Hole Size: 11 " Total Depth: 4200' Casing Size: 8 5/8"
Setting Depth: 4200' Mud Weight: 10.0 ppg

Casing Design:

O.D.	Weight	Grade	Thread	Coupling	Interval	Length
8 5/8"	32#	J-55	8R	ST & C	0 - 4200'	4200'

Minimum Casing Design Factors: Collapse 1.125, Burst 1.0, Tensile Strength 1.8

Cement Program: Lead Slurry: 1000 sacks "Lite C" with 10# salt, 1/4# Cellocel
Slurry Properties: Weight: 12.7 ppg Yield 1.98 cu.ft./sack

Tail Slurry 250 sacks "Class C" with 2% Cacl2
Calculated Linear Fill: Circulate to surface.
Slurry Properties: Weight: 14.8 ppg Yield 1.32 cu.ft/sack

Hole Size: 7 7/8" Total Depth: 7900' Casing Size: 5 1/2"
Setting Depth: 8500' Mud Weight: 8.7 ppg

Casing Design:

O.D.	Weight	Grade	Thread	Coupling	Interval	Length
5 1/2"	17#	J-55	8R	LT & C	0 - 550'	550'
5 1/2"	15.50#	J-55	8R	LT & C	550' - 7550'	7000'
5 1/2"	17#	J-55	8R	LT & C	7550' - 8200'	650'

Minimum Casing Design Factors: Collapse 1.125, Burst 1.0, Tensile Strength 1.8

Cement Program: First Stage: 175 sacks "Class H" + 8# sack CSE + 0.6% CF-14 + 5# sack Gilsonite + 0.35% Thiftylite DV Tool set at approximately 7100'.
Cement calculated to 7100'.
Slurry Properties Weight: 13.6 ppg Yield: 1.32 cu.ft/sack

2nd Stage: 425 sacks "Class C" with 10# sack CSE, 1/4# sack cellocel. Weight: 11.5 ppg, Yield 2.25 cu.ft/sack + 300 sacks- "H", 8# sack CSE, 0.5% CF-14 + 0.35% Thriftylite.
Calculated to tie back to intermediate casing.
Slurry Properties: Weight: 13.3 ppg Yield: 1.82 cu.ft/sack

5. Mud Program and Auxiliary Equipment:

From 0 to 550' (Minimum Properties)
Mud Weight: 9.1 ppg, Viscosity: 32 sec./1000 cc, Water Loss: N/C cc, Mud Type: FW Gel/LCM
Mud will be checked tourly by rig personnel. Sufficient quantities of mud will be kept on location to maintain minimum properties.

From 550' to 4200' (Minimum Properties)
Mud Weight: 10.0 ppg, Viscosity: 28 sec./1000cc, Water Loss: N/C cc, Mud Type: Brine, use salt water gel for hole sweeps.
Mud will be checked tourly by rig personnel. Sufficient quantities of mud will be kept on location to maintain minimum properties