Application to Drill

Gruy Petroleum Management Co.
Kenwood Shugart Federal No. 1
Unit Letter D Section 29
T18S - R31E Eddy County, NM

9 Cementing & Setting Depth:

13 3/8"	Surface	Set 600' of 13 3/8" H-40 48# ST&C casing. Cement with 465 Sx. Of Class "C" cement + additives, circulate cement to surface.
8 5/8"	Intermediate	Set 3200' of 8 5/8" K-55 24# ST&C casing. Cement in two stages, first stage cement with 795 Sx. Of Class POZ/C Cement + additives, second stage cement with 200 Sx. Of Class "C" + additives, circulate cement to surface.
5 1/2"	Production	Set 12500' of 5 1/2" NP-80 / S-95 17# ST&C casing. Cement with 950 Sx. of Class POZ/C Cement + additives. Estimated top of cement 8500'.

10 Pressure control Equipment: Exhibit "E". A 13 3/8" 5000 PSI working pressure B.O.P. consisting of one set of blind rams and one set of pipe rams and a 5000 # annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 6000'. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. BOP unit will be hydraulically operated. BOP will be nipped up on the 8 5/8" casing and will be operated at least once a day while drilling and the blind

11 Proposed Mud Circulating System:

Depth	Mud Wt	Viscosity	Fluid Loss	Type Mud
0 - ~~450'~~ 550	8.7 - 9.2	32 - 34	ay lose circ	Fresh water spud mud add paper to control seepage and high viscosity sweeps to clean hole.
550 ~~450'~~ - 3200'	10 - 10.3	28 - 29	ay lose cir	Brine water. Add paper as needed to control seepage and add lime to control pH (9-10). Use high viscosity sweeps to clean hole.
3200' - 8300'	1/8/00	28 - 29	NC	Fresh water. Paper for seepage. Lime for pH (9 - 9.5)
8300' - 10000'	9.2 - 9.4	28 - 29	NC	Cut brine. Caustic for pH control.
10000' - 12500	9.2 - 10.6	32 - 34	NC	XCD Polymer mud system.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs. Mud system monitoring equipment with derrick floor indicators and visual/audio alarms shall be installed and operative prior to drilling into the Wolfcamp formation. This equipment will remain in use until production casing is run and cemented.