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## SHOCK CHLORINATION OF WELLS & WATER SYSTEMS

Bacterial contamination of well water can come from many sources. The most common include surface water entry, poor well construction, repair work on the pump or casing (with no follow-up chlorination), or a leaky well casing. Shock chlorination of the well may eliminate the bacterial contamination, but if it persists well rehabilitation may be necessary.

To determine the amount of chlorine needed to shock your well, you first need to determine your well volume. Multiply the depth of your well by the amount of water in one foot of casing according to the diameter of your well (Table 1). Then refer to Table 2 to determine the amount of chlorine needed to shock your well. Chlorinated lime or high-test calcium hypochlorite is usually used.

**TABLE I**

<u>Casing Diameter (Inches)</u>	<u>Gallons of Water in 1 Ft Casing</u>
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08
12	5.88
18	13.21
24	23.50
30	36.72
36	52.87
42	71.97
48	94.00

**TABLE II**

<u>Gallons of Water in Well</u>	<u>Chlorinated Lime (Chloride of Lime 25-30%)</u>	<u>High-Test Hypochlorite (Calcium Hypochlorite 65-75%)</u>
5	1.2 oz	0.5 oz
50	12 oz	4 oz
100	24 oz	8 oz
150	36 oz	12 oz
200	48 oz	16 oz
300	72 oz	24 oz
Ea add'l 100gal	24 oz	8 oz

**CAUTION:**

Do not use water for drinking or cooking while chlorine level is exceptionally strong. Do not splash concentrated chlorine solutions on skin or in eyes. Solutions are corrosive. Flush skin areas or eyes immediately with clean water if they come in contact with the disinfecting solution. Never mix chlorine solutions with compounds containing acids or ammonia to improve their cleaning ability because toxic gases will form.

**PROCEDURE:**

During the shock chlorination process thoroughly wet down the inside of the well casing and drop pipe, using one of the three methods:

- If powdered or tablet chlorine is used, dissolve the recommended amount (Table II) in a small quantity of water then add the clear solution to a larger quantity of water (at least 20 gallons) and pour this solution into the casing making sure to wet down everything inside the casing.
- If a hose will extend from a nearby hydrant or faucet to the well casing, pour the recommended amounts of chlorine (Table II) into the casing and wash down the inside of the casing with the hose. Make sure the chlorine solution is going into the well during the wash down procedure. Pumping will help mix the chlorine solution with the standing water in the well.

Once the chlorine is thoroughly mixed with the water in the well casing it should be allowed to stand for 6-12 hours. After that time, all faucets should be allowed to run until a strong odor of chlorine is observed at each faucet. Turn off faucets and allow the water to stand in the pipes for one hour. After the time, flush the entire system until no odor of chlorine is apparent.

Drain the hot water heater after treating a well with chlorine. Do not rush retesting of the well. A retest should be no sooner than three days after shock chlorination, assuming that all of the chlorine has been pumped out.

**REMEMBER:**

Do not flush the chlorinated water from the system into a septic system. Avoid draining chlorinated water onto lawns. Do not chlorinate carbon or charcoal filters, this will deplete their capacity.