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Shock Chlorination Procedure

A modified procedure is also provided for large diameter wells. **Caution:** If your well is low yielding or tends to pump any silt or sand, you must be very careful using the following procedure because over-pumping may damage the well. When pumping out the chlorinated solution, monitor the water discharge for sediment.

Step 1: Store sufficient water to meet farm and family needs for 8 to 48 hours.

Step 2: Pump the recommended amount of water (See Table 1, amount of chlorine required to obtain a chlorine concentration of 200PPM) into clean storage. A clean tank, used only for storing potable or chlorinated water should be used. The recommended amount of water to use is twice the volume of water present in the well casing. To measure how much water is in the casing, subtract the non-pumping water level from the total depth of the well.

Table 1: Amount of Chlorine Required to Obtain a Chlorine Concentration of 200 PPM

Casing Diameter		Volume of Water Needed		5. 2 5 % Domestic Chlorine Bleach	12% Industrial Sodium Hypochlorite	70% High Test Hypochlorite
		Water needed per 1 ft. (30 cm) of water in the casing		L needed per 1 ft. (30 cm) of water	L need per 1 ft. (30 cm) of water	Dry weight ' per 1 ft. (30 cm) of water
(inch)	(millimeter)	(gallon)	(liter)	(liter)	(liter)	(gram)
5/5.5	$(150)^2$	2.4	10.9	.042	.018	3.12
24	$(600)^2$	extra 200 gal.	extra 1000 L	.340	.148	25.40
30	$(760)^2$	extra 200 gal.	extra 1000 L	.520	.230	38.87
36	$(900)^2$	extra 200 gal.	extra 1000 L	.760	.340	57.20

-Domestic chlorine bleach should not have additives or perfumes.
-Since a dry chemical is being used, it should be mixed with water to form a chlorine solution before placing it in the well. To reduce the chlorine concentrations to 50 PPM, divide the above chlorine amounts by 4.

Step 4: Siphon or drain this solution slowly into the well.

Step 5: Open each hydrant and faucet in the distribution system (including all appliances that use water such as dishwasher, washing machine, furnace humidifier) until the water coming out has a chlorine odor. This will ensure all the plumbing fixtures are chlorinated. Allow the hot water tank to fill completely. Consult your water treatment equipment supplier to find out if any part of your water treatment system should be bypassed, to prevent damage.

Step 6: Leave the chlorine solution in the well and distribution system for 8 to 48 hours. The longer the contact time, the better the results.

Step 7: Open an outside tap and allow the water to run until the chlorine odor is greatly reduced. Make sure to direct the water away from sensitive plants or landscaping. Do not over-pump your well.

Step 8: Flush the chlorine solution from the hot water heater and household distribution system. The small amount of chlorine in the distribution system will not harm the septic tank.

Step 9: Backwash and regenerate any water treatment equipment. If you have an old well that has not been routinely chlorinated, consider hiring a licensed water well contractor to thoroughly clean the well prior to chlorinating. Any floating debris should be removed from the well and the casing should be scrubbed to disturb the sludge buildup.

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Modified Procedure for Large Diameter Wells

Due to the large volume of water in many bored wells this procedure can be impractical. A more practical way to shock-chlorinate a bored well is to mix the recommended amount of chlorine right in the well. An extra volume of chlorinated water is used to force some of the chlorine solution into the formation around the well.

Follow these steps to shock chlorinate a large diameter bored well.

Step 1: Pump 200 gal. (1000 L) of water into a clean storage tank at the well head.

Step 2: Mix 4.0 L of 5 1/4% domestic chlorine bleach that does not have additives or perfumes (or 1.5 L of 12% bleach or 0.26 kg of 70% calcium hypochlorite) into the 200 gal. of stored water. This mixture will be used later in Step 5.

Step 3: Using Table 1 calculate the amount of chlorine you require per foot of water in the casing and add it directly into the well. (Note that the 70% hypochlorite powder should be completely dissolved in a small container of water to form a solution before placing in the well.)

Step 4: Circulate the chlorinated water in the well by hooking a clean garden hose up to an outside faucet and placing the other end back down the well. This circulates the chlorinated water through the pressure system and back down the well. Continue for at least 15 minutes. Siphon or drain the 200 gal. bleach and water solution prepared in Steps 1 and 2 slowly into the well.

Step 5: Open each hydrant and faucet in the distribution system (including all appliances that use water such as dishwasher, washing machine, furnace humidifier) until the water coming out has a chlorine odor. This will ensure all the plumbing fixtures are chlorinated. Allow the hot water tank to fil1 completely. Consult your water treatment equipment supplier to find out if any part of your water treatment system should be bypassed, to prevent damage.

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