

# El Paso Natural Gas Company

El Paso, Texas

July 2, 1957

DIRECT REPLY TO:  
P. O. BOX 897  
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 South Blanco Pictured Cliffs Extension Pool. The El Paso Natural Gas Company Storey No. 8-C (PM) is located 1450 feet from the South line and 1850 feet from the West line of Section 33, Township 28 North, Range 9 West, N.M.P.M., San Juan County, New Mexico

This well has been completed in the Point Lookout section 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 172' with 150 sacks of cement circulated to the surface.
2. 7-5/8" intermediate casing set at 5290' and cemented with a two stage cementing procedure, 150 sacks at the base of the casing and 150 sacks across the Pictured Cliffs formation.
3. 5-1/2" liner set from 5221' to 5645' with 110 sacks of cement. The top of the liner was squeezed with 150 sacks of cement.
4. The casing and liner were tested for leaks before perforating.
5. The Point Lookout section was perforated in four intervals and fractured with water and sand.
6. The Pictured Cliffs formation was perforated in two intervals and fractured with water and sand.
7. All perforations were cleaned out after treatment and completion was accomplished by setting a Baker Model EGJ production packer on 2" EUE tubing at 5380' 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

Handwritten header text, possibly a name or title.

Handwritten text, possibly a date or location.

Handwritten text, possibly a name.

Small printed text on the left side of the page.



Printed text block, possibly a header or address.

Small printed text block.

Large block of printed text, possibly a letter or report.

Second block of printed text.

Third block of printed text.

Fourth block of printed text.

8. 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.
9. 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 Astec 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.

The offset operator to this well has been notified by registered mail regarding intentions to dual complete this well. Enclosed is a letter of approval from the offset operator. Also enclosed are:

- (a) Two copies of plats showing the location of this well and the offset operator.
- (b) Two copies of the schematic diagram of the mechanical installations.
- (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 test as observed by a member of the Oil Conservation Commission.
- (e) Two copies of the initial potential test showing commercial production from the two formations.

It is intended to dedicate the S/2 of Section 33, Township 28 North, Range 9 West to the Mesa Verde formation and the SW/4 of Section 33, Township 28 North, Range 9 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,

ORIGINAL SIGNED E. J. COEL

E. J. Coel  
Senior Petroleum Engineer

EJC/gks

Encl.

cc: Emery Arnold ✓  
R. L. Hamblin  
Phil McGrath





EL PASO NATURAL GAS COMPANY  
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE May 29, 1957

Operator <b>El Paso Natural Gas Company</b>		Lease <b>Storey No. 8-C</b>	
Location <b>1450'S, 1850'W, Sec. 33-28-9</b>		County <b>San Juan</b>	State <b>New Mexico</b>
Formation <b>Mesa Verde</b>		Pool <b>Blanco</b>	
Casing: Diameter <b>7 5/8</b>	Set At: Feet <b>5280</b>	Tubing: Diameter <b>2"</b>	Set At: Feet <b>5504</b>
Pay Zone: From <b>5416</b>	To <b>5496</b>	Total Depth: <b>5645 - c/o 5500. Packer at 5380</b>	
Stimulation Method <b>Sand Water Frac</b>		Flow Through Casing	Flow Through Tubing <b>X</b>

Choke Size, Inches <b>.750</b>	Choke Constant: C <b>12.365</b>		<b>5 1/2" liner. 5221 to 5645</b>	
Shut-In Pressure, Casing, PSIG <b>686 P.C.</b>	- 12 = PSIA	Days Shut-In <b>32</b>	Shut-In Pressure, Tubing PSIG <b>1032</b>	- 12 = PSIA <b>1044</b>
Flowing Pressure: P PSIG <b>337</b>	- 12 = PSIA <b>349</b>	Working Pressure: P <sub>w</sub> PSIG <b>Calculated</b>	- 12 = PSIA <b>698</b>	
Temperature: T <b>67</b>	F	n = <b>.75</b>	F <sub>pv</sub> (From Tables) <b>1.041</b>	Gravity <b>.710</b>

Ending SIPC (Pictured Cliffs) ) - 684 psig

CHOKE VOLUME = Q C x P<sub>i</sub> x F<sub>i</sub> x F<sub>g</sub> x F<sub>pv</sub>

Q **12.365 x 349 x .9933 x .9193 x 1.041** = 4102 MCF/D

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

Aof  $\left( \frac{1,089,936}{602,732} \right)^n$  **1.808<sup>.75</sup> x 4102 = 1.558 x 4102**

Aof 6391 MCF D

Heavy spray of distillate last 2 1/2 hours.

