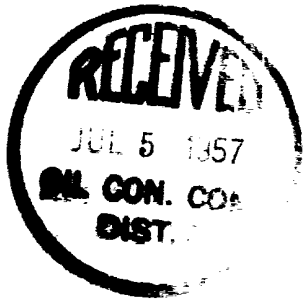
El Paso Natural Gas Company

El Paso, Texas

July 2, 1957

DIRECT REPLY TO:
P. O. BOX 997
FARMINGTON, NEW MEXICO



Mr. A. L. Porter
Secretary and Director
Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Dear Sir:

This is a request for administrative approval for a well dually completed in the Blanco Mesa Verde Pool and the Wildcat Pictured Cliffs Pool. The El Paso Natural Gas Company Dryden No. 3 (PM) is located 990 feet from the South line and 990 feet from the West line of Section 21, Township 28 North, Range 8 West, N.M.P.M., San Juan County, New Mexico.

This well has been completed in the Point Lookout and Cliff House sections of the Mesa Verde formation and in the Pictured Cliffs formation. Completion has been accomplished in the following manner:

1. 10-3/4" surface casing set at 175' with 150 sacks of cement circulated to the surface.
2. 7-5/8" intermediate casing set at 2399' and cemented with 200 sacks of cement. Top of cement by temperature survey was 700' which is above the top of the Pictured Cliffs at 2192'.
3. 5-1/2" liner set from 2348' to 4633' with 250 sacks of cement. The top of the liner was squeezed with 300 sacks of cement.
4. The casing and liner were tested for leaks before perforating.
5. The Point Lookout section was perforated in five intervals and fractured with water and sand.
6. The Cliff House section was perforated in three intervals and fractured with water and sand.
7. The Pictured Cliffs formation was perforated in two intervals and fractured with water and sand.
8. All perforations were cleaned out after treatment and completion was accomplished by setting a Baker Model EGJ production packer on 2" EUE tubing at 2453' with the tubing perforations set opposite the Point Lookout perforation. 1-1/4" Grade "B" line pipe was landed, with the tubing perforations set opposite the Pictured Cliffs perforations, as a siphon string. The Mesa Verde gas will be produced through the 2" tubing and the Pictured Cliffs gas through the casing.

COPY

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9. A Garrett circulating sleeve was installed in the 2" tubing string just below the Pictured Cliffs perforations. This will enable bottom hole pressure tests to be taken in the future if it be so required.
10. Initial potential tests have been run and commercial production has been found in both formations. A packer leakage test has been run and witnessed by the Aztec office of the 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, thus eliminating the high initial cost of drilling two separate wells.

El Paso Natural Gas Company controls all acreage immediately adjacent to the drilling block, therefore the approval of any other operators has not been sought. Enclosed are the following:

(a) Two copies of the schematic diagram of the mechanical installations.
(b) Two copies of the affidavit from the packer setting company stating that the packer used was set at the depth shown.
(c) Two copies of the packer leakage test as observed by a member of the Oil Conservation Commission.
(d) Two copies of the initial potential test showing commercial production from the two formations.

