

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATADATE October 4, 1963

| | | | |
|--|-----------------------------|--------------------------------------|----------------------------|
| Operator <u>El Paso Natural Gas Company</u> | | Lease <u>Lindrith Unit No. 51</u> | |
| Location <u>1830'N, 810'E, Sec. 24-24-3</u> | | County <u>Rio Arriba</u> | State <u>New Mexico</u> |
| Formation <u>Pictured Cliffs</u> | | Pool <u>South Blanco</u> | |
| Casing: Diameter <u>2.375</u> | Set At: Feet <u>3172</u> | Tubing: Diameter <u>No Tubing</u> | Set At: Feet |
| Pay Zone: From <u>3040</u> | To <u>3100</u> | Total Depth: <u>3172</u> | Shut In <u>9-27-63</u> |
| Stimulation Method <u>Sand Water Frac.</u> | | Flow Through Casing | Flow Through Tubing |

| | | | | | |
|--|---------------------------|---|---|-------------------------------|--|
| Choke Size, Inches <u>0.750</u> | | Choke Constant: C <u>12.365</u> | | Tubingless Completion | |
| Shut-In Pressure, Casing, PSIG <u>978</u> | + 12 = PSIA <u>990</u> | Days Shut-In <u>7</u> | Shut-In Pressure, Tubing PSIG <u>No Tubing</u> | + 12 = PSIA | |
| Flowing Pressure: P PSIG <u>128</u> | + 12 = PSIA <u>140</u> | Working Pressure: P _w PSIG <u>Calc.</u> | + 12 = PSIA <u>177</u> | | |
| Temperature: T = <u>58</u> °F | n = <u>1.0019</u> | F _{pv} (From Tables) <u>1.015</u> | Gravity <u>.690</u> | F _g = <u>.9325</u> | |

$$\text{CHOKE VOLUME} = Q = C \times P_i \times F_i \times F_g \times F_{pv}$$

$$Q = (12,365)(140)(1.0019)(.9325)(1.015) = \underline{1642} \text{ MCF/D}$$

$$\text{OPEN FLOW} = Aof = Q \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$$

$$Aof = \left(\frac{980100}{948771} \right)^n = (1.0330)^{.85} (1642) = (1.0280)(1642) =$$

NOTE: Light spray of water and distillate throughout test.

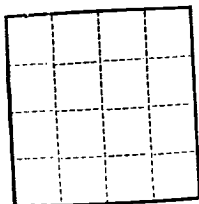
$$Aof = \underline{1688} \text{ MCF/D}$$

TESTED BY Dannie Roberts

Checked

WITNESSED BY W. D. DawsonCalculated by Tom B. Grant

Lewis D. Galloway
Lewis D. Galloway



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 42-R358.4.
Form Approved.

Land Office Santa Fe
Lease No. 070912
Unit Lindrith Unit

SUNDRY NOTICES AND REPORTS ON WELLS

| | | |
|--|--|-------------------------------------|
| NOTICE OF INTENTION TO DRILL | SUBSEQUENT REPORT OF WATER SHUT-OFF | |
| NOTICE OF INTENTION TO CHANGE PLANS | SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING | |
| NOTICE OF INTENTION TO TEST WATER SHUT-OFF | SUBSEQUENT REPORT OF ALTERING CASING | |
| NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL | SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR | |
| NOTICE OF INTENTION TO SHOOT OR ACIDIZE | SUBSEQUENT REPORT OF ABANDONMENT | |
| NOTICE OF INTENTION TO PULL OR ALTER CASING | SUPPLEMENTARY WELL HISTORY | <input checked="" type="checkbox"/> |
| NOTICE OF INTENTION TO ABANDON WELL | <u>Water Frac.</u> | |

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

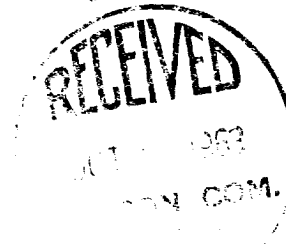
Well No. 51 is located 1030 ft. from [N] line and 610 ft. from [E] line of sec. 24
NE/4 Sec. 24 24N 3W N.M.P.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
So. Blanco Pictured Cliffs Rio Arriba New Mexico
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 7025 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

On 9-18-63 perf. 3040-46' w/2 SFF; 3074-78' w/3 SFF, 3088-3100' w/1 SFF, frac w/30,676 gallons water, 30,000# 10/20 sand. Flushed w/240 gallons water. I.R. 21 BPM, Max. pr. 4000#, BDP 1850#, tr. pr. 3900# - 4000#. ISIP 500#, 5 Min. SIP 450#.



I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company El Paso Natural Gas Company
Box 990
 Address Farmington, New Mexico

By ORIGINAL SIGNED E. S. OBERLY
 Title Petroleum Engineer