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 McCulley No. 3 (PM) is located 1951 feet from the South line and 1020 feet from the West line of Section 24, Township 28 North, Range 9 West, N.M.P.M., Rio Arriba 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 effected in the following manner:

- 1. 10-3/4" surface casing set at 172' with 150 sacks cement circulated to the surface.
- 2. 7-5/8" intermediate casing set at 2454' with 250 sacks cement. Top of cement by temperature survey at 985', which is above the top of the Pictured Cliffs at 2292'.
- 3. 5-1/2" liner set from 2396' to 4765' with 300 sacks cement. Squeezed top of liner with 200 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 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 2444 with the tubing perforations opposite the Point Lookout perforations. 1-1/4" Grade "B" line pipe was a siphon string with tubing perforations opposite the Cliffs perforations.

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- التلامك والمصافة للمصلامة أأكار والتراب والروانيان والمعالات والأفريس والموارك والماري والموارا والمارا ు. మ. ఈ కార్యం స్టాన్స్ ఎక్కువే. కారాయే స్టాన్స్ స్టాన్స్
- السائل وفقيل الأناب المنطوع للموطية السائلة فعومون الأراب الراوي الرابي المواق الهذارة الأنج أن في ديد دا فهم من الداع والوائد الله الداع والأنج المواقع الله في السيال الديار والدار الداري المنظم المعلم والمدارك المعلم المدارك في المدارك المعلمي المحكم المعارك الديار والمدارك والمدارك المدارك ا and the contraction of the state of the contraction and the second of the second o

- The Mesa Verde gas will be produced through the 2" ΕΠΕ tubing and the Pictured Cliffs gas through the casing.
- 9. 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.
- 10. 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.

Approval for dual completing this well has been received from Pan American Oil Corporation, owners of the NW/4 of the NW/4 of Section 25, Township 28 North, Range 9 West which adjoins the drilling block. 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 a 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 W/2 of Section 24, Township 28 North, Range 9 West to the Mesa Verde formation and the SW/4 of Section 24, 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 very truly, ORIGINAL SIGNED E. J. COEL

EJC/gks Encl.

cc: Emery Arnold ~ R. L. Hamblin Phil McGrath E. J. Coel Senior Petroleum Enginee

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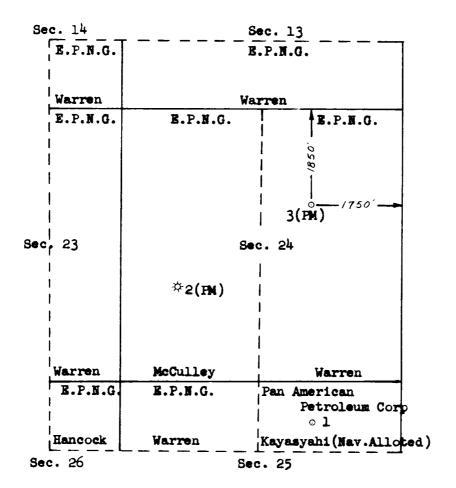
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PLAT SHOWING LOCATION OF DUALLY COMPLETED EL PASO NATURAL GAS COMPANY MCCULLEY NO. 3 (PM) AND OFFSET ACREAGE

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EL PASO NATURAL GAS COMPAN

SCALE DATE No.

DRAWN BY CHECKED BY

FORM 7-132 (10-56)

EL PASO NATURAL GAS COMPANY

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

May 22, 1957

Ar. 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 # 3, SW 24-28-9, 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 2444 feet. The Mesa Verde zone was tested May 6, 1957 and the following information was obtained:

SIPC (Pictured Cliffs) - 703 psig SIPT (Mesa Verde) - 989 psig; shut-in 9 days.

The three hour open flow test through a 3/4" choke started at 12:00 Noon.

Time	Tubing Choke Pressure Psig	Casing Pressure P.C., Psig	Temp oF
12:00	989	7 03	
12:15	323	704	
12:30	282	704	
12:45	248	704	
1:00	231	704	
3:00	172	704	65

The calculated choke volume was 2198 MCF/D. The A.O.F. was 2416 MCF/Day. On May 21, 1957, the Pictured Cliffs zone was tested and the following information was obtained:

SIPC (Pictured Cliffs) - 766 psig SIPT (Pictured Cliffs) - 766 psig SIPT (Mesa Verde) - 1028 psig

The three hour open flow test through a 3/4" choke stage

Time	Casing Choke Pressure Psig	Tubing Pressure M.V., Psig	Temp oF
11:15	766	1028	
11:30	256	1028	
11:45	227	1028	
12:00	214	102 8	
12:15	207	1028	
2:15	179 (183 WPT)	1028	68

The calculated choke volume was 2281 MCF/D and the A.O.F. was 2410 MCF/D. The results indicate that there is no packer leakage.

