



Total Coliform Bacteria Background Information

The presence of any level of Total Coliform bacteria indicates the possibility that pathogenic microbes (bacteria and other microorganisms that can make you ill) may be present in the water.

Testing a water source specifically for the multitude of pathogenic microbes is impractical. Instead, the EPA devised this relatively inexpensive Total Coliform test to use as an indicator organism to evaluate the fitness of your water supply. Coliform bacteria are common in soil and surface water and most are harmless. However, they should not be present in drinking water. If Coliform bacteria have been detected in your water, it is recommended that you boil the water for 5 minutes before any use for drinking or food preparation.

This Total Coliform test also detects the presence of E.coli, which are a specific and more harmful subset of the Coliform family. A positive result for E.coli indicates that the water is extremely likely to be unsafe to drink.

Because springs and shallow wells are more likely to be under the direct influence of surface water, they can be difficult to keep free of Coliform. However, any water source can become contaminated with Coliform bacteria. A positive Coliform result may be caused by several factors including:

1. A cracked or loose well cap.
2. An improperly sealed well casing at the bedrock interface allowing contaminated surface water to infiltrate the well.
3. One time contamination introduced during maintenance of the water system, including changing filters or adding softener reagents, etc.
4. Changes in the water table or other hydrogeological effects.
5. Contamination introduced during the sampling process due to improper technique.

If your Coliform count is low, resampling using a more rigorous sterile sampling procedure may address the situation. However, it is recommended to perform a more comprehensive disinfection procedure prior to re-testing.



Disinfection Instructions

Before disinfection, disconnect all water treatment equipment such as Water Softeners, RO systems, Charcoal Filters, etc. Use regular chlorine bleach solution to disinfect your water supply. Be sure to use bleach that does not have any other chemical additives, color brighteners, etc.

Add one gallon of household laundry bleach for every 525 gallons of water. This means one gallon of bleach for every 350 feet of 6-inch diameter drilled well, or 10 feet of water in a 3-foot diameter well.

If your well is overflowing, it may be necessary to use Chlorine tablets to maintain a chlorine level sufficient to disinfect the well. Use 3 ounces for every 100 gallons of water, or 2 feet of a 3 foot diameter well. Be certain to use tablets free of other chemicals such as stabilizers, algaecides, etc.

If possible, clean and disinfect the wellhead and casing. Ideally, run a garden hose back to the well and cycle the water, washing down the walls of the well. Once complete, secure the cap on the well before proceeding.

Run one tap in the home until you are sure chlorinated water is flowing out, then turn off. Proceed to every other tap in the home (shower, laundry, outside spigots) and turn on just long enough for chlorine water to flow out, then turn off. Be aware at this point, the concentration of chlorine in the water is not suitable for consumption.

Allow this chlorinated water to sit in the pipes for at least 6 hours, ideally overnight. When ready to flush the system, realize It is not good for the septic system to receive this much chlorine. Drain the water through a garden hose into a safe place, such as a gravel driveway, etc. Continue flushing your system until the chlorine odor is gone. Resample the water for bacteria after 2 to 3 days of heavy water use once the chlorine smell has disappeared.

If you would like additional information you may contact Endyne, Inc. or the Vermont Department of Health Homeowner Assistance Office at (802) 863-7226 or on the Web @

<http://www.endynelabs.com>

http://www.healthvermont.gov/enviro/water/safe_water.aspx