



TCEQ GENERAL INFORMATION

Water Supply Division

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How to Sample Your Private Well Water for Microbial Contaminants

Does recent flooding, loss of water pressure, or a recurrent digestive concern have you wondering whether your private well water has become contaminated? You can take a water sample and determine if your well water is free of microbial contaminants, including fecal indicator organisms.

Requesting lab tests for the most common fecal indicator organisms, total coliform and *E. coli*, can assist you to determine if your well is contaminated. Having the water tested by an accredited lab is the first step to identifying if there is an issue.

Follow these six steps:

1. Identify a lab and contact them to get started.
2. Get a sterile container and sampling form from the lab.
3. Collect the sample.
4. Send the sample to the lab for analysis.
5. Read the lab report and understand the results.
6. Take actions, as needed.

Find a Drinking Water Lab in Texas

Find a [drinking water lab](#)¹ on the list of accredited labs in Texas. You may also call TCEQ at 512-239-3754 and ask for this information.

Get a Container and Form

- You need a lab-provided sterile container and form to collect and submit a drinking-water sample to a lab for analysis.
- Call a drinking water laboratory near you and ask them to send you a kit for collecting a drinking-water sample for microbial testing for total coliforms and *E. coli*. If you can't reach a lab near you, you can use a lab that is farther away. It's important to find a lab that can serve you quickly.
- If your area has experienced a hurricane, flood, or other natural disaster, recovery teams may be distributing water-sampling kits. Check with the local recovery teams in your area to see if you can get the container and form you need from them.

¹ www.tceq.texas.gov/goto/certified_labs

Collect the Sample

Keep these things in mind when choosing the sampling location and collecting your sample:

- Find a good, clean sampling location. Preferably an outside faucet that points downward and does not leak.
- Take the sample directly from the faucet, not through a hose.
- Avoid sampling from fire hydrants, dirty locations, and areas behind bushes.
- Do not take samples from kitchen or bathroom sinks.
- Avoid sampling during rain or heavy winds, when possible.
- Handle samples carefully! Samples that get contaminated give meaningless results.

Follow these steps to take the sample:

1. Do not open the sample container yet. Open the faucet to full flow for 3 minutes to clear the line. Turn off the faucet.
2. Sterilize the mouth of the faucet for about five seconds using a butane mini torch; **do not** use a torch if there is a plastic vacuum breaker or a plastic faucet. Alternatively, disinfect the faucet by spraying the inside and outside with a 10% household bleach solution or 70% rubbing alcohol solution. Allow the solution to disinfect the faucet for several minutes.
3. Open the faucet again and reduce the flow to a slow, steady, spray-less stream—about the thickness of a pencil (1/4 inch).
4. Be careful not to touch the inside of the container when you open it. Powder inside your empty container is normal; **do not** dump it out.
5. Do not rinse the container—just fill it without splashing. Make sure you collect water to slightly above the fill line indicated on the container (usually 100 mL), but not higher than the neck of the bottle. Your lab should be able provide specific guidance about this.
6. Close and seal the container. Make sure it doesn't leak—leaking samples cannot be accepted for analysis.
7. Note the date, time, and location you collected the sample on the bottle. Some labs provide labels to fill out or you can write directly on the bottle. You will also include this information on the form you send in with the sample.

Send the Sample to the Lab

Don't delay! **Your sample must arrive at the laboratory as soon as possible.** The sample must be tested within 30 hours after you collect it.

First complete the form, then pack the sample properly for transport. If you have questions about form or sample transport requirements, ask your lab.

Fill Out the Submission Form

Fill out the sample submission form or chain of custody the lab provided with your sampling container. Follow guidance from the specific lab to fill out their form.

Pack and Send the Sample

Place the filled sample container in a plastic bag and seal it.

If you can transport it directly to the lab, place the bagged sample upright, on ice in a small, clean ice chest for delivery.

If you are not able to take the sample directly to the lab, wrap the bagged sample securely in bubble wrap or other suitable padding. Place it upright, on ice in a small, clean ice chest for shipment. Be sure to include the submission form securely in the shipping box. If you place the form inside the ice chest, put it in a plastic bag to protect it from moisture.

Send the package by overnight delivery to the lab for analysis. **When choosing shipping options keep in mind that the sample must be tested within 30 hours after collection.**

Check Out the Results

It should take about two to three days for the lab to complete the tests and determine the results. Ask your lab when results will be reported, so you know what to expect. The most important part of the report is the results. There are three possible outcomes:

1. **Total coliform not found (absent).** This is good news. As far as levels of potential fecal contamination are concerned, your water is considered free of total coliform and *E. coli* organisms.
2. **Total coliform found (present).** This is **not good news**. There are total coliform organisms present in your water. Review your lab report for the result on *E. coli*. Presence of either of these organisms indicates there may be fecal contamination.

Do not use the water for drinking, bathing, cooking, preparing food, making ice, washing dishes, or cleaning.

Here is what to do:

- Boil or disinfect your water before you use it, use bottled water, or get water from another source.
- When you boil your water, heat it to the boiling point and let it continue at a full boil for two minutes. Let it cool before using it for drinking or bathing.
- To find out how to disinfect water, go online to [EPA's Emergency Disinfection of Drinking Water webpage](#)².
- Disinfect the well and repeat the test.
- For information on disinfecting your well, go to [Disinfecting Your Private Well](#)³.

Until you get a test result of “total coliform not found (absent)” from the lab, continue to boil your water, use bottled water, or use water from another source.

² www.epa.gov/ground-water-and-drinking-water/emergency-disinfection-drinking-water

³ www.tceq.texas.gov/goto/gi-432

- If repeated tests continue to show total coliform organisms are present, consider adding continuous disinfection equipment to your well.
3. **Unsuitable for analysis.** This is a gray area: The lab could not draw a conclusion, perhaps because of a sampling error. For example, if you rinsed out the container before you collected the sample or if the sample was cloudy or had too much color, the result might be “unsuitable for analysis.”

Review the directions, request guidance from the lab, and re-sample. You may also consider disinfecting the well before repeating the test. See bullets above for information on disinfecting your well.