

## Water Facts: Number 1 Test your well for safety

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If you own a well, you have sole responsibility for checking to see if your water is contaminated. Arizona state law does not require private well owners to test or treat their water for purity.

Laboratory testing is the only sure means to detect contaminants in your water. The following tests; nitrates, coliform bacteria, pH, and total dissolved solids (TDS), if taken yearly, will give you a general idea about the quality of your water. If these test results meet federal and state standards, your water is probably of good quality.

Average cost for all four tests is around fifty dollars. Call several different labs to find out their prices and sampling procedures. The county extension office has a list of state-certified labs and the contaminants they can analyze for. Some labs will send you empty bottles with complete sampling instructions. Accurate test results depend on how well you follow the directions.

After the lab has completed the tests, they will send you a copy of the results. If you do not understand the test results, be sure to call the lab for a clear explanation. Your local health department can probably help you interpret the results, too.

Both nitrates and microorganisms in drinking water can cause health problems. High levels of nitrates can cause a potentially fatal condition in infants. The maximum drinking water standard for nitrates (as nitrate-nitrogen) is 10 parts per million (ppm). Microorganisms in your water can cause various gastrointestinal illnesses such as dysentery and cholera. The test for coliform bacteria is an indicator of the microbiological quality of water. A positive coliform test means that your water may be contaminated with other harmful microorganisms.

Tests for pH and TDS measure qualities of the water that can affect color, taste, or odor. On a scale of 1 to 14, pH measures acidity or alkalinity. Water below seven is acidic; above seven is alkaline; seven is neutral. The standard for pH is between 6.5 and 8.5. Outside that range, water is too corrosive. A standard of 500 ppm has been set for TDS. High levels of dissolved solids can make the water taste bad, cause hard water deposits on faucets, and reduce the effectiveness of soaps and detergents.

You may want further water testing besides the four items mentioned. If you live near an agricultural area, you might want to check for certain pesticides used locally. Test for metals or for corrosiveness of the water, if you live near a mining operation. Mine tailings can leach harmful metals into the groundwater supply long after the mine has been abandoned. Organic chemicals used in some industries and in dry-cleaning businesses can enter local water supplies.

Analyzing for any of these can be expensive. Some labs offer package deals for all tests covered under the National Primary Drinking Water Standards, set by the Environmental Protection Agency (EPA), to protect public health. By law, public water suppliers must deliver water that meets all of the Primary Standards. Failure to do so may result in costly fines.

Although your water supply may be of high quality, you may not like the way it tastes, looks, or smells. Substances that affect the aesthetic qualities of water are on the National Drinking Water Secondary Standards list. The limits set for secondary standards are not enforceable by law, they are only guidelines to help water providers deliver water that is appealing to the senses. Both pH and TDS are on the secondary standards list.

You can order this list from the EPA by calling the Safe Drinking Water Hotline at 1-800-426-4791. The hotline is open Mondays through Fridays between the hours of 8:30 A.M. and 4:30 P.M. Eastern Standard Time. Your local county extension office may also have a listing of the National Drinking Water Standards.

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