

WATER SUPPLY DISINFECTION

RATIONALE

All newly constructed water supplies and all existing water supplies which have been repaired, reconstructed, flooded, or reactivated after a period of shutdown, must be disinfected and have a "safe" water sample prior to use.

Bacterial contamination from drilling operations, greasy equipment, etc., is usually eliminated during development, test pumping, or simple disinfection by the well drilling contractor. Occasionally, however, the contamination may be very persistent and the well continues to produce water showing coliform bacterial contamination. Simple low-cost procedures may eliminate bacterial contamination in most wells, but some problem wells will require costly, time-consuming methods. Therefore, well disinfection should be approached in a systematic fashion, beginning with the simplest, least costly method.

CONSTRUCTION CONSIDERATIONS

It is essential that the well construction details be known prior to attempting disinfection. Old existing wells which are inaccessible for maintenance or poorly constructed may be impossible to properly disinfect.

Most clamp-on and weld-on pitless adapters may be disinfected by adding chlorine through the top of the casing after removing the well seal, or through the well vent. Generally, a well can be effectively disinfected without removing the submersible pump. Because of the cost of removing and reinstalling the pump and the increased chance of recontamination, the submersible pump should not be removed unless absolutely necessary. Shallow well jet installations present special problems in well disinfection. In shallow well jet installations, a check valve may be located near the pump or at the end of the drop pipe in the well. If the check valve is near the pump, the disinfectant may be placed into the well via the suction line. In this case, the suction line must be disconnected upstream (toward the well) from the check valve and disinfectant added at that point. The pump must be reprimed prior to operation. Placing a chlorine solution into the suction line when a foot valve is on the end of a drop pipe will disinfect only the drop line. In this situation, it is necessary to disinfect by placing the chloring solution directly into the well.

CAUTION: *Make sure there is adequate ventilation and use all the proper safety guidelines before entering an enclosed space.*

CLEANING AND DISINFECTING THE CISTERN/HAULED WATER TANK

While the cistern/hailed water tank is empty, use stiff broom or brush and scrub the interior walls and ceiling with a disinfecting solution mixed from 1/4 cup of 5.25% chlorine laundry bleach in 10 gallons of water. Remove debris.

Place as much potable water as possible in cistern/hailed water tank. Add 1 gallon of 5.25% chlorine bleach to every 1000 gallons of water. Mix as thoroughly as possible. Pump water through system until distinct odor of chlorine is present at all outlets. Routine chlorine solution in cistern/hailed water tank and distribution system for at least 24 hours.

After 24 hours check water for chlorine residual - if no residual is found, repeat the process.

Flush system with potable water until all traces of chlorine have disappeared.

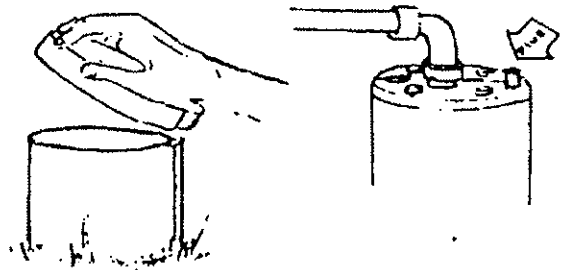
HAVE WATER TESTED

After disinfecting the cistern/hailed water tank, contact your health department to collect samples for bacteriological analysis.

How To Disinfect A Water Well

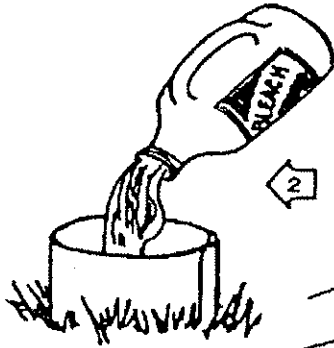
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Remove the well cap or the vent pipe or plug if the well is equipped with a sanitary well seal.



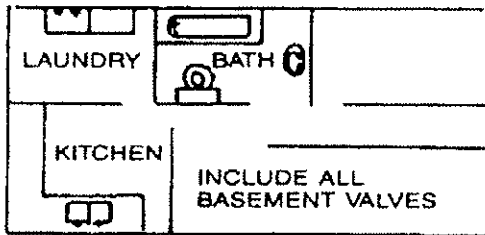
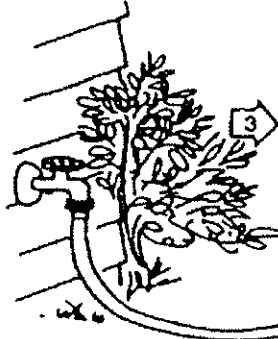
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Pour one gallon of household bleach (5.25% chlorine) directly into the well.



3

Connect a hose to a house spigot and run water directly into the well until chlorine odor is present in the water. Run the water this way for 15 minutes.



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Shut off water supply to hose and proceed to systematically open each water fixture in the house. Let water run through each fixture until chlorine odor is present. Include both cold and hot water valves.



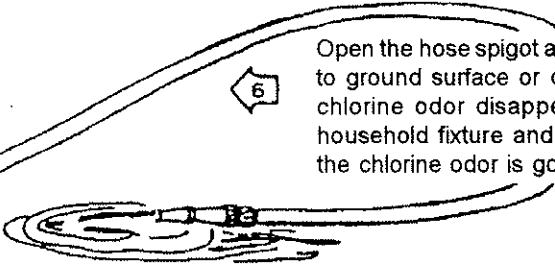
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Close all valves and pour another one gallon of bleach directly into the well. Recap the well or replace the vent pipe or plug. Leave all valves closed for a period of 12 hours or longer (toilets may be flushed if needed).



6

Open the hose spigot and discharge water to ground surface or drainage ditch until chlorine odor disappears. Open every household fixture and let water run until the chlorine odor is gone.



7

The well should now be properly disinfected. Request your local Health Department to collect a sample of your water before using it. The phone number will usually be found listed under the city or county government offices in the white pages of your telephone directory.

