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Planning, Building & Environmental Services

1195 Third Street, Suite 210
Napa, CA 94559
www.countyofnapa.org

INSTRUCTIONS FOR CHLORINATION OF WATER WELLS

Why chlorinate the well? The most common reason for disinfection of a well is to "clear up" the water system following a "positive" test for coli form. The coli form groups of bacteria are found in the environment and in the intestine of man or other animals. Further differentiation within the coli form group may yield **fecal** coli form bacteria, from which a determination may be made as to the possible source of contamination (such as a septic system or other fecal source). Coli form bacteria are used as an indicator organism and their presence indicates that the water system is "open" to contamination of these (and possibly other) contaminants. Wells should also be chlorinated following periods of flooding, construction or reconstruction, sudden change in water color, turbidity, or taste.

What should I do before chlorinating the well? As stated above, an unsatisfactory coli form test usually indicates that the integrity of the well or distribution system may have been compromised, allowing surface pollutants to contaminate the system. Physical defects in the well, storage or water distribution facilities should be corrected before chlorination and resampling.

Materials: The chemical of choice is chlorine, preferably in the form of household bleach (5.25% Sodium Hypochlorite). Using bleach eliminates the need for mixing and unnecessary handling of this hazardous chemical. (Liquid pool chlorine is approximately twice as strong, so reduce the recommended amount by 50%.)

Quantity: See the tables below.

Method: 1) Pump well to waste until water is relatively clear. 2) Stop pump and drain pressure tank. 3) Add chlorine solution to well (lift pump from well if necessary). 4) After about 30 minutes, surge well by alternatively starting and stopping pump to mix water and chlorine. 5) Individually, open each cold water tap throughout distribution system until chlorine odor is detected, then close tap. Do this for as many taps and hose bibs as possible. 6) Allow pressure tank to fill completely (no air space). 7) Let well stand without pumping for at least 4 hours, but preferably overnight. 8) Pump well to waste until most of the objectionable odor and taste is removed. 9) Re-establish the air cushion in the pressure tank.

Re-sampling: Two weeks after treatment, all trace of chlorine should be out of the water. Follow laboratory instructions for sampling.

DISINFECTION OF WELLS		DISINFECTION OF STORAGE TANKS	
Diameter of pipe or casing (inches)	Quantity of household chlorine bleach (5.25% Sodium Hypochlorite) required to dose 100 ft. of pipe at 50 parts per million (ppm)	Amount of water to be treated (gallons)	Quantity of household chlorine bleach (5.25% Sodium Hypochlorite) to yield 50 parts per million (ppm) residual)
2	2 ounces	50	6 ½ ounces
4	8 ounces	100	13 ounces
6	2 ½ cups	500	2 quarts
8	4 cups	1,000	1 gallon
10	6 ½ cups	5,000	5 gallons
24	2 1/3 gallons	10,000	10 gallons