

B. Casing:

<u>String</u>	<u>Size</u> / <u>Weight</u> / <u>Grade</u>	<u>Depth Interval</u>
Surface	13-3/8" 54.5 K55	0--350'
Intermediate	8-5/8" 32.0 K55	0--1,400'
Production	5-1/2" 14,15.5,17 K55,L80	0--9,700'

Substitutions regarding weight and grade might be required due to availability.

C. Cement:

<u>Casing</u>	<u>Depth</u>	<u>Cement Type</u>	<u>Approximate Cement Volume</u>	<u>Top of Cement (Gauge Hole)</u>
13-3/8"	350	Class "C"	250 ft <sup>3</sup>	Surface
8-5/8"	1,400	Class "C" + Gel and Class "C"	620 ft <sup>3</sup>	Surface
5-1/2"	9,700	Class "H" + Gel and Class "H"	660 ft <sup>3</sup>	5,900'

Calculated cement volume will be adequate to cover all fresh water and hydrocarbon bearing formations.

D. Casing test procedures:

1. Surface casing (13-3/8") - 1000 psi test pressure.
2. Intermediate casing (8-5/8") - 1,500 psi test pressure
3. Production casing (5-1/2") - 2,150 psi test pressure

5. Circulating Medium Characteristics

A. Type and anticipated characteristics of circulating medium.

<u>Depth Interval</u>	<u>Mud Type</u>	<u>Weight (ppg)</u>	<u>FV (Sec/Qt)</u>	<u>PV (Cp)</u>	<u>YP (#/100 SF)</u>	<u>WL (cc/ 30 min.)</u>	<u>pH</u>
0- 350'	Spud	8.3-8.5	26-28	NO CONTROL			
350-1400'	SBW	10-10.2	28-30	NO CONTROL			
1400-6400'	FW	8.3-8.5	26-28	NO CONTROL			
6400-9000'	CBWM	8.8-9.6	35-45	5-12	5-25	<25	9.5-10.5
9000-9700'	BWM	10.0-10.2	35-45	5-12	5-25	<5	9.5-10.5

B. Quantities of mud and weighting materials:

A sufficient inventory of mud materials and treating equipment will be maintained to control mud properties adequately for well control and drilling requirements.

C. Mud system monitoring equipment:

Trip tank - tank will be used to keep hole full of fluid on trips and to monitor hole behavior on trips.