

## DRILLING PROCEDURE

### BIG EDDY UNIT # 73

#### Location:

~~1920'~~ <sup>660'</sup> FS & 1980' FEL Sec. 3, T21S, R28E, Eddy County, New Mexico.

#### Conductor Pipe:

40' of 16" conductor casing will be set with a rathole machine and cemented to the surface with ready mix.

#### Surface Casing:

A 15" surface hole will be drilled to approximately 500'. A fresh water gel spud mud 8.9-9.2 ppg., 40-50 viscosity should be used. If loss circulation occurs, add paper as hole conditions dictate. (Dry drilling may be necessary.)

The surface casing will be 11-3/4", 42#/ft, H-40 ST&C run with a guide shoe, insert float valve and three centralizers. If hole conditons indicate that cement may not circulate, run a "pedal" type cement basket 30' below ground level.

The surface cement should consist of 300 sacks of Class "C" + 2% CaCl<sub>2</sub> 14.8 ppg. 1.32 ft<sup>3</sup>/sk 100% excess. Top and bottom wooden plugs should be used. Minimum W. O. C. time is 4 hours.

#### Nippling up 11-3/4" csg.

A gray 11-3/4" SW 3000# WP x 12" 3000# RJT casing head should then be welded in place. A set of 10" 3000# BOP should then be nipped up (BEPCO II drawing attached.) Test casing and BOP stack to 1000 psi with rig pump.

#### Intermediate Casing:

Drill out from under the surface casing with a 11" bit. The drilling fluid will be 10 ppg. brine water circulated through reserve pit. Control viscosity at 28 funnel secs. or as hole conditions dictate. Paper may be used to control seepage. Complete loss of returns may occur in the Capitan Reef (Top 2000') which in turn will require dry drilling to T. D. Drill this 11" hole to the top of the Lamar Lime (T. D. 3450').

The intermediate casing string will be 8-5/8" combination string with the following segments.

<u>Segment</u>	<u>Int.</u>	<u>Grade</u>	<u>Wt.</u>	<u>Thread</u>
1	3450-1600	S-80	23	STC
2	1600- 0	K-55	24	STC

This casing should be run with a float shoe, float collar, 6 centralizers, 2 cement baskets and DV tool. The centralizers should be spaced every other collar beginning 5' above the guode shoe. Two "pedal type" cement baskets should also be run two joints below the DV tool which should be at approximately 1000'.

A caliper survey should be run to accurately calculate cement requirements. (20% excess). The casing should be cemented in two stages as follows: (1) 550 sacks Halliburton Light & 1/2#sk floseal followed with 200 sks Class "C" + 2% CaCl<sub>2</sub> (2) 300 sks Class "C" + 2% CaCl<sub>2</sub>. These cement volumes are based on the assumption that the DV tool is set at the top of the salt, and that the salt interval is only 300' thick with an average hole diameter of 14". These cement requirements must be verified in the field.

If cement is not circulated to the surface a "grout job" with 3/4" tbg. will be necessary. W. O. C. time is 4 hours before cutting off 8-5/8" casing