TESTED BY K. C. McBride

WITNESSED BY Fred Cook, New Mexico Oil Conservation Commission

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

L. D. Galloway  
L. D. Galloway

EL PASO NATURAL GAS COMPANY  
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE May 22, 1957

Operator <b>El Paso Natural Gas Company</b>		Lease <b>Storey No. 8-C</b>	
Location <b>1450'S, 1850'W, Sec. 33-28-9</b>		County <b>San Juan</b>	State <b>New Mexico</b>
Formation <b>Pictured Cliffs</b>		Pool <b>Undesignated</b>	
Casing: Diameter <b>7 5/8</b>	Set At: Feet <b>5280</b>	Tubing: Diameter <b>1 1/4</b>	Set At: Feet <b>3137</b>
Pay Zone: From <b>3128</b>	To <b>3178</b>	Total Depth: <b>5645 - c/o 5500. Packer at 5380</b>	
Stimulation Method <b>Sand Water Frac</b>		Flow Through Casing <b>X</b>	Flow Through Tubing

Choke Size, Inches <b>0.75</b>	Choke Constant: C <b>12.365</b>		<b>5 1/2" liner 5221 to 5645</b>	
Shut-In Pressure, Casing, PSIG <b>687</b>	- 12 = PSIA <b>699</b>	Days Shut-In <b>25</b>	Shut-In Pressure, Tubing, PSIG <b>687</b>	- 12 = PSIA <b>699</b>
Flowing Pressure: P, PSIG <b>181</b>	- 12 = PSIA <b>193</b>		Working Pressure: P <sub>w</sub> , PSIG <b>185</b>	- 12 = PSIA <b>197</b>
Temperature: T, °F <b>61</b>	n <b>.85</b>		F <sub>pv</sub> (From Tables) <b>1.017</b>	Gravity <b>631</b>

SIPT (Mesa Verde) ) 1032 psig. Final SIPT 1035 psig.

CHOKE VOLUME = Q = C x P<sub>i</sub> x F<sub>i</sub> x F<sub>g</sub> x F<sub>pv</sub>

Q = 12.365 x 193 x .9990 x .9759 x 1.017 = 2366 MCF · D

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

Aof =  $\left( \frac{488,601}{449,792} \right)^n = 1.0862^{.85} \times 2366 = 1.0728$

Aof = 2538 MCF · D

TESTED BY R. A. Ullrich

WITNESSED BY \_\_\_\_\_

cc: E. J. Coel (6)

*L. D. Galloway*  
L. D. Galloway

EL PASO NATURAL GAS COMPANY

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

May 31, 1957

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

Re: Packer Leakage Test on El Paso Natural Gas  
Company Well, Storey No. 8-C, 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 5380 feet. The Pictured Cliffs zone was tested May 22, 1957 and the following information was obtained.

SIPC and SIPT (Pictured Cliffs) - 687 psig; shut-in 25 days.  
SIPT (Mesa Verde) - 1032 psig

The three hour open flow test through a 3/4 inch choke started at 10:00 A.M.

<u>Time</u>	<u>Casing Choke Pressure Psig</u>	<u>Tubing Pressure (M.V.) Psig</u>	<u>Temp. °F</u>
10:00	Opened casing		
10:15	417	1032	
10:30	336	1032	
10:45	291	1033	
11:00	258	1033	
12:00	203	1035	
1:00	181	1035	61

The calculated choke volume was 2366 MCF/D and the A.O.F. was 2538 MCF/D.

On May 29, 1957 the Mesa Verde zone was tested and the following information was obtained:

SIPC (Pictured Cliffs) - 686 psig  
SIPT (Mesa Verde) - 1032 psig; shut-in 32 days.

The three hour open flow test period, through a 3/4" choke started at 9:15 A.M.



