

## Disinfection of Wells and Springs

Using chlorine to disinfect a well contaminated with bacteria is known as **shock chlorination**. The highly chlorinated water destroys the bacteria along with disease-causing organisms in the drinking water. Disinfection should be done any time a well is newly constructed or repair work is done, if flooding of the well has occurred, or if the water testing indicates UNSATISFACTORY results due to the presence of coliform and/or e-coli or iron bacteria.

Shock chlorination is not considered a permanent correction method for water sources continually exposed to bacteriological contamination.

**Always remember to wear gloves and protective clothing when disinfecting wells or springs.**

### Disinfecting Drilled Wells:

The procedures for disinfecting a well supply are provided in this section.

1. Remove any cover over the well casing to allow access to well water.
2. Introduce the prescribed amount of chlorine. LAB-10D "Disinfection of Contaminated Wells and Cistern" may be used to determine the amount.
3. Turn on outside hose and rinse down the sides of the well to help circulate the water. Run hose until you smell chlorine.
4. Turn on all inside faucets until chlorine is detected then turn them off.
5. Let chlorine stand in system at least 4 hrs. or preferably overnight.
6. Turn on outside hose and run water until the smell of chlorine is gone. This method will keep the septic system from becoming overloaded and from adding too much chlorine to the system.
7. Open all faucets and allow the water to run until no chlorine odor is detected.

### Disinfecting a Driven or Sandpoint Well

1. The outside of a sand point or driven well and all associated equipment should be cleaned following the procedures for drilled wells as much as possible. Then:
2. Pump the well to waste until the water is clear. If possible, avoid pumping water into the pressure tank or the distribution system.
3. Pump water through the distribution system until the water from all of the taps run clear. If the pressure tank or water heaters contain dirty water, drain them first.
4. Turn off the pump and drain the pressure tank. Using a drain plug opening, pressure gage opening outlet pipe, or other opening into the pressure tank, add chlorine bleach or other chlorine into the pressure tank, so that the water in the tank contains approximately 50 ppm free chlorine. This will take approximately 3 (three) tablespoons, or 1 ½ ounces of bleach for each 10 (ten) gallon of tank capacity (a 50-gallon tank, for example, will require approximately ¾ (three fourths) of a cup of bleach.

5. Open all taps one-by-one until chlorinated water comes through each tap. If available, test the water with chlorine test papers. If there is between 10 and 50 ppm chlorine residual go to step 4; if there is less than 10 ppm, add more chlorine to the pressure tank and repeat this step. Let the water stand in the system for at least 4 hours, preferably 12 hours or overnight.
6. After at least 4 hours, flush the system by allowing water to run until the chlorine level is reduced to 5 ppm or less, or until no chlorine taste or odor is detected (if available, use a chlorine test kit).
7. Have the water tested for the presence of bacteria. Continue to disinfect water used for drinking or cooking using the emergency disinfection purposes until a satisfactory bacteriological test result is received. If the test results are unsatisfactory, repeat the disinfection process. The water should be tested again for bacteria after 2 weeks.

**Disinfecting a Spring Box**

1. Debris and sediment should be removed from the spring box and distribution system before disinfecting the system.
2. Scrub the inside surfaces of the box with a strong chlorine solution.
3. Allow the spring box to fill with water, stop the flow of water through the outlet pipe, add chlorine to the system to obtain 200 parts-per-million and let stand for at least 12 hours but preferably overnight. If the flow rate into the spring box is too great than the chlorine solution must be fed continuously for at least 12 hours.
4. Pumping chlorinated water through the system should disinfect tanks, waterlines, valves, and faucets. To do this, turn on all faucets until a strong chlorine odor is detected at each one and then shut them off. Allow the chlorine solution to remain in the lines for at least 12 hours but preferably overnight.
5. Once this process is completed, turn on all faucets and run fresh water through the system until no chlorine is detected.