

El Paso Natural Gas Company

El Paso, Texas

June 7, 1957

DIRECT REPLY TO:
P. O. BOX 987
FARMINGTON, NEW MEXICO

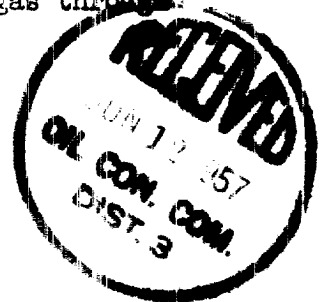
Mr. A. L. Porter
Secretary and Director
Oil Conservation Commission
Box 871
Santa Fe, New Mexico

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 McCulley No. 2 (PM) is located 1850 feet from the North line and 1090 feet from the West line of Section 14, 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 173' with 150 sacks cement circulated to the surface.
2. 7-5/8" intermediate casing set at 2417' with 250 sacks cement. Top of cement by temperature survey at 1310', which is above the top of the Pictured Cliffs at 2235'.
3. 5-1/2" liner set from 2336' to 4691' with 300 sacks cement. Top of liner was then squeezed with 200 sacks 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 Pictured Cliffs formation was perforated in two intervals and fractured with water and sand.
7. All perforations were cleaned out after fracturing, and completion was accomplished by setting a Baker Model "EGJ" packer on 2" EUE tubing at 2786' 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 set opposite the Pictured Cliffs perforations. The Point Lookout gas will be produced through the 2" EUE tubing and the Pictured Cliffs gas through the casing.



COPY

8. A Garrett side door flow nipple was installed in the 2" tubing string just below the Pictured Cliffs perforations. This flow nipple will enable bottom hole pressure tests to be determined if it should be so required in the future.
9. Initial potential tests have been run and commercial production has been found in both zones. A packer leakage test has been run, said test being witnessed by the Aztec office of the Oil Conservation Commission. This test shows no communication in the well bore between the two zones.

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

Because all acreage immediately adjacent to that dedicated to the well is operated by El Paso Natural Gas Company, 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 the packer setting company stating that the packer used was set at the depth shown.
- (c) Two copies of the packer leakage tests as observed by a member of the Oil Conservation Commission.
- (d) Two copies of the initial potential tests showing commercial production from the two formations.

It is intended to dedicate the W/2 of Section 14, Township 28 North, Range 9 West to the Mesa Verde formation and the SW/4 of Section 14, Township 28 North, Range 9 West is dedicated 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. E. Hamblin
Phil McGrath

EL PASO NATURAL GAS COMPANY

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

April 19, 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, McCulley # 2, SW 14-28-8, 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 2786 feet. The Mesa Verde zone was tested April 8, 1957 and the following information was obtained:

SIPC (Pictured Cliffs) - 745 psig
SIPT (Mesa Verde) - 1023 psig; shut-in 8 days.

The three hour open flow test through a 3/4" choke started at 11:03 A.M.

<u>Time</u>	<u>Tubing Choke Pressure Psig</u>	<u>Casing Pressure P.O. Psig</u>	<u>Temp. °F</u>
11:03 A.M.	1023	745	
11:15	423	746	
11:33	394	746	
11:48	379	746	
12:03	367	746	
12:33	347	746	
2:03	312	746	70

The calculated choke volume was 3905 MCF/D. The A.C.F. was 5371 MCF/Day. On April 18, 1957 the Pictured Cliffs zone was tested and the following information was obtained:

SIPC - 792 (Pictured Cliffs)
SIPT - 794 (Pictured Cliffs)
SIPT - 1044 (Mesa Verde)

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



<u>Time</u>	<u>Casing Choke Pressure Psig</u>	<u>Tubing Pressure (A.V.) Psig</u>	<u>Temp. °F</u>
10:00	792	1044	
10:15	623	1045	
10:30	585	1046	
10:45	556	1047	
11:00	519	1047	
12:00	407	1047	
1:00	372	1047	67

The calculated choke volume was 4699 MCF/D and the A.O.F. was 5926 MCF/D. The results indicate that there is no packer leakage.

Very truly yours,

T. B. Grant

T. B. Grant
Gas Engineer

TBG/jla

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



EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. E. E. Alsup

Date: April 3, 1957

From: Gas Engineering Department

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test data on the El Paso Natural Gas Company Well,
McCULLEY # 2, San Juan County, New Mexico.

Tested By: Tom Grant. Witnessed by E. C. Arnold, New Mexico Oil Conservation Commission.

Location: Sec. 14 T. 28N R. 9W 1850'S, 1090'W

Shut-In Pressure: Pictured Cliffs SIPC 745 psig
Mesa Verde SIPT 1023 psig (Shut-in 8 days)

0.750" Choke Volume: 3905 MCF/D @ 14.7 psia and 60° F. for 0.6
gravity gas. Flow through tubing for 3 hours.

