

Taking A Total Coliform Bacteria Sample Properly

Sometimes water samples fail a total coliform bacteria test because of a sampling error, not because the water system is actually contaminated. To ensure that this does not happen to you follow these steps when taking a coliform sample from your water system.



Step One  DO NOT RINSE OUT THE BOTTLE. The powder in the bottle is meant to be there and will not contaminate your sample.	Step Two  WASH YOUR HANDS prior to taking the sample. Then remove the sterile strip from the bottle.	Step Three  REMOVE FAUCET SCREEN or other hoses or aerators from the end of the faucet. If possible avoid using a faucet that swivels.	Step Four  DISINFECT THE FAUCET by dipping the end in a cap full of bleach before running the water. This is optional but is a good idea.
Step Five  RUN THE COLD WATER LONG ENOUGH to ensure that the water you are sampling has not been sitting in the pipes or tanks for a long time.	Step Six  TURN THE WATER DOWN so it does not splash. Fill the bottle to at least the fill line (100ml). Do not fill it all the way up to the top, allow 1" head space.	Step Seven  SCREW THE CAP ON TIGHTLY. Take special care not to touch the inside of the cap or bottle. If you do, start with a new bottle.	Step Eight  FILL OUT PAPERWORK and mail it with the sample. Keep a copy for your files. Pack the sample in a Styrofoam container or bubble wrap so the bottle doesn't break.

If you're in a remote area, make sure you know the flight schedule and verify that the flight will be in. Take the sample as close to the departure time as possible.

**Important!
The lab must receive the sample when they are open and within 30 hours of collection.**

Keep the sample cool by placing samples in a cooler with an ice pack. Do not freeze.

Waterborne Diseases and Boil Water Notices

Waterborne Disease Outbreaks (WBDO's) occur when drinking water becomes contaminated by microbial pathogens or chemicals.

Typically, WBDO's are caused by microbial pathogens, such as bacteria, viruses, or protozoans. These pathogenic organisms are transmitted via the fecal-oral route. This means that the drinking water supply has somehow been contaminated by fecal material from humans or other warm blooded mammals. The most important test used to determine if drinking water has been

contaminated by disease-causing organisms, is the total/fecal coliform bacteria test. Coliform bacteria are present in the intestinal tracts of all warm blooded mammals and are good indicators of fecal contamination. If coliform are found in a water sample, it is possible that pathogenic organisms could also be present. It is important for public water systems to protect their source water from possible contamination sources, maintain treatment systems, including filtration and chlorination, and to routinely test the finished water for total/fecal coliform bacteria. If total coliform bacteria are detected in a sample, the PWS is required to conduct increased sampling to determine the extent and possible cause of the contamination. If fecal coliform are detected, it is called an "acute" violation and



the system will be put on Boil Water Notice.

The May 2000 WBDO in Walkerton, Ontario, illustrates the need for operators, public utility managers, and state drinking water officials to remain vigilant at all times. In this outbreak, the public water supply was contaminated by the bacteria 0157:H7. This pathogenic strain of *E. coli serotype E. coli* causes severe diarrhea and in some cases, kidney failure. Thousands of people may have been infected in Walkerton and fourteen deaths were under investigation at the time of the outbreak. It appears that proper response to the positive coliform tests could have reduced the harm. This case illustrates the importance of reporting all positive coliform tests to the ADEC immediately and the necessity for ADEC staff to take immediate action by issuing BWN's as needed, requiring additional samples, and requiring the water system to investigate possible causes of contamination. By routinely testing for coliform and responding immediately to positive coliform tests, we can greatly reduce the probability of a WBDO occurring in an Alaskan Public Water System. By working together, we can help to ensure the safety of the drinking water in our communities.

