

INTERPRETATION OF RESULTS AND RECOMMENDATIONS

The group “Coliform bacteria” is a diverse group of bacteria which are present in human and animal feces. They are also often present in decaying organic matter, topsoil and in surface waters. Testing for coliform bacteria is based on regulations contained in the Environmental Protection Agency’s Safe Drinking Water Act. While these bacteria are generally not harmful themselves, their presence in a water supply is used as an indicator of contamination.

When coliforms are present as a result of septic (fecal) contamination, their numbers are usually high and *E. coli* is usually present as well. This situation may also be accompanied by elevated nitrate-nitrite and chloride levels. After disinfection, the coliforms rapidly re-contaminate the water giving a positive second coliform test.

If the origin of the coliform bacteria is dirt or surface water entry into the well, the results after disinfection are usually negative since this type of contamination process is more gradual than septic contamination.

Waters that are positive for coliform bacteria and especially for *E. coli* should not be consumed until the problem is resolved. This should start with disinfection of the well followed by a retest to confirm that the disinfection was effective. After disinfection has been proven successful, we recommend an additional test in 2 to 4 weeks to make sure that gradual re-contamination is not occurring. Please note that if *E. coli* was found in your water, there will be a specific comment on the report for this. Otherwise, *E. coli* was not found.

Results with the term “TNTC” (Too-Numerous-To-Count) indicate that the sample contained high levels of background bacteria (non-coliforms). Since these bacteria can obscure or prevent the growth of coliforms, the water should be treated as if positive for coliforms and re-tested following disinfection (see below).

Important: NEL staff is available to discuss the methods of analysis used for coliform testing. All other questions should be directed to the following organizations or agencies:

Questions concerning your particular water supply (e.g. drilled well) should be directed to the appropriate construction or well engineering firm.

Questions regarding any possible water treatment options should be directed to the appropriate firm. These firms may be found in the phone directory under “Water Treatment” or similar headings.

Questions concerning the health implications of a contaminated water supply should be directed to your local or State health officials.

WELL DISINFECTION PROCEDURE: - Allow 24 to 48 hours for this procedure.

- 1) Thoroughly mix about 2 quarts of unscented chlorine bleach with about 4.5 gallons of clean water. Use 1 gallon of bleach for wells over 100 feet deep.
- 2) Remove the well cap or sanitary seal and pour the bleach solution into the well. Place hose into well for ½ hour to circulate bleach
- 3) Connect a garden hose to the nearest outlet and draw water through it until there is a strong odor of bleach.
- 4) Using the hose if possible, flush the inside of the well casing or the interior walls of a dug well. Wash the well cap and well seal. Close the well cap. For deep wells, wait for 1-2 hours prior to proceeding to Step 5.
- 5) Draw water through each faucet inside and outside the home until there is an odor of bleach. As soon as you smell the chlorine bleach from a tap, turn it off and move to the next one. If you cannot smell bleach, repeat steps 1 through 4.
- 6) Let the water stand in the pipes for 6-10 hours or more conveniently overnight.
- 7) Flush the bleach from the well. We recommend attaching a garden hose to an outside faucet and running the hose to the driveway (chlorine is toxic to plants and grass and can disrupt your septic system). Flush the system until you can no longer smell the bleach. This may take 1 to 4 hours. If your well might be pumped dry by doing this, then you should pump in stages. For example, pump for 30 to 60 minutes, wait for the well to recharge, and repeat.
- 8) Open all other indoor and outdoor faucets and run until they are clear of bleach (until odor is gone). Note: adding bleach to your water creates hypochlorous acid, which may dissolve rust and other sediments in the pipes. Do not be alarmed if the water is discolored and has sediment. This will usually disappear in a few days.
- 9) When there is no longer any bleach odor in your water, a sample for lab analysis may be taken from your faucet.