Very truly yours,

T. B. Grant

Gas Engineer

TBG/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

Date: May 21, 1957

From: Gas Engineering Department

Place: Farmington, New Mexico

DUAL COMPLETION

Subject:

Test data on the El Paso Natural Gas Company Well, McCULLEY # 3, San Juan County, New Mexico.

Tested By Tom Grant

SIPT (M.V.) - 1028

Working Pressure On tubing $1\frac{1}{2}$ = 183 Psig

Stimulation Method..... Sand Water Frac

Total Depth Packer @ 21111

H&×H8×Lines×

Bill Parrish H. H. Lines

Dean Rittmann

rc: D. H. Tucker

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W. T. Hollis

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W. M. Rodgers

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Drilling Department

B. D. Adams

Roland Hamblin

Jack Purvis

C. C. Kennedy

E. J. Coel, Jr. (6

A. J. Dudenhoeffer

File

L. D. Galloway



EL PASO NATURAL GAS COMPANY GAS WELL TEST

To: Mr. E. E. Alsup

May 21, 1957 Date:

From: Gas Engineering Department

Place: Farmington, New Mexico

DUAL COMPLETION

Subject:

Test data on the El Paso Natural Gas Company Well, McCULLEY # 3, San Juan County, New Mexico.

Tested By:	Tom Grant.	Witnessed By:	E. C.	Arnol	d, New	Mex	ico Oi	1 Con	servat	ion Comm	ission.
Location				Sec.	24	т.	28N	R.	9 W	1951 ' S,	1020 W
Shut-In Pressure			P.C. M.V.	SIPC SIPT	71 5 989	psig psig	; (Shut-in	9	day	(s)	
0.750" Choke Volum	ne			21 gravity s			14.7 psid d tubin				
Calculated 3 Hour A	bsolute Open Flow			241	6 mci	F/D					
Working Pressure Or	c	alculated		<u>.</u> 345	後 衛	ğ∺¥	Psia				
Producing Formation	1			Mes	a Verd	e					
Stimulation Method.	• • • • • • • • • • • • • • • • • • • •		· · · · · · · · · · · · · · · · · · ·	San	d Wate	r Fr	ac				
Total Depth		• • • • • • • • • • • • • • • • • • • •		477	0 - c /	o - l	4735				
Field	· • • • • • • • • • • • • • • • • • • •	••••		Bla	nco						
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cc: D. H. Tucker

经验证证证证证证证证

H. H. Lines Bill Parrish

Dean Rittmann

W. T. Hollis

我我们们来看你的我就会

W. M. Rodgers

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Drilling Department

B. D. Adams

Roland Hamblin

Jack Purvis

C. C. Kennedy

E. J. Coel, Jr. (6)

A. J. Dudenhoeffer

File



OPEN FLOW TEST DATA

DATE May 21, 1957

perator		, _euse	
El Paso Natural Gas	company	McCulley # 3	
_ relation			State
1951'S, 1020'W, Sec.	24-28-9	S a n Juan	New Mexico
Estmation		The second secon	
Pictured Cliff		Wildcat	
ਿਕsing (Nameter)	Set At: Feet	Tubing: Diameter	Set At: Feet
7"	2/1/15	1 1	2326
Fa. Zone From	T's	Total Depth	
2 2 96	2344	Packer @ 21414	
Structor Method	-	Flow Through Casing	Flow Through Tubing
Sand Water	Frac	X	

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0	.750 12.36	5			
76	6 P.C. 778	1A Days Shuter 15	Shotan Fressure, Tubing 766 P.C.	PSIC 1 PSIA 778	
17 (1	nig . Ps: 9	191	, Alciking Pressure, Pu 183	PSIG - 12 PSIA 195	
Gense arune. T	- 'n	0.850	For From Tables	655	

