

MADISON COUNTY HEALTH DEPARTMENT

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CHLORINE DISINFECTION OF BORED AND DRILLED WELLS

The sample collected from your water supply was analyzed for bacterial indicator organisms called "Total Coliforms". These organisms normally are present in the intestines of humans, birds, and land animals. They can be found in sewage, and are generally present in surface water and shallow groundwater. The presence of Total Coliforms in a water sample usually indicate that pollution is entering the water supply and that organisms which cause intestinal infections may be present or have somehow gained entrance into the water supply. Proper location and construction of water wells will prevent pollution from entering the supply, thus assuring a bacteriologically safe water supply.

Chlorine is a chemical which when applied in small quantities can effectively destroy disease carrying bacteria in water. The chlorine disinfection process usually will eliminate total coliform and other bacteria. However, it will not prevent other pollutants (i.e. nitrates, pesticides, minerals, etc.) from entering and possibly contaminating your water supply.

Chlorination is not a substitute to be used in place of proper well location and construction. Wells that have been newly constructed or opened for any reason should be sampled at least annually for bacteriological quality.

DISINFECTION PROCEDURES

1. Remove the cover from the well and add chlorine in the amount calculated from the following chart. The amount of disinfectant required is determined primarily by the amount of water in the well. The chart below shows the amount of chlorine (laundry bleach 5.25%) **by cup**, to use according to the well's depth and diameter.

Depth of water in feet

diameter of well in inches	<i>Depth of water in feet</i>									
	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
4"	1/4	1/3	1/2	3/4	1	1 1/4	1 1/3	1 1/2	1 3/4	2
6"	1/2	1	1 1/3	1 3/4	2 1/4	2 3/4	3 1/4	3 1/2	4	4 1/2
8"	3/4	1 1/2	2 1/2	3 1/4	4	4 3/4	5 1/2	6 1/2	7 1/4	8
12"	1 3/4	3 1/2	5 1/2	7 1/4	9	10 3/4	12 1/2	14 1/2	16 1/4	18
24"	7 1/2	15	22 1/2	30	37 1/2	45	52 1/4	67 1/2	67 1/2	75
36"	15	30	45	60	75	90	105	135	135	150
48"	30	60	90	120	150	180	210	270	270	300

Example: Well Diameter 36"; Water Depth 20' = 30 cups of bleach for disinfection

To calculate gallons: Divide number of cups by 16: 30 cups ÷ 16 = 1.875 = use 2 gallons of bleach

2. Attach a garden hose to an outside tap and place the hose into the well.
3. Start the pump and circulate the water until the chlorine is well mixed (approx. 15 minutes).
4. Use the garden hose and wash the entire interior of the well with the chlorine water. Be certain that the walls, pipes, wires, cracks, and crevices are thoroughly washed.
5. Reseal the top of the well.
6. Open all faucets and taps on the system and run water through until a chlorine smell is detected.
7. Shut off all faucets and taps. Allow chlorine to set in well and water lines for at least 8 hours, preferably, overnight. **Do not use the water for any purpose during this time.**
8. After you have let the water stand, pump the well until the chlorine odor disappears.
9. **Caution:** Large amounts of chlorine may inhibit the action of a septic system or aeration unit. Pump as little as possible through the sewage disposal system. Discharge water through outside taps onto ground surface.
10. After all traces of chlorine are gone, the well should be sampled by a laboratory to ensure that disinfection was effective in destroying bacteria. **WAIT AT LEAST TWO WEEKS BEFORE SUBMITTING NEW SAMPLE TO LABORATORY FOR ANALYSIS.**

To view an on-line video on how to disinfect your private water well, please visit the following link:

http://www.co.madison.il.us/departments/health/potable_water_supply_program.php

To obtain additional information, please contact the Environmental Health Division at (618) 296-6079 between 8:30 a.m. and 4:30 p.m. Monday - Friday.