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.

Time	Tubing Flow Pressure Psig	Temp°F.	Shut-In Casing Pressure Psig
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:

Time	Casing Flow Pressure Psig	Temp°F	Tubing Shut-In Pressure Psig
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
Gas Engineer

KCMcB/jla

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

FORM 23-72 [illegible]

DUAL COMPLETION

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DATE 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	+ 12 = PSIA: 1084	
Flowing Pressure: P PSIG: 128	+ 12 = PSIA: 140		Working Pressure: P_w PSIG: Calculated	+ 12 = PSIA: 270	
Temperature T: .74	F n: .75		Fpv (From Tables): 1.013	Gravity: .684	

Ending P.C. SIPC - 1021

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

$Q = 12.365 \times 140 \times .9868 \times .9393 \times 1.013 = 1625$ MCF D

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

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

Aof = 1705 MCF D

TESTED BY: K. C. McBride

WITNESSED BY: Fred Cook, New Mexico Oil Conservation Commission

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

By: R. L. Hamlin

L. D. Galloway

L. D. Galloway

FORM 2-STE (1-56)

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DUAL COMPLETION

DATE 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		Pool: 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: 1041 PSIG	+ 12 = PSIA: 1053	Days Shut-In: 14	Shut-In Pressure, Tubing: 1042 PSIG + 12 = PSIA: 1054
Flowing Pressure: P: 697 PSIG	+ 12 = PSIA: 709		Working Pressure: Pw: 715 PSIG + 12 = PSIA: 727
Temperature, T: 76 F	n: .85		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 = $C \times P_t \times F_t \times F_g \times F_{pv}$

Q = 12.365 x 709 x .9850 x .9393 x 1.075 = 8719 MCF D

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

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

Aof = 15,093 MCF D

TESTED BY K. C. McBride

WITNESSED BY

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

RECEIVED
JUN 19 1957
OIL CON. COM.
DIST. 3

L. D. Galloway

L. D. Galloway