

4. Supplementary drilling equipment information:

A. Kelly Cocks:

Upper and lower installed on Kelly.

B. Safety Valve:

Full opening ball type to fit each size and type drill pipe in use will be available on rig floor at all times.

C. Otis "N" Nipple and Inside Safety Valve:

Nipple will be installed in drill pipe one stand above drill collars while drilling the production hole. A pump down safety valve will be available at all times.

D. Trip Tank:

Installed after setting surface casing to ensure that the hole stays full of fluid and to monitor the amount of fluid required to keep the hole full on trips.

E. Mud System Monitors:

A flow rate indicator will be installed at the flow line after setting surface casing. Pit volume totalizers will also be used when using the steel pit system.

F. Casing:

<u>STRING</u>	<u>SIZE/WEIGHT</u>	<u>HOLE SIZE</u>	<u>DEPTH INTERVAL</u>
Surface	13-3/8"/54.5 ppf	17-1/2"	0 - 350'
Intermediate	9-5/8"/40 ppf	12-1/4"	0 - 1650'
Production	5-1/2"/15.5, 17, 20 ppf	8-1/2"	0 - 12000'

G. Cement:

<u>CASING</u>	<u>DEPTH</u>	<u>CEMENT TYPE</u>	<u>EST. TOC</u>
13-3/8"	350'	Class "C" + 2% CaCl ₂	Surf
9-5/8"	1650'	Class "C" (65:35 Pozzolan) + 6% Gel + 1/4#/sk cello flakes	Surf 1250'
5-1/2"	12000'	Class "C" (65:35 Pozzolan) + 6% Gel	1250'
		Class "C"	4500'
		Class "H" (65:35 Pozzolan) + 6% Gel	5000'
		Class "H" + retarder	8500'