

PENWELL ENERGY, INC.
WEST CORBIN "19" FEDERAL # 2
APPLICATION FOR PERMIT TO DRILL

PAGE 2

9. CASING CEMENTING & SETTING DEPTH:

13 3/8"	Surface	Set 450' of 13 3/8" 48# WC-40 ST&C casing. Cement with 350 sacks Class "C" cement + additives. Circulate cement to surface.
8 5/8"	Intermediate	Set 2,850' of 8 5/8" 32# J-55 ST&C casing. Cement with 475 sx Lite + 200 sx "C" Circulate cement to surface.
5 1/2"	Production	Set 11,350' of 5 1/2" 17.0, N-80 casing. Cement with 400 sx Class "H". Estimated top of cement @ 7,000'.

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 ~~2000~~ ³⁸⁰⁰ PSI and 135° BHT.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD. WT.	MUD VISC.	FLUID LOSS	TYPE MUD
0'-450'	8.3-8.9	28-50	NC	Fresh water spud mud, use paper for seepage control .
450'-2,850'	10	29	NC	Brine water, use paper for seepage control and lime for pH control.
2,850'-10,500	8.8-9.3	29	NC	Cut brine, Lime for pH control
10,500'-11,350'	9.3-10	34-38	10cc or less	Cut brine use Drispac, starch, soda ash, and gel.

Sufficient mud materials to maintain mud properties, meet lost circulation and weight increase requirements will be kept at wellsite at all times. In order to run casing and log well viscosity may have to be raised and water loss may have to be lowered.