

PROPOSED CASING & CEMENTING PROGRAM

Ranger Well No. 20

13 3/8" 54.4 lb/ft J-55 Surface Casing Set at 425' - 17 1/2" Hole:

Circulate to surface with 400 sacks of Class "C" + 2% CaCl_2 .

Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 ft ³ /sx
Water Requirement:	6.3 gals/sx

8 5/8" 32 lb/ft J-55 Intermediate Casing Set at 4200' - 12 1/4" Hole:

Lead: 800 sx Class "C" + 20% Diacel "D" + 3% Salt. TOC = Surface.

Slurry Weight:	12.0 ppg
Slurry Yield:	2.79 ft ³ /sx
Water Requirement:	16.1 gals/sx

Tail: 150 sx Class "C" Neat.

Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 ft ³ /sx
Water Requirement:	6.2 gals/sx

5 1/2" 17 & 20 lb/ft L-80 & J-55 Production Casing Set at 13250' - 7 7/8" Hole:

300 sx Class "H" + 0.6% Halad-22A (or equivalent) + 0.4% CFR-3 (or equivalent) + 0.1% HR-5 (or equivalent). Desired TOC = 12000'.

Slurry Weight:	15.5 ppg
Slurry Yield:	1.19 ft ³ /sx
Water Requirement:	5.35 gals/sx