El Paso Natural Gas Company

El Paso, Texas

June 7, 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 San Juan 27-5 Unit No. 26 (PM) is located 990 feet from the North line and 1539 feet from the East line of Section 17, Township 27 North, Range 5 West, N.M.P.M., Rio Arriba 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 effected in the following manner:

1. 10-3/4" surface casing set at 173' with 150 sacks cement circulated to the surface.
2. 7-5/8" intermediate casing set at 3535' with 250 sacks cement. Top of cement by temperature survey at 2505' which is above the top of the Pictured Cliffs at 3361'.
3. 5-1/2" liner set from 3445' to 5690' with 300 sacks cement.
4. The casing and liner were tested for leaks before perforating.
5. The Point Lookout section was perforated in four intervals and fraced with water and sand.
6. The Cliff House section was perforated in six intervals and fraced with water and sand.
7. The Pictured Cliffs formation was perforated in one interval and fractured with water and sand.
8. All perforations were cleaned out after fracturing and completion was accomplished by setting a Baker Model "EGJ" packer on 2" EUE tubing at 3879' with the tubing perforations opposite the Point Lookout perforations. 1-1/4" Grade "B" line pipe was run as a siphon string with tubing perforations opposite the Pictured Cliffs perforations.

COPY

9. The Mesa Verde gas will be produced through the 2" EUE tubing and the Pictured Cliffs gas through the casing.
10. A Garrett side door flow nipple was installed in the 2" EUE string just below the Pictured Cliffs perforations. This flow nipple will enable bottom hole pressure tests to be made in the future if it be so required.
11. Initial potential tests have been run showing commercial production in both zones. A packer leakage test has also been run, the test being witnessed by a member of the Aztec office of the Oil Conservation Commission. Results of this test show no communication in the well bore between the two zones.

Administrative approval is requested for this dual completion to allow production from both producing formations in order to eliminate the high initial cost of drilling two separate wells.

Inasmuch as the drilling unit is entirely within the limits of the San Juan 27-5 Unit of which El Paso Natural Gas Company is the sole operator, the approval of any other operators has not been sought.

Enclosed with this letter are the following:

(a) Two copies of the schematic diagram of the mechanical installations.
(b) Two copies of the affidavit from a 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 E/2 of Section 17, Township 27 North, Range 5 West to the Mesa Verde formation and the NE/4 of Section 17, Township 17 North, Range 5 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 very 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

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

May 15, 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 # 26, NE 17-27-5, Rio Arriba 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 3879 feet. The Mesa Verde zone was tested April 30, 1957 with the following results:

Pictured Cliffs - SIPC - 1064 psig
Mesa Verde - SIPT - 1100 psig; shut-in 20 days.

The tubing was opened at 11:15 A.M. and flowed for three hours through a 3/4" choke.

Time	Tubing Choke Pressure Psig	Temp. °F	Casing Pressure Psig
11:15	Opened tubing		1064
11:30	498	66	1066
11:45	387	65	1065
12:00	342	64	1065
12:15	321	67	1066
12:45	292	67	1067
1:15	281	69	1066
2:15	260	70	1066

The calculated choke volume was 3216 MCF/Day. After the well was shut-in for 14 days, the Pictured Cliffs zone was tested with the following results:

Pictured Cliffs SIPC - 1071 psig; shut-in 26 days.
Pictured Cliffs SIPT - 1072 psig
Mesa Verde SIPT - 1095 psig

The casing was opened at 11:35 A.M. through a 3/4" choke and flowed [illegible] hours.

Time	Casing Choke Pressure Psig	Temp. °F	Tubing Pressure Psig
11:35	Opened casing		1095
11:50	825		1099
12:05	773		1100
12:20	738		1100
12:35	715		1101
1:05	683		1101
1:35	663		1101
2:35	606	66	1102

The calculated choke volume was 7804 MCF/Day. The results of the tests obtained indicate 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 23-75 (6-56)

EL PASO NATURAL GAS COMPANY

DUAL COMPLETION

OPEN FLOW TEST DATA

DATE April 30, 1957

Operator: El Paso Natural Gas Company		Lease: San Juan 27-5 # 26	
Location: 990'N, 1530'E, Sec. 17-27-5		County: Rio Arriba	State: New Mexico
Formation: Mesa Verde		Pool: Blanco	
Casing: Diameter: 7 5/8	Set At: Feet: 3525	Tubing: Diameter: 2"	Set At: Feet: 5652
Pay Zone: From: 5022	To: 5670	Total Depth: 5695 - c/o - 5680	
Stimulation Method: Sand Water Frac		Flow Through Casing:	Flow Through Tubing: X

