

PROPOSED CASING & CEMENTING PROGRAM

TOMAHAWK ST. 19 WELL NO. 1

13 3/8", 48 lb/ft, H-40 Surface Casing Set at 400' - in a 17 1/2" Hole

Circulate to surface with 440 sacks of Class "C" + 2% CaCl₂

Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 cu.ft/sk
Water Requirement:	6.3 gal./sk

8 5/8", 24 & 32 lb/ft, J-55 Intermediate Casing Set at 4800' - in a 11" Hole

Lead : 1000 sx of 35:65 Poz Class "C" + 5% salt + 6% gel + 1/4 lb/sk celloflake
+ 2/10 % antifoamer

Desired TOC = Surface

Slurry Weight:	12.4 ppg
Slurry Yield:	2.15 cu.ft/sk
Water Requirement:	11.99 gal/sk

Tail : 300 sx of Class "C" Neat

Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 cu.ft/sk
Water Requirement:	6.31 gal/sk

5 1/2", 17 & 20 lb/ft, N-80 Production Casing Set at 13,500' - in a 7 7/8" Hole

Set stage tool at approximately 9500'

1 st Stage : 500 sx of 50:50 Poz Class "H" + 5% salt + 2 % gel + 3/10% retarder
+ 2/10% dispersant + 2/10% antifoamer

Slurry Weight:	14.6 ppg
Slurry Yield:	1.27 cu.ft/sk
Water Requirement:	5.67 gal/sk

2 nd Stage : Lead - 500 sx of 35:65 Poz Class "H" + 5% salt + 6% gel
+ 3/10 % retarder + 2/10% antifoamer

Desired TOC = 4750'

Slurry Weight:	12.8 ppg
Slurry Yield:	1.95 cu.ft/sk
Water Requirement:	10.49 gal/sk