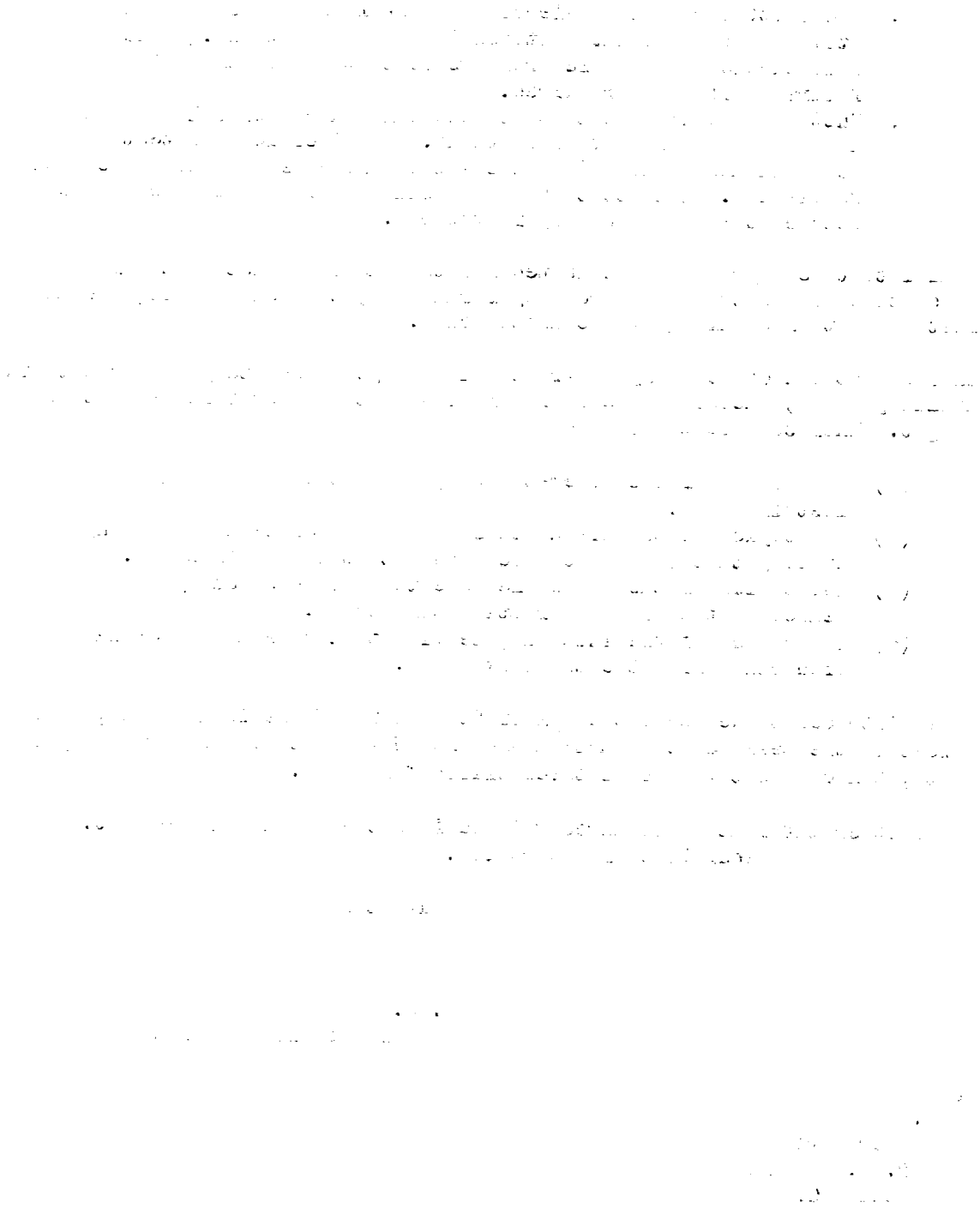
It is intended to dedicate the S/2 of Section 21, Township 28 North, Range 8 West to the Mesa Verde formation and the SW/4 of Section 21, Township 28 North, Range 8 West to the Pictured Cliffs formation.

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

Yours truly,

E. J. Coel
Senior Petroleum Engineer

EJC/gks
Encl.
cc: Emery Arnold
W. L. Hamblin
Phil McGrath



CORRECTED COPY

OPEN FLOW TEST DATA

DUAL COMPLETION

DATE May 28, 1957

Operator	El Paso Natural Gas Company	Lease	Dryden No. 3
Location	990'S, 990'W, Sec. 21-28-8	County	San Juan
		State	New Mexico
Formation	Pictured Cliffs	Pool	Undesignated
Casing Diameter	7 5/8	Set At: Feet	2389
Tubing Diameter	1 1/4	Set At: Feet	2252
Pay Zone: From	2192	To	2234
Total Depth	4635 - c/o 4610.	Packer at 2453	
Stimulation Method	Sand Water Frac.	From Through Casing	X
From Through Tubing			

Choke Size, Inches	0.75	Choke Constant: C	12.365
		5 1/2" liner at 4633	
Shut-in Pressure, Casing	869 PSIG + 12 = PSIA 881	Days Shut-in	24
Shut-in Pressure, Tubing	869 PSIG + 12 = PSIA 881		
Flowing Pressure: P	80 PSIG + 12 = PSIA 92	Working Pressure: Pw	82 PSIG + 12 = PSIA 94
Temperature: T	66 F	Fpv (From Tables)	1.009
		Gravity	.650

