

UNION OIL COMPANY OF CALIFORNIA
DISTRICT OFFICE - MIDLAND, TEXAS

DRILLING PROGRAM

Field: Undesignated Morrow Gas Location: 1980' FSL & 660' FWL of
Well Name: PHANTOM BANKS UNIT FEDERAL "17" NO. 1 Section 17, T-26-S, R-31-E, Eddy
County, New Mexico.

Estimated Total Depth: 15,000'

Drilling Data: Geolograph from surface to total depth
Five-foot drilling time from surface to total depth

Samples: Ten-foot samples from 3600' to total depth

<u>Estimated Formation Tops:</u>	Rustler	920	Cherry Canyon	5,400
	Base Salt	3,650	Bone Spring	7,900
	Lamar	3,860	Wolfcamp	10,900
	Ramsey Sand	3,900	Atoka	13,600
	Olds	3,928	Morrow	14,200
			Lower Morrow Shale	15,000

Logs: Mud Logger 4000' to total depth
Integrated BH Sonic w/GR & Caliper from 5500' to surface
Dual Induction LL-8, Compensated Neutron Density and Integrated BH Sonic
from 13,000' to 5,500' and total depth to 13,000'
4-Arm Dipmeter from total depth to 13,000'

DSTs: Three (3)

Cores: Delaware Sand 3890-3970'

Deviation: Five degrees maximum with rate of change not to exceed one degree per
100' of interval

Casing & Mud Program:

Depth	Size Hole	Casing	Cement	W.O.C.	Mud		
					Wt.	Vis.	W.L.
0 - 800'	17-1/2"	13-3/8"	*980 sxs.	18 hr.	As needed to spud		
800 - 5,500'	12-1/4"	9-5/8"	**1925 sxs.	18 hr.	Brine		
5,500 - 10,000'	8-1/2"	---	---	---	Fresh water		
10,000 - 13,000'	8-1/2"	7"	***970 sxs.	18 hr.	12.5-13.0	35-45	<15
13,000 - T.D.	6"	4-1/2" Liner	****350 sxs.	6 hr.	13.0-16.0	35-45	<15

Rig to be released after setting 4-1/2" liner.

*Surface casing to be cemented with 580 sxs Class "C" w/4% gel, 2# salt & 1/4# Flocele
followed by 400 sxs Class "C" w/2% Calcium Chloride. Cement calculated to circulate.
**1st Intermediate casing to be cemented with 1525 sxs HOWCO "LIGHT" or equivalent w/1/4#
Flocele & 14# salt followed by 400 sxs Class "C" w/3# salt. Cement calculated to circ.
***2nd Intermediate casing to be cemented in 2 stages as follows: 1st Stage - 420 sxs
HOWCO "LIGHT" or equivalent w/0.5% HR-7 & 6# salt followed by 300 sxs Class "H" w/1.5%
CFR-2 & 10# salt. 2nd Stage - at 8000'-250 sxs HOWCO "LIGHT" or equivalent w/5# Gilsomite
& 1/4# Flocele.
****Liner to be cemented with 350 sxs Class "H" w/1.5% CFR-2 & 3# KCl. Precede cement w/1000
gals. mud flush.
NOTE: Changes in the above program will be at the direction of a qualified Union Oil
Company of California representative and should be clearly indicated on the pro-
gram posted at the rig.



T. G. Byrom
District Drilling Superintendent