

## Understanding Your Drinking Water Bacteria Test Results

The Provincial Laboratory of Public Health (ProvLab) tests private drinking water systems for indicator bacteria (total coliforms and *E. coli* bacteria) that may show if the water is contaminated with sewage or manure. However, the ProvLab can't test water for every type of harmful germ. For example, they don't check for viruses (e.g., hepatitis) or protozoa (e.g., *Giardia*). Test your water at least 2 times a year. Call a public health inspector to see what's best for your water system.

### What are coliforms?

Coliforms are a group of bacteria that are almost everywhere (e.g., soil, vegetation, sewage, manure).

The first sample you send to ProvLab will be tested for total coliforms, but it won't tell you how many or the source of the bacteria. Follow-up sample results will tell you the number of total coliforms in the sample.

Your water sample may have coliforms in it if:

- the sample wasn't collected properly
- surface water gets into the well (e.g. cracked casing, seal around well is not sound, well cap is missing or loose)
- there are problems with the distribution system
- the well is near a ponding surface or other source of surface water

Try to find out how coliforms got into your well water or call a public health inspector for more information.

### What are *E. coli*?

*E. coli* are bacteria that people and some types of animals have in their intestines.

The first sample you send to ProvLab will also be tested for *E. coli*, but it won't tell you how many or the sources of the bacteria. Follow-up sample results will tell you the number of *E. coli* in the sample. If the sample has *E. coli*, it means your drinking water has likely been contaminated by sewage or manure.

## How do I understand my test results?

Results	What it Means
<p>Total Coliforms = absent/nil <i>E.coli</i> = absent/nil</p>	<ul style="list-style-type: none"> <li>The water tested was <b>satisfactory</b> because indicator <b>bacteria</b> were <b>not</b> detected in the water sample.</li> <li>The water tested showed <b>no</b> evidence of being contaminated with <b>bacteria</b> at the time the sample was taken. The sample was only tested for coliforms and <i>E. coli</i>. The sample was not tested for chemicals, viruses, protozoa, or other harmful germs, and may still be unsafe to drink.</li> <li>Results from one water sample <b>don't</b> reflect the overall health risk of the private water system. You still need to monitor and treat it properly.</li> </ul>
<p>Total Coliforms = present <b>or</b> <i>E.coli</i> = present</p> <p>(the second sample will say a number instead of just saying present)</p>	<ul style="list-style-type: none"> <li>The water tested was <b>unsatisfactory</b> because coliforms or <i>E. coli</i> bacteria were detected in the water sample. There may also be other harmful germs in the water sample.</li> <li><b>Don't</b> drink the water or use it to prepare food without boiling it <b>first</b>. You need to: <ul style="list-style-type: none"> <li>review your water system and well to find out if they were built properly and if they're operating right (the well cap is on and watertight, the ground slopes away from the well, there is no ponding water, and the well is away from sources of sewage and manure)</li> <li>send another sample of water and make sure you follow the instructions carefully</li> <li>think about following the procedures in the Government of Alberta resource <a href="#">Shock Chlorinating Your Well</a></li> <li>know if past samples have shown coliforms or <i>E. coli</i>. If they have, the water source is more likely to be contaminated and you should think about continuous treatment.</li> <li>think about treating your water (if it isn't being treated) and talk to a public health inspector or other water treatment professional</li> <li>send another sample to check for bacteria after a treatment system is installed or your well has been <b>shock chlorinated</b> to make sure the bacteria are gone (a public health inspector will contact you with the results)</li> </ul> </li> </ul>

## What if I sent a sample, but it wasn't tested?

If your sample wasn't tested, it will tell you why near the bottom of the report. This can happen if the:

- the requisition form wasn't completed properly (follow the instructions on the back of the form)
- the date and time wasn't correct on the requisition form
- ID **number label** wasn't on the sample bottle
- the sample didn't reach the lab within 24 hours of being collected

## Does it matter where my water comes from?

Drinking water that's contaminated with bacteria, viruses, or other germs can make people sick. It's important to understand where your water comes from so you can understand how safe it is to drink and use in your home.

Sewage and manure can get into surface water sources easily, which can contaminate it. Germs can't be seen in water, but they can still make people sick. People can get sick if they drink contaminated water or use it to prepare food, wash fruits and vegetables, or brush their teeth. Surface water includes water that comes from:

- canals
- dugouts
- rivers
- lakes
- springs
- wells near rivers or lakes
- shallow wells (less than 50 feet)

Water from surface sources is not safe to drink and needs to be **filtered** to remove cysts (like *Cryptosporidium* and *Giardia*) and then **disinfected** to control bacteria and viruses. To filter and disinfect for bacteria and viruses use a:

- filter that meets NSF Standard 53, which is approved to remove cysts that cause illness and is 1 micron (absolute)
- Class A ultraviolet light system that meets NSF Standard 55 or a chlorination system

After you install a system, test your water to make sure the system is working right.

## What if I have a deep well?

Deeper wells (more than **50 feet deep** and **300 feet from a river or lake**) are usually safer because the water is less likely to be contaminated with manure or sewage.

Inspect all wells (shallow and deep) 2 times a year (e.g., in the spring and in the fall) to make sure the well head is in good condition to prevent surface water from contaminating ground water.

Private water wells are often neglected. If your well is in poor condition, the water might not be safe or good quality. To check the condition of your well, check closely that:

- the well is fully accessible
- the sanitary seal or well cap is in place and is watertight
- the well cap is at least 30 cm above the surface and isn't buried
- the air vent is screened and it isn't blocked
- there are no cracks or openings in the well casing that would let water, debris, or pests in
- surface water runoff is directed away from the well and doesn't collect or pond close by
- the well is located away from any sources of pollution (e.g., sewage, manure, fuel storage)

Take time to look at your water system closely so you can find any problems with your well early. This may prevent other more expensive maintenance or repairs. It also keeps your family safe and healthy.

**Don't drink untreated surface water—it isn't safe.**

### For More Information

For more information, please contact your local public health inspector.

**For 24/7 nurse advice and general health information, call Health Link at 8-1-1.**

This content may be updated without notice.

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