Starting SIPT (Mesa Verde) - 1072 psig. Final SIPT (Mesa Verde) - 1072 psig

CHOKE VOLUME: C x P_t x F_t x F_g x F_{pv}

$$12.365 \times 92 \times .9943 \times .9608 \times 1.009 = 1097 \text{ MCF/D}$$

$$\left(\frac{P_c^2}{P_c^2 - P_w^2}\right)^n$$

$$\left(\frac{776{,}161}{767{,}325}\right)^n \quad 1.0115^{.85} \times 1097 - 1.00975 \times 1097$$

AOF = 1108 MCF/D

R. A. Ullrich

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

L. D. Galloway

L. D. Galloway

DUAL COMPLETION

FORM 29-78

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DATE June 4, 1957

Operator: El Paso Natural Gas Company	Lease: Dryden #3
Location: 990 S and 990 W 21-28-8	County: San Juan / State: New Mexico
Formation: Mesaverde	Pool: Blanco
Casing: Diameter: 7 5/8 / Set At: Feet: 2389	Tubing: Diameter: 2 / Set At: Feet: 4552
Pay Zone: From: 3818 / To: 4600	Total Depth: 4635 c/o 4610 Packer @ 2453
Stimulation Method: Sand Water Frac	Flow Through Casing: / Flow Through Tubing: X

Choke Size, Inches: 0.75	Choke Constant: C: 12.365		5 1/2" Liner 2 4633		
Shut-In Pressure, Casing: Pictured Cliffs	PSIG: 867	+ 12 = PSIA	Days Shut-In: 7	Shut-In Pressure, Tubing: 1076	PSIG: + 12 = PSIA: 1088
Flowing Pressure: P: 389	PSIG	+ 12 = PSIA: 401		Working Pressure: Pw: Calculated	PSIG: + 12 = PSIA: 750
Temperature: T: 76	°F	Fg: .75		Fpv (From Tables): 1.037	Gravity: .660

Sinal SIPC (Pictured Cliffs) 870 psig.

CHOKE VOLUME Q = C x P_t x F_t x F_g x F_{pv}

Q = 12.365 x 401 x .9850 x .9535 x 1.037 = 4829 MCF D

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

Aof $\left(\frac{11183744}{621244} \right)^n$ $1.9054^{.75}$ x 4829 = 1.622 x 4829

Aof 7833 MCF D

TESTED BY R. A. Ullrich

WITNESSED BY Fred Cook (NMOCC)

L. D. Galloway

L. D. Galloway

cc: E. J. Coel (6)

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. E. E. Alsup

Date: May 28, 1957

From: Gas Engineering Department

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: TEST DATA ON EPNG WELL, DRYDEN #3, SAN JUAN COUNTY, NEW MEXICO

Tested By: R. A. Ullrich

Location ..... Sec. 21 T. 28 R. 8 990 S & W

Shut-In Pressure ..... PC SIPC 869 psig ; (Shut-in 24 days)
PC SIPT 869 psig
MV SIPT 1072 psig

0.750" Choke Volume ..... 1097 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 ..... 1108 MCF/D

Working Pressure On Tubing ..... = 82 Psig

Producing Formation ..... PC

Stimulation Method ..... Sand Water Frac

Total Depth ..... 4635 c/o 4610 Packer @ 2453

Field ..... Undes.

H_2S ..... Sweet to lead acetate.

Lewis D. Galloway

L. D. Galloway

cc: D. H. Tucker
[redacted] H. H. Lines
W. T. Hollis
[redacted] Dean Rittmann
W. M. Rodgers
[redacted] Bill Parrish
Drilling Department
B. D. Adams
Roland Hamblin
Jack Purvis
[redacted]
C. C. Kennedy
E. J. Coel, Jr. (6)
A. J. Dudenhoeffer
File

Form 23-24 (Rev. 6-56)

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. E. E. Alsup

Date: June 4, 1957

From: Gas Engineering Department

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: TEST DATA ON EPNG WELL, DRYDEN #3, SAN JUAN COUNTY, NEW MEXICO

Tested By: R. A. Ullrich WITNESSED BY: Fred Cook (New Mexico Oil Conservation Commission)

Location ..... Sec. 21 T. 28 R. 8 , 990 S & W

Shut-In Pressure ..... PC SIPC 867 psig ; (Shut-in 31 days)
MV SIPT 1076 psig

0.750" Choke Volume ..... 4829 MCF/D @ 14.7 psia and 60° F. for 0.6 gravity gas. Flow through Tubing for 3 hours.

