

MUD PROGRAM

BIG EDDY UNIT #77

1980' FWL & 1980' FSL, Sec. 9, T22S, R28E

Surface Hole:

The 15" surface hole will be drilled with a fresh water native mud, viscosity 34-40, wt. 8.9-9.2 ppg.

Intermediate Hole:

The 11" intermediate hole will be drilled with a 10 ppg brine water fluid, viscosity will be controlled at 28-32 or as hole conditions dictate. Paper may be used to control seepage.

Production Hole:

The 7 7/8" production hole will be drilled with fresh water 8.4-8.9 ppg from 2325' to 9475' (T/Wolfcamp). A fresh water gel 32-34 vis, low solids, non-dispersed system may be used through the Delaware Mountain Group (2325'-4000') for sample evaluation but after penetrating the Indian Draw, 49er sections the system can be watered back.

At 9475' displace the hole with 10 ppg brine water. This system can be used from the top of the Wolfcamp to T.D. with variations in viscosity weight and water loss as hole conditions dictate. A Grant rotating head and SWACO or similar mud-gas separator should also be installed at this time.

At the top of the Strawn (10,625') the weight should be increased to 10.3 ppg with soda ash, viscosity raised to 36 with drispac and XC-polymer. The fluid loss should be lowered to 15 cc or less.

Approximately 100' above the Atoka (11,225') the weight should again be increased to approximately 11.7#/gal and the water loss lowered to 10 cc (3% KCl should also be added at this time). These properties will be maintained for the remainder of the well. Ground paper may be added to the system to control any fluid seepage. Fluid weight can be increased or decreased as warranted.