EXHIBIT "A"

C A S I N G P R O G R A M Vertical Hole

HOLE SIZE	SETTING DEPTH		AMOUNT			DESIGN FACTORS					
	FROM	TO	Excl. Threads	Size, Weight, Grade, Range, Thread	Mud Weight	Internal Yield	Collapse (derated f/tension)	Tension (in air)	Tension w/ 100,000#OP	Cmt'ing Depths	Estimated Fill Behind Casing (Linear Feet)
12-1/4"	0	320	320	8-5/8", 24#, J-55, R-3, STC	8.6	5.31 *	9.09	31.77	2.27	0'-320'	320'
7-7/8"	0	5600	5600	5-1/2", 17#, K-55, R-3, BTC	9.3	9.59 *	1.63	2.87	1.40	4500'-5600'	1100'

* Pore Pressure of "Morrow" Sand estimated at ± 4.0 ppg EMW.

C E M E N T I N G P R O G R A M Vertical Hole

Conductor:

Surface: 275 sx Class "A" + 3% $CaCl_2$ + 1/4#/sx celloflake mixed at 15.7 ppg & 1.17 ft^3/sx

Intermediate:

Production: 115 sx Pozmix "A" + 2% gel + .2% FL28 + .5% CD31 + 3% KCL + 1/4#/sx celloflake (14.7 ppg & 1.22 ft^3/sx). Tail w/100 sx Class "A"

(or premium) + .6% FL 28 + .5% CD31 + 3% KCL + 1/4#/sx celloflake (16.0 ppg & 1.13 ft^3/sx) based on 35% excess.

M U D P R O G R A M Vertical Hole

Interval (MD)	Weight	Viscosity	Fluid Loss	Remarks
0 - 320	8.3 - 8.6	28 - 42	N/C	FW - Gel mud
320 - 4300	8.3 - 8.6	42 - 50	N/C	FW - Gel mud + LCM materials (if needed)
4300 - 5000	9.0 - 9.3	32 - 36	15 - 20	LSND mud + LCM materials (if needed)
5000 - 5600	9.0 - 9.3	34 - 45	6 - 8	LSND mud + LCM materials (if needed)