 minutes before consuming.

The following URL will direct you to the Dutchess County Department of Health website for private well disinfection instructions: <http://www.co.dutchess.ny.us/heartsafe/hdwell.htm>.