

GRACE PETROLEUM CORPORATION

WHITTEN FEDERAL #1

LEA COUNTY, NEW MEXICO

CASING & CEMENTING PROGRAM

Surface Casing:

17½" hole size; 13 3/8" casing set at 845' and cemented in September 1963. Casing description and cementing information previously supplied by former operator.

Intermediate Casing:

12¼" hole size; set approximately 5200' 9 5/8" 53.5#, N-80, LT & C new casing, cmt to surface using DV Multiple Stage tool at approximately 3100'. The first stage cmt will consist of 400 sx of Howcolite cmt containing 8# of salt, 5# of Gilsonite & ¼# flocele per sk., tail in with 300 sx of Class "C" containing 2% Calcium Chloride & ¼# flocele per sk. The second stage cmt will consist of 1000 sx Howcolite cmt containing 8# of salt, 5# of Gilsonite & ¼# flocele per sk., tail in with 100 sx Class "C" cmt containing 2% Calcium Chloride & ¼# flocele per sk.

Production String:

7 7/8" hole size; set 5½" 20# & 17# S-95 LT & C buttress from 14,600' to surface. Cmt with 200 sx Howcolite cmt containing 0.6% Halad 22, 5# Gilsonite & ¼# flocele per sk, tail in with 1000 sx Class "C" cmt containing 0.8% Halad 22, 0.4% CFR-2, 3# KCL & ¼# flocele per sk. All 5½" casing will be new.