

PENWELL ENERGY, INC.
CHECKERS "24" FEDERAL #5
APPLICATION FOR PERMIT TO DRILL

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9. CASING CEMENTING & SETTING DEPTH:

13 3/8"	Surface	Set 850' of 13 3/8" 48#, ST&C casing. Cement with 600 sacks Class "C" Neet + 2% CaCl ₂ Circulate cement to surface.
8 5/8"	Intermediate	Set 4600' of 8 5/8" 32# J-55 ST&C casing. Cement with 700 sx Class "C" Lite + 200 sx "C" Neet + 2% CaCl ₂ . Circulate cement to surface.
5 1/2"	Production	Set 9000' of 5 1/2" 17# , STC casing. Cement with 500 sx Class "H" Lite Estimated top of cement @ 5,000'.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E". A Blow-out Preventer (no less than 900 Series 3000 PSI working pressure) consisting of double ram type preventer with bag type preventer. Units will be hydraulically operated. Exhibit "E-1" Choke Manifold and Closing Unit. Blind rams on top, pipe rams on bottom to correspond with size of drill pipe in use. BOP will be nipped up on 13 3/8" casing and remain on well until casing is run and cemented. BOP will be tested as well as choke manifold. BOP will be worked at least once each day while drilling & blind ram will be worked on trips when no drill pipe is in hole. Full opening stabbing valve and upper kelley cock will be utilized. Anticipated BHP 3000 PSI and 141° BHT.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD. WT.	MUD VISC.	FLUID LOSS	TYPE
0' - 850'	8.4	None	NC	FW
850' - 4600'	10.0	None	NC	BW
4600' - 8500'	Cut Brine	None	NC	CB
8500' - 9000'	Cut Brine	36	15 cc's or less	Starch, Drispac, Soda Ash