Division of Environmental Health
100 H Street - Suite 100 - Eureka, CA 95501
Phone: 707-445-6215 - Toll Free: 800-963-9241
Fax: 707-441-5699
envhealth@co.humboldt.ca.us

PROCEDURE FOR DISINFECTING WELLS AND WATER SYSTEMS

Although generally not harmful to humans, coliform bacteria do not belong in drinking water. When testing reveals their presence, there is likely an opening in the water system that can admit other more dangerous bacteria, viruses, or parasites. If the opening (or other contamination source) can be located and corrected, the microbes can be eliminated by disinfecting or "shocking" the entire water system. A well should also be disinfected following repair, maintenance, or replacement of the pump or storage tank. A new well should be disinfected following development, testing for yield, and installation of the pump.

STEPS TO DISINFECT A WATER SYSTEM

1. Estimate the total amount of water in the system. Include the water volume in the well, storage tanks, and pipes. Unscented Clorox or Purex bleach (brands approved for drinking water) will need to be added to the well at the ratio of one quart for every 500 gallons of water in the system. The following table will help to estimate how much water is in the well.

WELL CASING DIAMETER (inches)	GALLONS PER FOOT OF WATER DEPTH**
4	0.65
6	1.47
8	2.61
12	5.88

******Note**: the numbers in the "Gallons Per Foot of Water Depth" section will need to be multiplied by the depth of the well in feet to estimate total gallons of water in the well.*

2. Mix the chlorine into a clean 5-gallon bucket of fresh water. Remove the threaded inspection plug or other opening from the cap on top of the well. Place a funnel in this entry port and add the chlorine solution. For systems with storage tanks, add part of the solution to the tank.
3. Turn on all of the faucets inside the house one at a time until chlorine can be smelled at the faucet furthest from the water main. Faucets and valves will include sinks, showers, dishwashers, toilets, outside hosebibs, etc. Make sure that both hot and cold water are being run at each tap so that chlorine circulates through every pipe in the building. This will ensure that chlorinated water has entered the entire system (if a strong chlorine odor is not smelled at each site, more chlorine needs to be added to the well). Also, connect a garden hose to a nearby faucet and wash down the inside of the well with the chlorine-treated water.
4. Close all outlets and allow water to remain in all water lines, then leave the water off for at least 12 hours. Do not use the water for any purpose at this time.
5. Next, dispose of the chlorinated water by opening the outside faucets (do not use water for drinking or bathing). Flush through the outside taps only to avoid overtaxing the septic system. This can take 3 – 4 hours for a typical well. Turn off the water if the flow slows down to keep the pump from overheating, wait a few minutes, then resume flushing. The chlorinated water can kill plants and aquatic life, so use a hose to direct it away from lawns, gardens, storm drains, septic leachfield, streams, etc.
6. **Wait at least one week before retesting the water for bacteria** to make sure that the disinfection has been effective over the longer term. In some cases, one treatment will not be enough, and the well will need to be disinfected a second or even a third time.

Please call Environmental Health at (707) 445-6215 if you have any questions on the above procedures or other water quality issues.

PROCEDURE FOR TANK DISINFECTION AFTER MAINTENANCE

Drain and disinfect the interior of a tank after any repairs. To do this, create a disinfection solution by adding an ounce of unscented 5.25% chlorine bleach to each 30 gallons of water, spray or brush the solution inside the tank, and allow it to sit for 30 minutes. The tank then should be filled with water chlorinated at 3 parts per million (approx. 7 ounces of bleach for each 1,000 gallons of water) for at least 3 hours; this water can then be flushed through the distribution system or drained with a hose outside the tank (but not into a waterway or over a septic system).