SIPT (M.V.) - 1028 psig

CHOKE VOLUME DECLAR F. x Fa x Fpv

6. 44 (+4 16) 4 4 4

12.365 x 191 x .9924 x .9571 x 1.017

2281 MCF D

$$\begin{pmatrix} 605,2814 \\ 567,259 \end{pmatrix}^{n} = 1.0670^{-85} \times 2281 = 1.0566 \times 2281$$

Ast 2410 . . MCF D

Tom Grant

cc: E. J. Coel (6)

EL PARE COUPAL GAR COMPANY OPEN FLOW (ES) DATA

DATE ... May 6, 1957

El Paso I	Natural Gas (Company		McCulley # 3				
1951 ' S,	1020'W, Sec.	24-28-9		San Juan	State New Mexico			
Mesa Ver	ie			Blanco Mesa Verde				
Listagt Diameter	51	Set At Feet	4765	Tubing: Diameter 2 ^{tt}	Set At: Feet 4662			
Fry Zone: From	4538	Ť ,	4724	Total Depth 4770 - c/o -	4735			
Stinulation Method	Sand Water	Frac		Flow Through Casing	Flow Through Tubing X			

Inske bize, Inches	0 .7 50	12.365	<u>. c</u>	<u> </u>		
n o terri Pressure, Cas P.C. 703		715	Days Shut-in	Shuttin Pressure Tubing M.V. 989	PSIG	12 F51A 1001
F wild Pressure F	172	. 1951A	184	Calculated	PSIC	12 % PSIA 345
in reproduce T	65		0.750	For From Tobles' 1.018		660

SIPC (P.C.) - 704 psig

CHOKE VOLUME Q COX P, x F, x Fg x FeV

2198 0 12.365 x 184 x .9952 x .9535 x 1.018 . . MCF D 1,002,001 $^{\circ}$ 1.1347 $^{\circ}$ x 2198 = 1.0994 x 2198 882,976 2416 MOF 0 Ac:

Tom Grant

E. C. Arnold, New Mexico Oil Conservation Commission

· cc: E. J. Coel, Jr. (6)

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 McCulley No. 3 (FM) Well located in the NW/4 SW/4 of Section 24, 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 2444 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 Fublic in and for San Juan County, New Mexico, the $\frac{\zeta}{2}$ day of $\frac{\lambda/+\zeta/2}{2}$, 1957.

Notary Public in and for San Juan County, New Mexico

2460

My commission expires:



-2-Order No. DC-436

PROVIDED FURTHER. That said subject well for dual completion and production shall be equipped in such a way that reservoir pressures may be determined separately for each of the two specified strata, and further, be equipped with all necessary connections required to permit recording meters to be installed and used, at any time, as may be required by the Commission or its representatives, in order that natural gas, oil, or oil and gas from each separate stratum may be accurately measured and the gas—liquid ratios thereof determined, and

PROVIDED FURTHER. That the operator-applicant shall make any and all tests, including segregation tests, packer leakage tests on completion and during the annual deliverability test of the Blanco Mesaverde Gas Pool, but not excluding other tests and/or determinations at any convenient time and in such manner as deemed necessary by the Commission; the original and all subsequent tests shall be witnessed by representatives of the Commission and by representatives of offset operators, if any there be, at their election, and the results of each test properly attested to by the applicant herein and all witnesses, and shall be filed with the Commission within 15 days after completion of such test, and submit a packer setting affidavit within 15 days after completion or whenever the packer is disturbed, and,

PROVIDED FURTHER, That upon the actual dual completion of such subject well, applicant shall submit to the Commission a diagrammatic sketch of the mechanical installation which was actually used to complete and produce the seal between the strata, and a special report of production, gas-liquid ratios and reservoir pressure determination of each producing zone or stratum immediately following completion.

IT IS FURTHER ORDERED. That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; uponfailure of applicant to comply with any requirement of this order after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

APPROVED: at Santa Fe, New Mexico, on this 18th day of June, 1957.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

A. L. PORTER, Jr. Secretary-Director

SEAL

-2-Order No. DC-436

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PROVIDED FURTHER. That upon the actual dual completion of such subject well, applicant shall submit to the Commission a diagrammatic sketch of the mechanical installation which was actually used to complete and produce the seal between the strate, and a special report of production, gas—liquid ratios and reservoir pressure determination of each producing zone or stratum immediately following completion.

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APPROVED at Santa Fe, New Mexico, on this 18th day of June, 1957.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

A. L. FORTER, Jr. Secretary-Director

SEAL