Choke Size, Inches: .750		Choke Constant: C: 12.365		5½" liner - 3445 to 5690	
Shut-In Pressure, Casing, PSIG: P.C. - 1064	+ 12 = PSIA: 1076	Days Shut-In: 20	Shut-In Pressure, Tubing PSIG: 1100	+ 12 = PSIA: 1112	
Flowing Pressure: P PSIG: 260	+ 12 = PSIA: 272		Working Pressure: P_w PSIG: Calculated	+ 12 = PSIA: 544	
Temperature: T °F: 70	n = .75		Fpv (From Tables): 1.028	Gravity: .680	

Ending Pictured Cliffs SIPC 1066 psig

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

$Q = 12.365 \times 272 \times .9905 \times .9393 \times 1.028 = 3217$ MCF/D

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

$Aof = \left(\frac{1,236,544}{940,608} \right)^n = (1.3146)^{.75} (3217) = (1.2278)(3217)$

Aof = 3950 MCF/D

RECEIVED
MAY 12 1957
OIL CON. COM.
DIST. 3

TESTED BY K. C. McBride

WITNESSED BY

cc: E. J. Coel (6)

L. D. Galloway

L. D. Galloway

FORM 23-75 (6-56)

EL PASO NATURAL GAS COMPANY

DUAL COMPLETION

OPEN FLOW TEST DATA

DATE May 14, 1957

Operator: El Paso Natural Gas Company		Lease: San Juan 27-5 Unit # 26	
Location: 990'N, 1530'E, Sec. 17-27-5		County: Rio Arriba	State: New Mexico
Formation: Pictured Cliffs		Pool: Undesignated	
Casing: Diameter: 7 5/8	Set At: Feet: 3525	Tubing: Diameter: 1 1/4	Set At: Feet: 3394
Pay Zone: From: 3378	To: 3410	Total Depth: 5695 - c/o - 5680.	Packer at 3879
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	
Shut-In Pressure, Casing, PSIG: 1071	+ 12 = PSIA: 1083	Days Shut-In: 26	Shut-In Pressure, Tubing PSIG: 1072	+ 12 = PSIA: 1084	
Flowing Pressure: P PSIG: 606	+ 12 = PSIA: 618		Working Pressure: P_w PSIG: 621	+ 12 = PSIA: 633	
Temperature: T °F: 66	n = .85		Fpv (From Tables): 1.069	Gravity: .650 (est.)	

Mesa Verde - SIPT 1095. Ending Mesa Verde - SIPT - 1102 psig

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

$Q = 12.365 \times 618 \times .9943 \times .9608 \times 1.069 = 7804$ MCF/D

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

Aof $= \left(\frac{1,175,056}{774,367} \right)^n$ $(1.5174)^{.85}$ $(7804) = (1.426)$ (7804)

Aof = 11,129 MCF/D

TESTED BY K. C. McBride

WITNESSED BY

cc: E. J. Coel, (6)

L. D. Galloway

L. D. Galloway

Form 23-24 (Rev. 5-56)

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. E. E. Alsup

From: Gas Engineering Department

Date: April 30, 1957

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test data on the El Paso Natural Gas Company Well, SAN JUAN 27-5 UNIT # 26, Rio Arriba County, N.M.

Tested By: K. C. McBride

Location ..... Sec. 17 T. 27 R. 5 ,990'N, 1530'E

Shut-In Pressure ..... Pictured Cliff SIPC 1064 psig ; (Shut-in 20 days)
Mesa Verde SIPT 1100 psig

0.750" Choke Volume ..... 3217 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 ..... 3950 MCF/D

Working Pressure On ..... Calculated ..... = 532 Psig

Producing Formation ..... Mesa Verde

Stimulation Method ..... Sand Water Frac

Total Depth ..... 5695 - c/o - 5680

Field ..... Blanco

H_2S ..... Sweet to lead acetate.

Ending Pictured Cliff - SIPC 1066 psig

Lewis D. Galloway
L. D. Galloway

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

H. H. Lines
Bill Parrish
Dean Rittmann

Form 23-24 (Rev. 5-56)

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. E. E. Alsup

From: Gas Engineering Department

Date: May 14, 1957

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test data on the El Paso Natural Gas Company Well, SAN JUAN 27-5 UNIT # 26, Rio Arriba County, N.M.

Tested By: K. C. McBride

Location ..... Sec. 17 T. 27 R. 5 '990'N, 1530'E

Shut-In Pressure ..... Pictured Cliff SIPC 1071 psig ; (Shut-in 26 days)
Pictured Cliff SIPT 1072 psig
Mesa Verde SIPT 1095

0.750" Choke Volume ..... 7804 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 ..... 11,129 MCF/D

Working Pressure On tubing ..... = 621 Psig

Producing Formation ..... Pictured Cliffs

Stimulation Method ..... Sand Water Frac

Total Depth ..... 5695 - c/o - 5680. Packer at 3879

Field ..... Undesignated

H_2S ..... Sweet to lead acetate.

Mesa Verde SIPT 1095 psig. Ending Mesa Verde SIPT 1102 psig.

Lewis D. Galloway
L. D. Galloway

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

H. H. Lines
Bill Parrish
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