Calculated 3 Hour Absolute Open Flow ..... 7833 MCF/D

Working Pressure On .....Calculated..... = 738 Psig

Producing Formation ..... MV

Stimulation Method ..... Sand Water Frac

Total Depth ..... 4635 c/o 4610 Packer @ 2453

Field ..... Blanco

H_2S ..... Sweet to lead acetate.

Lewis D. Galloway

L. D. Galloway

cc: D. H. Tucker
H. H. Lines
W. T. Hollis
Dean Rittmann
W. M. Rodgers
Bill Parrish
Drilling Department
B. D. Adams
Roland Hamblin
Jack Purvis
C. C. Kennedy
E. J. Coel, Jr. (6)
A. J. Dudenhoeffer
File

EL PASO NATURAL GAS COMPANY

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

June 5, 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, Dryden No. 3, San Juan County, New Mexico.

Dear Mr. Arnold:

This well was dually completed in the Pictured Cliffs and Mesa Verde formations. A production packer was set at 2453 feet. The Pictured Cliffs zone was tested on May 28, 1957 and the following information was obtained:

SIPC and SIPT - Pictured Cliffs - 869 psig; shut-in 24 days.
SIPT - Mesa Verde - 1072 psig

The three hour open flow test, through a 3/4" choke was started at 10:45 A.M.

Time	Casing Choke Pressure Psig	Tubing Pressure (M.V.) Psig	Temp. °F
10:45	Opened casing		
11:00	266	1072	
11:15	176	1072	
11:30	137	1072	
11:45	122	1072	
12:45	92	1072	
1:45	80	1072	66

The calculated choke volume was 1097 MCF/D and the A.O.F. was 1108 MCF/D.

On June 4, 1957 the Mesa Verde zone was tested and the following information was obtained:

SIPC (Pictured Cliffs) - 867 psig
SIPT (Mesa Verde) - 1076 psig; shut-in 31 days.

The three hour open flow test, through a 3/4" choke was started at 10:50 A.M.

Time	Tubing Choke Press. (MV) Psig	Casing Pressure (PC) Psig	Temp. °F
10:50	Opened tubing		
11:05	498	870	
11:20	464	870	
11:35	446	870	
11:50	438	870	
1:00	403	870	
1:50	389	870	76

The calculated choke volume was 4829 MCF/D and the A.O.F. was 7833 MCF/D.

Mr. Fred Cook, with the New Mexico Oil Conservation Commission, witnessed the above test.

Very truly yours,

R. A. Ullrich

R. A. Ullrich
Gas Engineer

RAU/jla

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

STATE OF NEW MEXICO)
)
COUNTY OF SAN JUAN)

I, Mack M. Mahaffey, being first duly sworn upon my ~~oath~~ depose and say as follows:

I am an employee of Baker Oil Tools, Inc., and that on March 4, 1957, I was called to the location of the El Paso Natural Gas Company Dryden No. 3 (PM) Well located in the SW/4 SW/4 of Section 21, Township 28 North, Range 8 West, N.M.P.M for the purpose of installing a production packer. Under my direct supervision a Baker Model "EGJ" production packer was set at 2453 feet. The production packer was properly set in accordance with the usual practices and customs of the industry.

Mack M. Mahaffey

Subscribed and sworn to before me, a Notary Public in and for San Juan County, New Mexico, the 9 day of April, 1957.

Notary Public in and for San Juan County, New Mexico

My commission expires:

2-24-60

SCHEMATIC DIAGRAM OF DUAL COMPLETION
DRYDEN NO. 3 (PM)
(SW Section 21 T28N R8W)

Zero Measurements 10.0' above tubing hanger.