

EL PASO NATURAL GAS COMPANY

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

October 10, 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, Schwerdtfeger No. 10-A,
(PM) SW 31-28-8, San Juan County, N.M.

Dear Mr. Arnold:

The subject well was dually completed in the Pictured Cliffs and Mesa Verde zones and a packer was set at 2327 feet. The Pictured Cliffs zone was tested through a 3/4" choke for three hours September 27, 1957 with the following data obtained:

Pictured Cliffs SIPC 798 psig; shut-in 13 days
Pictured Cliffs SIPT 798 psig

Mesa Verde SIPT 1057 psig; shut-in 13 days

<u>Time Minutes</u>	<u>PC Flowing Pressure Casing Psig</u>	<u>MV SIPT Psig</u>	<u>PC Working Pressure, Psig</u>	<u>Temp^oF</u>
15	550	1058		63
30	482	1059		63
45	448	1060		65
60	405	1060		66
180	309	1060	324	68

The choke volume for the Pictured Cliffs was 3909 MCF/D with an A.O.F. of 4589 MCF/D.

The Mesa Verde zone was tested October 4, 1957 with a 3/4" choke for three hours with the following data obtained:

Pictured Cliffs SIPC 805 psig; shut-in 7 days
Pictured Cliffs SIPT 805 psig

Mesa Verde SIPT 1069 psig; shut-in 20 days



<u>Time</u> <u>Minutes</u>	<u>MV Flowing Pressure</u> <u>Tubing Psig</u>	<u>PC SIPC Psig</u>	<u>MV Working</u> <u>Pressure, Psig</u>	<u>Temp^oF</u>
15	509	805		71
30	480	805		72
45	461	805		73
60	446	805		73
180	390	805	Calculated 739	74

The choke volume for the Mesa Verde test was 4709 MCF/D with an A.O.F. of 7723 MCF/D.

The results of the above tests indicate there is no packer leakage.

Very truly yours,



S. V. Roberts
Gas Engineer

SVR/jla

cc: E. J. Coel, Jr.
W. M. Rodgers
E. S. Oberly (6)
File

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATADUAL COMPLETIONDATE October 4, 1957

Operator El Paso Natural Gas Company		Lease Schwerdtfeger No. 10-A	
Location 1180'S, 475'W, Sec. 31-28-8		County San Juan	State New Mexico
Formation Mesa Verde		Pool Blanco	
Casing: Diameter 7-5/8	Set At: Feet 2287	Tubing: Diameter 2"	Set At: Feet 4444
Pay Zone: From 4350	To 4528	Total Depth: 4606 - c/o 4576	
Stimulation Method Sand Water Frac.		Flow Through Casing	Flow Through Tubing X

Choke Size, Inches 0.750		Choke Constant: C 12.365		5-1/2" liner - 2238 - 4605	
Shut-In Pressure, Casing, PSIG PC 805	- 12 = PSIA 817	Days Shut-In 20	Shut-In Pressure, Tubing PSIG MV 1069	- 12 = PSIA 1081	
Flowing Pressure: P PSIG 390	- 12 = PSIA 402		Working Pressure: Pw PSIG Calc.	- 12 = PSIA 751	
Temperature: T F 74	n = 0.75		Fpv (From Tables) 1.048	Gravity .715	

Final SIPC (PC) - 805 psig; 1-1/4 at 2316 - Packer at 2327 - Sleeve at 2167

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

$$Q = 12.365 \times 402 \times .9868 \times .9161 \times 1.048 = 4709 \text{ MCF/D}$$

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

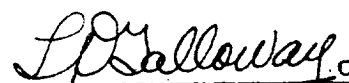
$$A_{of} \left(\frac{1,168,561}{604,560} \right)^n = 1.9329^{.75} \times 4709 = 1.6400 \times 4709$$

$$A_{of} = 7723 \text{ MCF/D}$$

TESTED BY S. V. Roberts

WITNESSED BY _____

cc: E. S. Oberly (6)


 L. D. Galloway


FISH CONSERVATION COMMISSION		
DISTRICT OFFICE		
COUNTY NO. 3		
SECTION		
DATE	1	
TIME		
BY		
FILE	1	✓