9. Setting Depth of Casing Strings and Amount and Type of Cement -

Size	Depth	Amount & Type Cement
13-3/8"	400'	400 sx Class H with 2% CaCL
8-5/8"	3200'	900 sx Class C with/.3 of 1% CFR-2, 5# Salt/sx and 10# sand/sx
4-1/2"	11600'	400 sx Halliburton Lite & 500 sx Class H with ¼ of 1% CFR-2 & 5# KCL/sx

Additional cementing through DV tools might be necessary on 4½" casing

10. Specifications for Pressure Control Equipment (See attached Schematic)

12" Shaffer Type B Hydraulic BOP 3000 psi & 10" GK Hydrill 3000# WP. When nippling up, test blowout preventor and choke manifold to 1500 psi. Operate BOP equipment once a day, or more often if directed to do so by Company Representative.

An independent contractor will conduct a BOP test after 3500' and prior to drilling Wolfcamp @ approximately 8100'. (First bit change after intermediate csg.)

Items of the blowout control equipment from top of test plug in casing spool up through Hydrill will be tested to 2500#, with separate tests being made at the pressure of 5000# to pipe rams, blind rams, choke manifold, upper kelly cock, drill pipe safety valve, and to the valves and fittings of the BOP stack proper. Blowout control equipment will be operated after test. Closures will be made using closing unit pump only to a pressure of 1500# for testing ram type BOPs and 1200# for testing Hydrill. Accumulators will be tested @ 3000#. Control valves will be operated and checked.

Equipment to be installed in addition to BOP are:

Pump Stroke Counter
Pit Level Indicator
Flow Sensor
Pit Volume Totalizer
Swaco Choke > Optional
Gas Separator > Optional

11. Mud System -

0' -	400'	- Native fresh water mud with paper to control seepage. Mud weight = 8.5#/gal.
@ 400' -		- Empty reserve pit of fresh water; fill with 10# brine.
400' -	3200'	- Drill with brine water. Mud weight = 10.0#/gal.
@ 3200' -		- Empty reserve pit of brine water and store same in three storage tanks. Fill reserve pit with fresh water.
3200' -	6500'	- Drill with fresh water native mud. Mud weight = 8.6#/gal.
6500' -	8000'	- Add fresh water gel to raise viscosity to 32 sec. Mudweight = 8.6#/gal.
8000' -	10400'	- Cut brine to control Wolfcamp shale. Mud weight = 9.0#/gal.
10400' -	T D	- Switch from reserve pit to steel pits. Cut brine, 3% KCL and Drispac to control WL 12 - 8cc. Mud weight = 9.4#/gal. Viscosity = 33.