Calculated 2 Hour Absolute Open Flow: 5371 MCF/D

Working Pressure Co: Calculated 609 psia

Producing Formation: Mesa Verde

Stimulation Method: Sand Water Frac

Total Depth: 4690 - c/o - 4650

Field: Blanco Mesa Verde

H2S: Sweet to lead acetate.

cc: G. H. Tucker

~~W. J. Hollis~~

W. J. Hollis

~~W. M. Rodgers~~

W. M. Rodgers

~~Drilling Department~~

Drilling Department

B. D. Adams

Roland Hamblin

Jack Purvis

W. V. Holik

C. C. Kennedy

E. J. Coel, Jr. (6)

A. J. Dudenheffer

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

Date: April 18, 1957

From: Gas Engineering Department

Place: Barrington, New Mexico

DUAL COMPLETION

Subject: Test data on the Pictured Cliff zone of the El Paso Natural Gas Company Well, McCULLEY # 2, San Juan County, New Mexico.

Tested by: Tom Grant

Location: Sec. 14 T. 28 R. 9, 1850'S, 1090'W

Shut-in Pressure	Pictured Cliff	SIPT	792	psig	(Shut-in	10	days)
	Pictured Cliff	SIPT	794	psig			
	Mesa Verde	SIPT	1044	psig			

0.750' Core Volume 4699 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 5926 MCF/D

Working Pressure On tubing 382 Psig

Producing Formation Pictured Cliff

Stimulation Method Sand Water Frac

Total Depth 2786 - (Packer)

Field Wildcat

H2S Sweet to lead acetate.

cc: D. H. Tucker

H. H. Lines
Bill Parrish
Dean Rittmann

Lewis D. Galloway
L. D. Galloway

W. T. Hollis

W. M. Rodgers

Drilling Department

B. D. Adams

Roland Hamblin

Jack Furvis

W. V. Holik

C. C. Kennedy

E. J. Csel, Jr. (6)

A. J. Dudenboffer

File



OPEN FLOW TEST DATA

DATE April 18, 1957

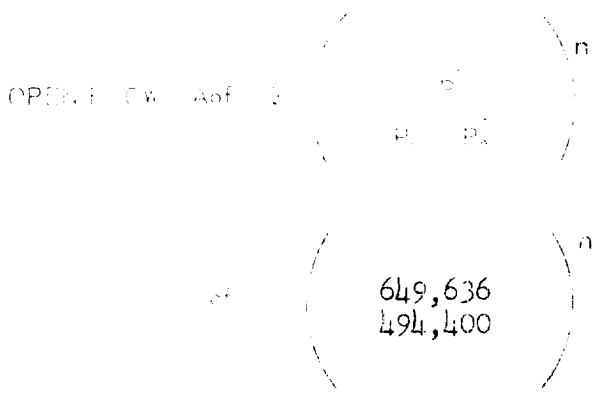
Company El Paso Natural Gas Company	Well Name McCulley # 2 (P)	State New Mexico
Location 1850'S, 1090'W, Sec. 14-28-9	County San Juan	
Formation Pictured Cliff	Well Type Wildcat	
Completion Interval 7 5/8	Set At Feet 2417	Set At Feet 2273
Flow Control Valve 2242	Flow Control Valve 2786 (Packer)	
Completion Method Sand Water Frac	Flow Through Tubing X	

Pressure (PSIG)	Pressure (PSIA)	Temperature (F)	Pressure (PSIG)	Pressure (PSIA)	Temperature (F)
0.750	12.365				
792 (P.C.)	804	10	794 (P.C.)	806	
372	384		382	394	
67	0.850		1.037	650	

Initial SIPC - M.V. - 1044 . Final SIP - M.V. - 1047 psig

CHUCK W. DAVIS

$$12.365 \times 384 \times .9933 \times .9608 \times 1.037 = 4699$$



$$(1.3139)^n (4699) = (1.2612) (4699)$$

5926

Tom Grant



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

L. 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 March 31, 1957, I was called to the location of the El Paso Natural Gas Company McCulley No. 2 (PM) Well located in the SW, 4 of Section 14, 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 "EGJ" production packer was set at 2786 feet. The production packer was properly set in accordance with the usual practices and customs of the industry.

Mack M. Mahaffey
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.

[Signature]
Notary Public in and for San Juan
County, New Mexico

My commission expires

7-24-60



1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
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36	37	38	39	40
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71	72	73	74	75
76	77	78	79	80
81	82	83	84	85
86	87	88	89	90
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96	97	98	99	100

Section Header

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
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61	62	63	64	65
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76	77	78	79	80
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91	92	93	94	95
96	97	98	99	100



SCHEMATIC DIAGRAM OF DUAL COMPLETION
BPNG McCULLY NO. 2 (PM)
(SW Section 14-28-9)

Measurement reference point is
10' above top of tubing hanger.

Dual String
Xmas Tree

