

IV. Casing and Cementing Program

A. Casing Program

<u>Depth</u>	<u>Hole Size</u>	<u>Csg. Size</u>	<u>Wt</u>	<u>Grade</u>	<u>Coupling</u>	<u>Type</u>
	17 1/2"					
0 - 650'	14-3/4"	11-3/4"	42#	H-40	STC	Surf.
0 - 2100'	10-5/8"	8-5/8"	24#	K-55	STC	Int.
2100-3000'	10-5/8"	8-5/8"	24#	S-80	STC	Int.
0 - 5300'	7-7/8"	5-1/2"	17#	K-55	LTC	Prod.
5300-8350'	7-7/8"	5-1/2"	17#	L-80	LTC	Prod.

B. Cementing Program

<u>Casing</u>	<u>Top of Cement</u>	<u>Cement Type</u>	<u>Sacks</u>
Surf.	Surface	Class C w/2% CaCl <sub>2</sub>	387
Int.	Surface	Lead: Lite w/10% salt	385
		Tail: Class C Neat	325
Prod.	Surface	Lead: 50/50 Poz H w/2% Gel	630
		Tail: Class H w/3% KCl	429

V. Drilling Fluids Program

A.

<u>Depth</u>	<u>Hole Size</u>	<u>MW ppq</u>	<u>VIS sec</u>	<u>WL cc/30 min</u>	<u>Comments</u>
0- 500'	17-1/2"	8.5-9.2	35-45	NC	Fresh wtr. spud mud
500-3000'	11"	9.8-10.2	30-32	NC	Brine w/salt gel
3000-7000'	7-7/8"	8.8-9.4	28-30	NC	Cut brine, lime
7000-8350'	7-7/8"	9.0-9.4	30-32	15-20	Cut brine w/salt gel and starch

B. The mud system volume will be approximately 800 barrels.

C. No weighting material should be necessary, but barite will be kept on site.

D. The level of the mud pits will be monitored visually, and a flow rate indicator will be installed.

E. Chemicals kept on site to control a possible H<sub>2</sub>S influx are sodium and calcium hydroxide to raise the pH and zinc carbonate as a scavenger.