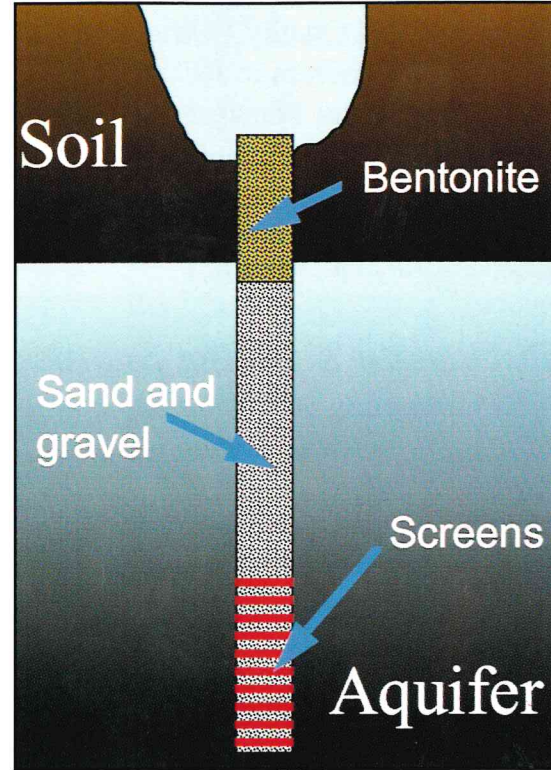


The Need

YMD field studies estimate that there are 1200 abandoned agricultural wells in the Delta. Advanced technology in well construction and land management have rendered many agricultural wells obsolete. Proper plugging of these wells will reduce the risk of surface contaminants entering the groundwater, increase efficiency of fieldwork, and make the field safer and more productive.



This publication is designed to illustrate to land owners, operators, and well drillers, the proper and safe procedure for plugging obsolete agricultural wells.



The Procedure

Once an abandoned well is identified and located¹, a land owner or operator can properly plug the well with the following procedure.

¹Wells that have been covered with soil can be located with the use of a metal detector.

Step 1: Remove any remaining pump equipment and trash or debris from the site.



Step 2: Remove sufficient soil from around the casing to allow the casing to be cut off 3 feet below the land surface. Cut off exposed casing.

Step 3: Some wells have a gravel pack around the outside of the casing. If the gravel pack is present, remove the top three feet immediately around the casing and refill with granular or chip bentonite (a naturally swelling clay).

Step 4: Pour chlorine bleach or drop high-test calcium hypochlorite tablets (swimming pool tablets) into the well casing. (See Table 1 for amounts to be used in wells of different diameters.)

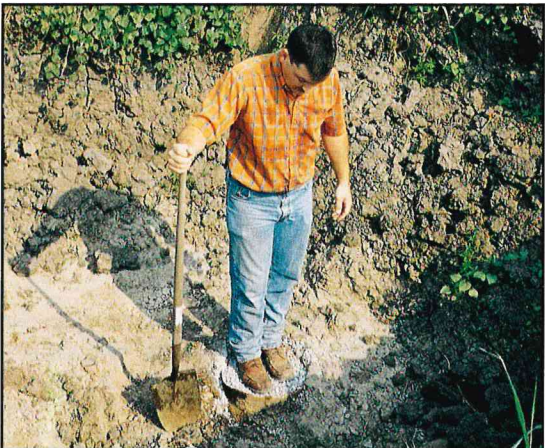


Casing Diameter Inches	Gallons of Chlorine Bleach to add	Pounds of Hypochlorite tablets to add	Cubic Yards of Sand and Gravel to add	Number of Pounds of bentonite to add
6	0.3	0.2	1	280
8	0.5	0.3	1	500
10	0.7	0.5	2	780
12	1.1	0.7	3	1130
14	1.5	0.9	4	1500
16	1.9	1.2	5	1950

Table 1. Gallons of 5% chlorine bleach or high-test hypochlorite tablets to add to wells with varying diameters. Calculations are based on a 120 foot deep well with a 30 foot static water level and filling with sand and gravel to 20 feet below land surface.



Step 5: Fill the casing with a clean sand and gravel mix to at least 10 feet above the top of the screens and 20 feet below the ground surface (30 feet of the surface if there are underground storage tanks at the site). Fill the remaining space with granular or chip bentonite. (See Table 1 for amounts of sand/gravel mix and bentonite.)



Step 6: Backfill the area around the top of the cutoff casing with clean native soil shaped to a slight mound to direct surface flow away from the site.



The Mississippi Department of Environmental Quality (MSDEQ) Well Abandonment Form (available through the offices of YMD, MSDEQ, and NRCS) should be completed and mailed to YMD after the well is plugged. Any change from this procedure must be approved by the Office of Land and Water Resources of MSDEQ.

***Cost Sharing**

Wells located on farms may qualify for FSA cost sharing under conservation practice WP-8. The work involved in this practice may be performed by the land owner or operator or a licensed well contractor. Contact your local FSA or NRCS office to obtain details about cost sharing assistance.

Additional information is available at the Mississippi Department of Environmental Quality - Office of Land and Water Resources in Jackson, and at YMD Joint Water Management District (686-7712). This well plugging procedure for agricultural wells in the Mississippi River Alluvial Aquifer has been approved by MSDEQ.

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Procedure for Plugging Agricultural Wells in the Delta

Agriculture in the Delta depends on quality groundwater for cotton and soybean irrigation, flooding rice fields and catfish ponds . . .



Proper plugging of agricultural wells will eliminate the threat of contamination and help protect the supply of quality groundwater for the future.

*Now cost sharing is available through the Farm Service Agency.



Yazoo Mississippi Delta Joint Water Management District