



WELL DISINFECTION AND BACTERIAL PROBLEMS

Why Disinfect?

Disinfection, when done properly, kills disease-causing microorganisms and other contaminant bacteria which may be present in drinking water. Undesirable microorganisms can enter wells during construction. Poorly constructed wells may also allow contaminated ground water or surface water runoff to enter the well. Flood water carries bacteria, viruses, and parasites from saturated septic systems, surface contamination, animal wastes, and in some cases, flooded public waste water systems. State regulations require that water supply wells be disinfected after their initial construction to assure that the water produced is safe for human consumption. Additionally, wells should be disinfected after repairs are made to the well or well equipment, or when bacteriological test results indicate contamination in the water system.

Coliform Bacteria

Total coliform is common in the environment and is generally not harmful themselves. However, the presence of these bacteria in drinking water indicates that the water may be contaminated with organisms that can cause disease. The Environmental Protection Agency and the State of Montana use the presence of coliform bacteria as the standard test for the bacteriological quality of drinking water. Under normal conditions, water that is free of coliform bacteria is considered safe for human consumption.

Non-coliform Bacteria

If the presence of non-coliform bacteria is greater than 200 per 100 milliliters or if a sample is invalidated due to heavy growth without coliform detected, then another sample must be taken. Published data indicates high levels of non-coliform bacteria interfere with coliform count and can potentially mask waterborne health problems.

Iron Bacteria

Iron bacteria occur naturally in soil, shallow aquifers, and streams. Iron bacteria can sometimes flourish in wells where there is sufficient iron and/or manganese, along with either organic material or bicarbonate/carbon dioxide dissolved in the water. Although

iron bacteria do not cause illness, they create white or reddish-brown gelatinous slime on pumps, well casings and household fixtures. In water systems they cause a sudden yellow staining, a reduced well yield, and often produce an unpleasant taste and odor.

Wells seriously plugged by iron bacteria will need to be serviced by a licensed water well contractor experienced in well rehabilitation. Preventive disinfection for wells not seriously plugged is simple and can be done by many homeowners. Disinfection can prevent further well deterioration.