

# Understanding the Results of Your Well Water Test



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By testing the quality of your well water, you've taken an important step in protecting yourself and your family from common waterborne pathogens that can cause illness. You just received your test results, so you're probably wondering now what?

## How do I decipher the results?

Regarding microbial contamination, the most important measurement is total coliform bacteria. Coliform bacteria occur naturally in soil, decaying vegetation, and the intestines of warm-blooded animals. While many coliform organisms are completely harmless, some like *E. coli* can make people sick and even be deadly. When present, coliforms are a strong indicator that your water source has already or can easily become contaminated with human or animal fecal matter. The seriousness depends on how high the number is.



► **Remember: A water test only provides a snapshot in time—and water quality changes frequently.** Test well water at least once a year, preferably during warmer months when the risk of external influences on your well is higher.

If your results show any fecal coliforms, including *E. coli*, your water is contaminated. You must boil your water before consuming it.

**TABLE 1: RESULTS BY TESTING TYPE**

Presence-absence test	Lab test (total coliforms)	Interpretation
Negative (absence)	0 or ND (not detected)	Indicators tests are looking for are bacteria: Total coliforms indicate general water quality, and <i>E. coli</i> indicate definite fecal contamination. You can confidently consume your water.
Positive (presence)	1 to 5*	As long as it tests negative for fecal coliform or <i>E. coli</i> , you can confidently consume your water.
Positive (presence)	6 or higher*	Boil your water before it's consumed.
Positive (presence)	O/G (overgrown)	Boil your water before it's consumed. Sometimes a test result says "O/G" instead of listing the number of total coliforms. This means many other types of bacteria exist in your water sample, which prevented the lab technician from seeing whether there were coliform bacteria.

\*If you see "est." or "estimate" next to your test results, coliform bacteria were in your water. However, because other types of bacteria also existed, the lab technician couldn't accurately count the number of coliform bacteria. Boil your water before it's consumed.

## My water cannot be consumed. Now what?



### Boil your drinking water

Until the problem is addressed, bring your water to a rolling boil for a full minute before drinking or cooking with it.



### Shock your well

To remove microbes from your well, “shock” it with a high dose of chlorine and then purge the water. Highly chlorinated water should never be consumed.

The amount of chlorine needed for the shock depends on numerous factors. Your water treatment professional will know exactly how much is required and how to safely dispose of the chlorinated water once the treatment is complete.

► **Remember: Shocking your well isn't a long-term solution;** it's a quick fix that needs to be paired with long-term, continuous treatment.



### Retest your water

After shocking your well, wait 24 hours and retest. Then test again in a week or two. After two negative results, you can confidently consume your water again. But don't let your guard down: Once a well has been contaminated, it can be contaminated again.

## What could have caused the problem?

To reduce the risk of future contamination, identify the source and fix it. Common sources include:

- Heavy rain, snowmelt, and flooding
- Leaking septic systems
- Land use practices, including fertilizers, pesticides, and piles of organic materials
- Agricultural runoff and livestock operations

► **Remember: Wells may draw water from the same aquifer,** so if your neighbors aren't maintaining their wells properly, your water can become contaminated.

## How do I find a long-term solution?

Unfortunately, some problems can't be fixed. If you can't control the source of contamination, or if you want peace of mind, install a water treatment system that inactivates microorganisms so they cannot reproduce or cause infection.

Various approaches to treatment exist—each with different benefits and drawbacks (see Table 2 on the next page). Your options depend on whether you want to treat all your water as it enters the home (point-of-entry or POE systems), or if you want to treat water at your sink (point-of-use or POU systems).

Your water treatment professional can help you determine which treatment best suits your water conditions, home size, and budget. They'll also assess whether you need any pretreatment (reducing hardness, iron, etc.).

**TABLE 2: WATER TREATMENT SYSTEMS**

Treatment method	Benefits	Drawbacks	Maintenance	Inactivates microorganisms	Estimated initial investment
<b>Ultraviolet light (UV)</b>	<ul style="list-style-type: none"> <li>Doesn't require chemicals or generate disinfection byproducts</li> <li>Installs easily</li> <li>Inactivates microbial contaminants found in water</li> <li>Will not alter the taste*</li> </ul>	<ul style="list-style-type: none"> <li>Usually requires pretreatment (e.g., softeners in hard-water areas)</li> <li>May require high UV doses to inactivate some viruses</li> </ul>	<ul style="list-style-type: none"> <li>Replace lamp annually</li> <li>Occasionally clean and replace quartz sleeve</li> </ul>	Yes	\$1,500 to \$2,000 for the system
<b>Chlorine injection</b>	<ul style="list-style-type: none"> <li>Reduces some disagreeable taste and odors</li> <li>Provides residual disinfection</li> <li>Can help remove iron and manganese</li> </ul>	<ul style="list-style-type: none"> <li>Requires storage and use of noxious chemicals</li> <li>Requires ongoing monitoring of chlorine levels</li> <li>Does not work on chlorine-resistant microbes, like <i>cryptosporidium</i> and <i>giardia</i></li> <li>Requires professional installation</li> <li>Can alter water's taste and odor</li> <li>Is corrosive</li> <li>Can produce harmful byproducts</li> </ul>	<ul style="list-style-type: none"> <li>Check for loose, worn, missing, or broken parts</li> <li>Clean the entire system semiannually</li> <li>Clean all surfaces showing corrosion</li> <li>Refill chlorine supplies</li> <li>Clean any clogged injectors</li> </ul>	Yes	\$1,995 to \$3,600 for the system
<b>Shock chlorination</b>	<ul style="list-style-type: none"> <li>Reduces some disagreeable taste and odors</li> <li>Is inexpensive, fast, and conducted as needed</li> </ul>	<ul style="list-style-type: none"> <li>Does not offer continuous treatment or address seasonal changes in water quality</li> <li>Is not a long-term solution, as contamination will likely reoccur unless the source of the problem has been fixed</li> <li>Requires storage of 12 to 24 hours' worth of water for drinking and cooking during the treatment</li> <li>Can alter water's taste and odor</li> <li>Is corrosive</li> <li>Can produce harmful byproducts</li> <li>Does not work on chlorine-resistant microbes, like <i>cryptosporidium</i> and <i>giardia</i></li> </ul>	<ul style="list-style-type: none"> <li>Monitor the status of the well through regular testing</li> <li>Repeat the shock process in the event of a positive test</li> </ul>	Yes	\$80 to \$200 per shock

\* In rare circumstances, low levels of sulfur in source water may become detectable due to the UV system.

**Have questions about your test?  
Ready to talk next steps? Contact us at:**