

EL PASO NATURAL GAS COMPANY

P. O. Box 997
Farmington, N.M.

June 18, 1957

Mr. E. C. Arnold
Oil Conservation Commission
120 East Chaco
Aztec, New Mexico

Re: Packer Leakage Test on the El Paso Natural
Gas Company Well, San Juan 27-5 Unit No. 20,
NE 35-27-5, Rio Arriba County, New Mexico.

Dear Mr. Arnold:

The subject well was dually completed in the Pictured Cliffs and Mesa Verde zones. A packer was set at 3600 feet and the Mesa Verde zone was tested June 7, 1957 with the following results:

Pictured Cliffs - SIPC 1019 psig
Mesa Verde - SIPT 1072 psig; shut-in 7 days.

The tubing was opened at 11:05 A.M. through a 3/4 inch choke and tested for three hours.

<u>Time</u>	<u>Tubing Flow Pressure Psig</u>	<u>Temp°F.</u>	<u>Shut-In Casing Pressure Psig</u>
11:05	Opened tubing		1019
11:20	311	66	1021
11:35	236	68	1020
11:50	200	70	1021
12:05	181	70	1021
1:05	143	75	1021
2:05	128	74	1022

The measured choke volume was 1625 MCF/Day. The Pictured Cliff zone was tested June 14, 1957 through a 3/4 inch choke with the following results:

Pictured Cliffs - SIPT 1042 psig; shut-in 14 days.
Pictured Cliffs - SIPC 1041 psig
Mesa Verde - SIPT 1088 psig

The casing was opened at 11:00 A.M. with the following results:



<u>Time</u>	<u>Casing Flow Pressure Psig</u>	<u>Temp° F</u>	<u>Tubing Shut-In Pressure Psig</u>
11:00	Opened casing		1088
11:15	858	71	1089
11:30	848	75	1090
11:45	830	77	1090
12:00	791	78	1090
1:00	731	80	1089
2:00	697	76	1089

The measured choke volume was 8719 MCF/Day. The data obtained from the tests indicates there is no packer leakage.

Very truly yours,

K. C. McBride

K. C. McBride

Gas Engineer

KCMcB/jla

cc: W. T. Hollis
W. M. Rodgers
E. J. Coel, Jr. (6)
File

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATADUAL COMPLETIONDATE June 7, 1957

Operator El Paso Natural Gas Company		Lease San Juan 27-5 Unit No. 20	
Location 800'N, 990'E, Sec. 35-27-5		County Rio Arriba	State New Mexico
Formation Mesa Verde		Pool Blanco	
Casing: Diameter 7 5/8	Set At: Feet 3047	Tubing: Diameter 2"	Set At: Feet 5283
Pay Zone: From 5418	To 5738	Total Depth: 5800 - Packer at 3600	
Stimulation Method Sand Water Frac		Flow Through Casing	Flow Through Tubing X

Choke Size, Inches .750	Choke Constant: C 12.365	5 1/2" liner at 5439	
Shut-In Pressure, Casing, PSIG P.C. 1019	- 12 = PSIA	Days Shut-In 7	Shut-In Pressure, Tubing, PSIG M.V. 1072
Flowing Pressure: P, PSIG 128	- 12 = PSIA	140	Working Pressure: Pw, PSIG Calculated
Temperature T, F .74		.75	Fpv (From Tables) 1.013
			Gravity .684

Ending P.C. SIPC - 1021

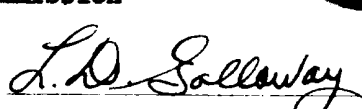
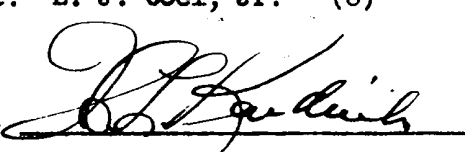
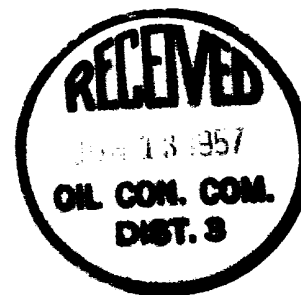
CHOKE VOLUME $Q = C \times P_r \times F_r \times F_g \times F_{pv}$

$$Q = 12.365 \times 140 \times .9868 \times .9393 \times 1.013 = 1625 \text{ MCF/D}$$

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

$$Aof = \left(\frac{1,175,056}{1,102,156} \right)^n \cdot 1.066^{.75} \times 1625 = 1.0491 \times 1625$$

$$Aof = 1705 \text{ MCF/D}$$

TESTED BY **K. C. McBride**WITNESSED BY **Fred Cook, New Mexico Oil Conservation Commission**cc: **E. J. Coel, Jr. (6)**By: 
L. D. Galloway

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATADUAL COMPLETIONDATE June 14, 1957

Operator El Paso Natural Gas Company		Lease San Juan 27-5 Unit No. 20	
Location 800'N, 990'E, Sec. 35-27-5		County Rio Arriba	State New Mexico
Formation Pictured Cliffs		Post Undesignated	
Casing Diameter 7 5/8	Set At: Feet 3626	Tubing Diameter 1 1/4	Set At: Feet 3461
Pay Zone From 3448	To 3468	Total Depth: 5800 Packer at 3600	
Stimulation Method Sand Water Frac.		Flow Through Casing X	Flow Through Tubing

Choke Size, Inches .750	Choke Constant: C 12.365	5 1/2" liner 3520 to 5804	
Shut-In Pressure, Casing, PSIG 1041	- 12 - PSIA 1053	Days Shut-In 14	Shut-In Pressure, Tubing PSIG 1042
Flowing Pressure: P PSIG 697	- 12 - PSIA 709		1054
Temperature: T 76	F n .85		Working Pressure: Pw PSIG 715
			727
			Fpv (From Tables) 1.075
			Gravity .680

Shut-In pressure Mesa Verde 1088 psig; Ending shut-in pressure Mesa Verde - 1088 psig.

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

$$Q = 12.365 \times 709 \times .9850 \times .9393 \times 1.075$$

8719

MCF/D

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

$$A_{of} = \left(\frac{1,110,916}{582,387} \right)^{.85} \times 1.9075 \times 8719 = 1.731 \times 8719$$

$$A_{of} = 15,093 \text{ MCF/D}$$

TESTED BY K. C. McBride

WITNESSED BY _____

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

L. D. Galloway
L. D. Galloway

