

## DRILLING PROGRAM

COLLINS & WARE, INC.  
QUAHADA RIDGE FEDERAL 31 WELL NO. 1

2310' FSL & 330' FWL Sec. 31, T22S, R29E, Eddy County, NM

The following information is filed in accordance with New Mexico Oil Conservation Rules and Regulations:

1. SURFACE FORMATION: Quaternary

2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

Bell Canyon	2800'	Brushy Canyon	4850'
Cherry Canyon	3600'	Bone Springs	6300'

3. ESTIMATED DEPTH TO FRESH WATER:

Possible fresh water 100'-300'.

ANTICIPATED POSSIBLE HYDROCARBON BEARING ZONES:

Delaware (below 2700') Oil

No other formations are anticipated to give up commercial quantities of hydrocarbons.

The fresh water sands will be protected by setting 8 5/8" casing at 600' and circulating cement back to surface. A 5 1/2" production string will be run to 6500' and cemented in two stages to circulate back to the surface.

4. PROPOSED CASING AND CEMENTING PROGRAM:

NOTE: See attachment dated 8/11/93 for amended csg. design. *SJS*

Casing:

Hole Size	Interval	Casing OD	Weight, Grade, Joint, Condition
12.25"	0-600'	8.625"	24#, J-55, ST&C, New
7.875"	0-6500'	5.5"	15.5#, J-55, ST&C, Used

Cement:

8 5/8" Surface:

Cemented with 450 sacks of Premium Plus cement with 2% CaCl<sub>2</sub> to circulate.

5 1/2" Production Casing:

Cement with 475 sacks of Premium Plus cement, 2.4# salt/sk, .6% Halad 322, 8# Silicalite/sk, in first stage with DV tool set at 4200' circulate to surface; cement with 750 sacks of Howco Lite with 6# salt/sk & 6% gel; tail in with 275 sks Premium Plus with 8# Silicalite/sk, .6% Halad 322 and 3% salt, circulate to surface.

5. PRESSURE CONTROL EQUIPMENT:

Blowout prevention equipment, while drilling below surface casing will be a 3000 psi working pressure BOP stack. The BOP sketch is shown as Exhibits 1.