<u>Time</u>	<u>Tubing choke Press. Psig (M.V.)</u>	<u>Casing Pressure (P.C.) Psig</u>	<u>Temp. °F</u>
9:15	Opened tubing	686	
9:30	458	687	
9:45	437	687	
10:00	405	686	
10:15	407	686	
10:45	366	685	
11:15	353	685	
11:45	345	684	
12:15	337	684	67

The calculated choke volume was 4102 MCF/D and the A.O.F. was 6489 MCF/D.

Very truly yours,



R. A. Ullrich  
Gas Engineer

RAU/jla

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

EL PASO NATURAL GAS COMPANY  
GAS WELL TEST

To: **Mr. E. E. Alsup**  
From: Gas Engineering Department

Date: **May 22, 1957**  
Place: **Farmington, New Mexico**

DUAL COMPLETION

Subject: **Test data on the El Paso Natural Gas Company Well,  
STOREY NO. 8-C, San Juan County, New Mexico.**

Tested By: **R. A. Ullrich**

Location ..... Sec. **33** T. **28** R. **9** **1450'S, 1850'W**

Shut-In Pressure ..... **P.C. SIPT 687 psig ; (Shut-in 25 days)**  
**P.C. SIPT 687 psig**  
**M.V. SIPT 1032 psig**

0.750" Choke Volume ..... **2366** 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 ..... **2538** MCF/D

Working Pressure On **tubing** ..... = **185** Psig

Producing Formation ..... **Pictured Cliffs**

Stimulation Method ..... **Sand Water Frac.**

Total Depth ..... **5645 - c/o 5500. Packer at 5380**

Field ..... **Undesignated**

H<sub>2</sub>S ..... **Sweet** to lead acetate.

**Final Mesa Verde SIPT 1035 psig**

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

H. H. Lines  
Bill Parrish  
Dean Rittmann

*Lewis D. Galloway*  
L. D. Galloway

EL PASO NATURAL GAS COMPANY  
GAS WELL TEST

To: Mr. E. E. Alsup  
From: Gas Engineering Department

Date: May 29, 1957  
Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test data on the El Paso Natural Gas Company Well,  
STOREY NO. 8-C, San Juan County, New Mexico.

Tested By: K. C. McBride. Witnessed by: Mr. Fred Cook, New Mexico Oil Conservation  
Commission.

Location ..... Sec. 33 T. 28 R. 9 .1450'S, 1850'W

Shut-in Pressure ..... P.C. SIPC 686 psig ; (Shut-in 32 days)  
M.V. SIPT 1032 psig

0.750" Choke Volume ..... 4102 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 ..... 6489 MCF/D

Working Pressure On ..... calculated = 686 Psig

Producing Formation ..... Mesa Verde

Stimulation Method ..... Sand Water Frac

Total Depth ..... 5645 - c/o 5500. Packer at 5380

Field ..... Blanco

H2S ..... Sweet to lead acetate.

Heavy spray of distillate last 2 1/2 hours.

cc: D. H. Tucker

~~W. T. Hollis~~

W. T. Hollis

~~W. M. Rodgers~~

W. M. Rodgers

~~Drilling Department~~

Drilling Department

B. D. Adams

Roland Hamblin

Jack Purvis

~~C. C. Kennedy~~

C. C. Kennedy

E. J. Coel, Jr. (6)

A. J. Dudenhoefter

File

H. H. Lines  
Bill Parrish  
Dean Rittmann

*Lewis D. Galloway*  
L. D. Galloway

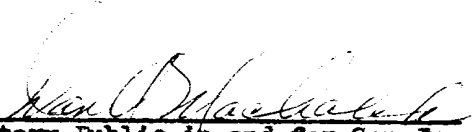
STATE OF NEW MEXICO        )  
                                  )  
COUNTY OF SAN JUAN

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  
April 27, 1957, I was called to the location of the El Paso  
Natural Gas Company Storey No. 8-C (PM) Well located in the  
NE/4 SW/4 of Section 33, Township 28 North, Range 9 West, N.M.P.M.  
for the purpose of installing a production packer. Under my  
direct supervision a Baker Model "EQJ" production packer was  
set at 5380 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 May,  
1957.

  
Notary Public in and for San Juan  
County, New Mexico

My commission expires:

2-24-60

SCHEMATIC DIAGRAM OF DUAL COMPLETION  
 EPNG STOREY NO. 8-C  
 (SW Section 33-T20N-R9W)

Zero Measurements 10.9'  
 above tubing hanger.

