

## **FACT SHEET REGARDING BACTERIAL CONTAMINATION IN WATER<sup>1</sup>**

**Total coliforms** is a designation for a group of closely related, mostly harmless bacteria that live in soil and water, as well as in the intestines of animals. The extent to which coliforms are present in the source water can indicate the general quality of that water. *A result of < 1 means that no Total coliform bacteria were observed.* Total Coliform is not a regulated entity for private drinking water sources. A positive result indicates that the water source may have intrusion from surface water or other contaminated source and has the potential to be a carrier of the *E. coli* bacteria. When *E. coli* is <1 and Total Coliform is present, the TTU Laboratory does not provide statements regarding the potability of the water source.

The TTU Water Resources Center also tests for *E. coli* bacteria in conjunction with total coliform bacteria. Positive test results for *E. coli* indicate the presence of fecal contamination in the water supply.

### **What is *E. coli* and where does it come from?**

*E. coli* is a type of fecal coliform bacteria commonly found in the intestines of animals and humans. *E. coli* is short for *Escherichia coli*. Few *E. coli* strains cause disease. However, the presence of any *E. coli* in a water sample suggests that disease-causing organisms are also likely to be present. The presence of *E. coli* in water is a strong indication of recent sewage or animal waste contamination. *A result of < 1 means that no E. coli bacteria were detected.*

### **What are fecal coliforms?**

Fecal coliforms are bacteria that are associated with human or animal wastes. They usually live in human or animal intestinal tracts and their presence in drinking water is a strong indication of recent sewage or animal waste contamination.

### **How do *E. coli* or other fecal coliforms get in the water?**

*E. coli* comes from human and animal wastes. During rainfalls, snow melts, or other types of precipitation, *E. coli* may be washed into creeks, rivers, streams, lakes, or groundwater. When these waters are used as sources of drinking water and the water is not treated or inadequately treated, *E. coli* may end up in drinking water.

### **If I have a private well, how can I have it tested for *E. coli*?**

If you have a private well or spring, you should have your water tested periodically. Contact the Tennessee Technological Water Resources Center, phone number 931-372-3538, for information regarding total coliform and *E. coli* testing.

### **How is water treated to protect from *E. coli*?**

If your well tests positive for *E. coli*, there are several steps that you should take. First, boil all water intended for consumption. Second, disinfect the well according to procedures recommended by your local health department or the Tennessee Department of Environment and Conservation, phone number (931) 432-4015. (Instructions for shock treatment of wells with bleach may be obtained from the Water Center). Third, monitor your water to make certain that the problem does not recur. If the contamination is a recurring problem, you should investigate the feasibility of drilling a new well or installing a point-of-entry disinfection unit which can use chlorine, ultraviolet light, or ozone to destroy the bacteria.

### **Will a water filter work to keep *E. coli* out of my water?**

Most in-home filters will not remove *E. coli* or other bacteria.

1. Reference: EPA Website <http://www.epa.gov/safewater/ecoli.html>