FORM 2-15-[illegible]

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DUAL COMPLETION

DATE December 5, 1956

Operator: El Paso Natural Gas Company		Lease: Ludwick #14	
Location: 1650'N, 992'E, Sec. 6-29-10		County: San Juan	State: New Mexico
Formation: Pictured Cliffs		Pool: Aztec	
Casing: Diameter: 7"	Set At: Feet: 4159	Tubing: Diameter: 1¼"	Set At: Feet: 2297
Pay Zone: From: 2243	To: 2282	Total Depth: 4810	Packer @ 2364
Stimulation Method: Sand Water Frac		Flow Through Casing: X	Flow Through Tubing:

Choke Size, Inches: .750	Choke Constant: C: 14.1605		
Shut-In Pressure, Casing: 612 PSIG	+ 12 = PSIA: 624	Days Shut-In: 15	Shut-In Pressure, Tubing: 621 PSIG + 12 = PSIA: 633
Flowing Pressure: P: 287 PSIG	+ 12 = PSIA: 299		Working Pressure: P_w: 301 PSIG + 12 = PSIA: 313
Temperature: T: 66 °F	n: .85		Fpv (From Tables): 1.030 Gravity: .670

CHOKE VOLUME: Q = C x P_t x F_t x F_g x Fpv

Q = 14.1605 x 299 x .9943 x .9463 x 1.030 = 4103 MCF/D

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

Aof = $\left(\frac{400,689}{302,720}\right)^n$ $(1.3236)^{.85}$ x 4103 = 1.2690 x 4103

Aof = 5207 MCF/D

TESTED BY: K. C. McBride

WITNESSED BY:

L. D. Galloway

L. D. Galloway

cc: E. J. Coel, Jr. (6)

Form 23-24 (Rev. 5-55)

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. E. E. Alsup

From: Gas Engineering Department

Date: December 5, 1956

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test data on El Paso Natural Gas Company well, LUDWICK #14, San Juan County, New Mexico

Tested By: K. C. McBride

Location ..... Sec. 6 T. 29 R. 10 , 1650'N,992'E

Shut-In Pressure ..... SIPC 612 psig ; (Shut-in 15 days)
SIPT 621 psig

0.750" Choke Volume ..... 4103 MCF/D @ 14.7 psia and 60° F. for 0.6 gravity gas. Flow through casing for 3 hours.

Calculated 3 Hour Absolute Open Flow ..... 5207 MCF/D

Working Pressure On Tubing ..... = 301 Psig

Producing Formation ..... Pictured Cliffs

Stimulation Method ..... Sand Water Frac

Total Depth ..... 4810 Packer @ 2364

Field ..... Aztec

H_2S ..... Sweet to lead acetate.

L. D. Galloway

L. D. Galloway

cc: D. H. Tucker
R. W. Harris
W. T. Hollis
~~XXXXXXXX~~
W. M. Rodgers
~~XXXXXXXX~~
Drilling Department
B. D. Adams
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File

D. V. Rittmann
Bill Parrish
H. H. Lines

produced through the 2" tubing and the Pictured Cliffs gas will be produced through the casing.

8. A Garrett sidedoor flow nipple was installed in the 2" tubing string immediately above the production packer. This flow nipple will enable bottom hole pressure tests to be taken if it is required at a future date.
9. Initial potential tests have been run and commercial production has been found at both zones. A packer leakage test has been run and witnessed by the Aztec office of the New Mexico Oil Conservation Commission. This test shows no communication in the well bore between the two producing formations.

Administrative approval is requested for this dual completion to allow production from both known producing formations eliminating the high initial cost of drilling two separate wells.

The offset operators of this dual completion acreage have been notified and enclosed are letters from these operators waiving any objections to this completion. Also enclosed are the following:

(a) Two copies of the schematic diagram of the mechanical installations.
(b) Two copies of the plats showing the location of this well and the offset operators.
(c) Two copies of the affidavit from the packer setting company stating that the packer used was set at the depth shown.
(d) Two copies of the packer leakage tests as observed by a member of the N.M.O.C.C.
(e) Two copies of the initial potential tests showing commercial production from the two zones.

It is intended to dedicate the N/2 of Section 6, T29N, R10W, to the Mesa Verde formation, and the NE/4 of Section 6, T29N, R10W to the Pictured Cliffs formation.

Any further information required will be furnished upon your request. Thank you for your consideration of this matter.

Yours truly,

ORIGINAL SIGNED E. J. COEL

E. J. Coel
Senior Petroleum Engineer

EJC:ajh
Enc.
cc: R. L. Hamblin
Emery Arnold
P. T. McGrath