

CASING PROGRAM

Surface:

570' 11-3/4", 42 #/ft, WC-40, STC

First Intermediate(top to botttom):

3300' 8-5/8", 32 #/ft, WC-50, LTC
1300' 8-5/8", 32 #/ft, S-80, LTC

Casing string design for a 13.9 ppg frac gradient at the shoe.

Second Intermediate (top to bottom):

5200' 5-1/2", 17 #/ft, WC-50, LTC
1700' 5-1/2", 17 #/ft, WC-70, LTC
2100' 5-1/2", 17 #/ft, S-95, LTC

Caisng is designed for 3000 psi working surface pressure and no stimulation. Point loading calcuations were based on point loading for a 24 degree per 100 foot dog leg (twice planned build rate).

CASING PROPERTIES

	<u>BURST</u> <u>Rated (80%)</u>		<u>COLLAPSE</u> <u>Rated (80%)</u>		<u>TEST</u> <u>PRESSURE</u>
11-3/4", 42 #/ft, WC-40	2000	1600	1040	830	1000
8-5/8", 32 #/ft, WC-50	3600	2880	2440	1950	1500
8-5/8", 32 #/ft, S-80	3930	3140	4130	3300	1500
5-1/2", 17 #/ft, WC-50	4900	3920	4590	3670	1500
5-1/2", 17 #/ft, WC-70	6800	5440	5780	4620	1500
5-1/2", 17 #/ft, S-95	9190	7350	8580	6860	1500