Nearburg Producing Company

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MUD PROGRAM

Nearburg Producing Company
BUFFALO 1K FEDERAL COM WELL NO. 1
Section 1-T19S-R33E
Lea County, New Mexico

CASING PROGRAM:

0'- 460' of 13-3/8" surface casing - 17-1/2" hole.
460'- 5,200' of 8-5/8" intermediate casing - 11 " hole.
5,200'-13,600' of 4-1/2" production casing - 7-7/8" hole.

MUD PROGRAM BY CASING INTERVALS:

0' - 460'±

Mud Weight	Funnel Viscosity	Filtrate
8.5 - 9.2#	32-36	No Control

Spud with 32-36 sec/1000 cc viscosity spud mud, mixed at a ratio of 10 sx. fresh gel and 1 sk. lime. Paper additions to control minor seepage and minor losses into surface water sandstone and unconsolidated gravels. In case of more severe or total loss of returns, try 1 or 2 pits of a viscous fresh water gel and lime slurry treated with 15 to 20 #/bbl. coarse, fibrous LCM (cottonseed hulls, cedar fiber, multi-seal). If unsucessful, the most economical approach will be "dry drilling" ahead to casing point and spotting 75 - 100 bbls. of a viscous LCM mud as before. In this particular area there has been no loss of returns in this section of hole but this should be mentioned in the mud program as a contingency plan.

460' - 5,200'± Native Mud (Red Bed) - Brine Water

Mud Weight	Funnel Viscosity	Filtrate	% Oil
9.5 - 10.2#	32-34 sec/1000 cc	No Control	2-3%

Drill out with existing fluid using fresh water initially added at the flowline to control native viscosities at 32-34 sec/1000 cc. Jet excessive volume to inner reserve pit until sufficient volume has accumulated to initiate circulating through reserve pit. Below 1,800' ± add ±50 bbls. of (tank bottoms) oil to mud system prior to 1st bit trip to provide lubricity and inhibition of Redbeds. Below 2,000' switch to 10#/gal. brine water for volume to keep salt section from washing out excessively and paper additions of 15 sx. per 100' drilled should be added to control minor seepage losses. If tight connections or tight hole conditions exist, add 10 bbls. of tank bottoms per day to maintain 2-3% oil in the system. 50' prior to casing point, sweep the hole with a viscous pre-hydrated gel or a salt gel and paper sweep to prepare hole for casing operations. A 20 stand short trip or wiper trip is recommended before running casing.

5,200' - 11,000'± - Fresh Water, Mud as Needed

Mud Weight	Funnel Viscosity	Filtrate
8.4 - 8.6#	29-31	No Control

Drill out from under intermediate casing with fresh water 11,000'. Keep pipe moving at all times while drilling this section of hole because of possible differential sticking due to thief zones in the Bone Spring. Use paper additions and mica (fine) to control minor losses.