How to Sample Drinking Water and Understand the Results

If flooding, loss of water pressure, or recurrent diarrhea has you wondering whether your drinking water has become contaminated, you can find out by taking a sample and having it tested. Follow these four steps:

1. Get the right container and form
2. Collect the sample
3. Send the sample to the lab for analysis
4. Read the lab report and understand the results

In the meantime, protect yourself and your family from waterborne disease. Until you are sure that your water is not contaminated, don't use it for drinking, cooking, bathing, washing dishes, washing clothes, or household cleaning.

Get a Container and Form

You have to use a special container to collect a drinking-water sample and complete a special form to send with the sample to a lab for analysis:

- If your area is recovering from a hurricane, flood, or other natural disaster, recovery teams may be distributing water-sampling kits. Check with the recovery coordinator in your area to see if they can provide you with the container and form you need.
- If not, read "Public Health Laboratories in Texas" on pages 2 and 3. Call a lab near you and ask them to send you a kit for collecting a water sample for bacteriological testing. If you can't reach a lab near you, it's okay to use a lab that is farther away. The important thing is to find a lab that can serve you quickly.

Collect the Sample

Start by finding a good sampling location. The best site is an outside faucet that is in the open and does not leak:

- Take the sample at the faucet, not through a hose.
- Avoid sampling from fire hydrants, dirty areas, and areas behind bushes.
- Do not take samples from kitchen or bathroom sinks.
- Try not to sample in high or gusty winds or when it is raining.
- Handle samples carefully! It is easy to contaminate the samples. Contaminated samples 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 three minutes to clear the line.
2. Reduce the flow to a slow, steady, sprayless stream—about the thickness of a pencil (¼ inch).
3. Now, making sure not to touch the inside of the container, open it.
4. Do not rinse the container out—just fill it without splashing.
5. Close and seal the container. Make sure it doesn't leak—leaking samples cannot be accepted for analysis.
6. Note the time. (You will need to enter this 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 no more than 30 hours after you collect it. But first complete the form and pack the sample properly. If you have questions about this, ask the lab.

Fill Out the Submission Form

With your sampling container, there will be a bacteriological submission form. Here's how to complete it for a private well:

- For "Name of Water System" item, write "Private."
- For "County," write in the name of your county.
- For "Send Results To:" enter your name and mailing address.
- Enter the date and time that the sample was taken.
- For "Type of System," write "Individual."
- For "Water Source," give as much information as you can—for example, the location, diameter, and depth of the well. If you know the aquifer that the well is drilled into, enter that information, too.

Pack and Send In the Sample

Enclose the sample container in a plastic bag, seal it, and wrap the bag securely in bubble wrap or some other suitable padding. Put it and the form in a box or envelope and send it by express delivery to the lab for analysis.

Check Out the Results

It should take about two days for the lab to complete its tests and return the results to you. The most important part of the results is the part about coliform organisms. There are three possible outcomes:

- **Coliform organisms not found.** This is good news: As far as levels of harmful bacteria are concerned, your water is considered safe to drink at the time of sampling.

- **Coliform organisms found**. This is not good news. Coliform organisms are present in your water, and it might not be safe to drink. Here is what to do:
  - Don't touch the water. Don't use it for drinking, bathing, cooking, preparing food, making ice, washing dishes, or cleaning.
  - Instead, use bottled water, get water from another source, or boil your water or disinfect your water before you use it.
  - If you choose to 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 <www.epa.gov/safewater/faq/emerg.html>.
  - Disinfect the well and repeat the test.
  - Until you get a test result of "coliform organisms not found" from the lab, continue to boil or disinfect your water, use bottled water, or use water from another source.
  - If repeated tests continue to show coliform organisms are present, consider adding continuous disinfection equipment to your well.
- **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 rinse out the container before you collect the sample, the result might be "unsuitable for analysis." (So don't rinse out the container!) If you get this result, consider disinfecting the well again and repeating the test.

Public Health Laboratories in Texas

These public health laboratories can provide you with sampling kits and test water samples for you. Contact the laboratory to find out when they are open and how much analysis will cost.

Abilene–Taylor County Public Health District
850 North 6th
Abilene TX 79601
325-692-5600

City of Amarillo Department of Health
4001 S. Osage Street
Amarillo TX 79118
806-342-1549

Angelina and Neches River Authority
210 Lufkin Avenue
Lufkin TX 75901-0310
936-633-7527

Brazoria County Health Department
434 E. Mulberry
Angleton TX 77515-4736
979-864-1628

Brazos County Health District
201 N. Texas Avenue
Bryan TX 77803-5317
979-361-4440

Corpus Christi–Nueces County Public Health District
P.O. Box 9727
1702 Horne Road
Corpus Christi TX 78416-1902
361-826-7213

City of El Paso Department of Public Health
222 Campbell Street, Suite 102
El Paso TX 79901-2897
915-771-5707

Galveston County Health District
1205 Oak Street
La Marque TX 77568
409-938-2449

Greenville–Hunt County Health Department
2700 Johnson Street
Greenville TX 75401-4206
903-408-4140

Houston Department of Health and Human Services
1115 S. Braeswood
Houston TX 77030-1715
713-558-3400

Laredo City Health Department
2600 Cedar Street
Laredo TX 78040-4040
956-795-4908

Lower Colorado River Authority
3505 Montopolis Drive
Austin TX 78744- 1499
512-356-6022

Lubbock City Health Department
1902 Texas Avenue
Lubbock TX 79411-2117
806-775-2908

Midland Health Department
3303 W. Illinois
Space 22
Midland TX 79703-6232
432-681-7618

Nova Biologicals, Inc.
1775 North Loop 336 East
Suite 4
Conroe TX 77301-1516
936-756-5333

Port Arthur City Health Department
431 Beaumont Avenue
Port Arthur TX 77640
409-983-8835

City of San Angelo Water Treatment Plant Laboratory
1324 Metcalfe Street
San Angelo TX 76903-0757
325-481-2722

San Antonio Metropolitan Health District
332 West Commerce, Room 201
San Antonio TX 78205-2489
210-207-8887

Northeast Texas Public Health District
815 North Broadway Avenue
Tyler TX 75702-4507
903-535-0090

Department of State Health Services South Texas Laboratory
1301 South Rangerville Road
Harlingen TX 78552-7610
956-364-8746

Sweetwater–Nolan County Health Department
301 E. 12th Street
Sweetwater TX 79556-2317
325-235-5463

Tarrant County Public Health Department
1101 South Main Street, Suite 1700
Fort Worth TX 76104-4802
817-321-4758

Texarkana Water Utilities Lab
2700 New Boston Road
P.O. Box 2008
Texarkana TX 75501-3263
903-798-3850

Department of State Health Services, Laboratory Section
1100 West 49th Street
Austin TX 78756-3199
512-458-7318

Trinity River Authority Lake Livingston Project
5170 South FM 1988
P.O. Box 360
Livingston TX 77351-7340
936-365-2292

Trinity River Authority Central Regional Lab
6500 W. Singleton Blvd.
P.O. Box 531196
Dallas TX 75212-3038
972-263-2251

Victoria City-County Health Department
2805 North Navarro Street
Victoria TX 77901-3946
361-578-6281 Ext. 41

Waco–McLennan County Health District
2905 Mount Carmel
Waco TX 76710
254-750-1662

Wichita Falls–Wichita County Public Health District
1700 Third Street
Wichita Falls TX 76301-2113
940-761-7873