

Corrective Action for Water that Does Not Meet the Recommended Guidelines

If test results show an unacceptable level of total coliforms or *E. coli*, it is necessary to shock treat the well and, if possible, find and eliminate the source of contamination. Disinfection can be done using unscented household bleach. Table 1 outlines the quantity of bleach required to properly disinfect new and existing wells. If the source of contamination cannot be found and eliminated, the water should subsequently receive continuous disinfection.

Table 1: Disinfection of Well Water with Unscented Household Bleach (Approximately 5.2% Hypochlorite)

Depth of water in well	Volume of bleach added			
	Casing diameter 15 cm (drilled)		Casing diameter 90 cm (dug)	
	New well*	Existing well*	New well*	Existing well*
1.0 m	100 mL	20 mL	3.2 L	0.6 L
3.0 m	300 mL	60 mL	9.8 L	2.0 L
5.0 m	500 mL	100 mL	16.5 L	3.0 L
10.0 m	1000 mL	200 mL	32.0 L	6.5 L

* New wells require a chlorine concentration of 250 parts per million (ppm) for effective disinfection, whereas existing wells require 50 ppm chlorine.

Steps for Chlorine Disinfection

1. Add the amount of unscented bleach determined in Table 1 to the bottom of the well and then agitate the water. Connect a garden hose to a nearby tap and wash down the inside wall of the well. This will ensure thorough mixing of the chlorine and the water throughout the well.
2. Start the pump and bleed air from the pressure tank. Open each tap and allow the water to run through all taps until a smell of chlorine is detected, then turn off the taps. If a strong smell is not detected, add more bleach to the well.
3. Allow the water to sit in the system for 12-24 hours.
4. Start the pump and run water through the outside hose away from grass and shrubbery until the strong smell of chlorine disappears. Make certain that the water does not enter any watercourse. Finally, open the indoor taps until the system is completely flushed.
5. Wait 48 hours, then sample the water using the instructions and bottle provided by the laboratory. In the meantime, find another source of water, or boil the water for one minute before drinking it. Two consecutive "safe" tests, performed on samples obtained over a period of one to three weeks, will probably indicate that the treatment has been effective.
6. If the shock treatment solves the problem, repeat bacteriological testing in three to four months.
7. If the above steps do not alleviate the problem, it is recommended that the source of the ongoing contamination be determined and corrected, possibly with professional help. If remediation is not possible, a permanent alternative solution, such as a new well or a drinking water disinfection device, should be considered.

