IV. Casing and Cementing Program

A. Casing Program

Depth	Hole Size	Csg. Size	Wt	Grade	Coupling	Type
0 - 650'	17-1/2"	13-3/8"	48#	H-40	STC	Surf.
0 - 2100'	11"	8-5/8"	24#	K-55	STC	Int.
2100-3000'	11"	8-5/8"	24#	S-80	STC	Int.
0 - 5300'	7-7/8"	5-1/2"	17#	K-55	LTC	Prod.
5300-8300'	7-7/8"	5-1/2"	17#	L-80	LTC	Prod.

B. Cementing Program

Casing	Top of Cement	Cement Type	Sacks
Surf.	Surface	Class C w/2% $CaCl_2$	610
Int.	Surface	Lead: Lite w/10% salt	515
		Tail: Class C Neat	390
Prod.	Surface	Lead: 85/15 C/Poz w/4% Gel	691
		Tail: Class "C"	235

V. Drilling Fluids Program

A.

Depth	Hole Size	MW ppg	VIS sec	WL cc/30 min	Comments
0- 650'	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
7000-8300'	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_2S influx are sodium and calcium hydroxide to raise the pH and zinc carbonate as a scavenger.