

El Paso Natural Gas Company

El Paso, Texas

August 14, 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 in the Wildcat Pictured Cliffs pool. The El Paso Natural Gas Company San Juan 28-7 Unit No. 75 (PM) is located 1850 feet from the South line and 890 feet from the West line of Section 15, Township 28 North, Range 7 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 accomplished in the following manner:

1. 10 3/4" surface casing set at 175 feet with 150 sacks of cement circulated to the surface.
2. 7 5/8" intermediate casing set at 3065 feet with 250 sacks of cement. Top of the cement at 1725 feet, which is above the top of the Pictured Cliffs at 2858 feet.
3. 5 1/2" liner set from 3022 feet to 5258 feet with 300 sacks of cement.
4. The casing and liner were tested for leaks before perforating.
5. Point Lookout was perforated in four intervals and fractured with water and sand.
6. Cliff House was perforated in four intervals and fractured with water and sand.
7. Pictured Cliffs formation was perforated in one interval and fractured with water and sand.
8. All perforations were cleaned after treatment and completion was accomplished by setting a Baker Model EGJ production packer on 2" EUE tubing at 3136 feet with the tubing perforations set opposite the Point Lookout perforations. 1 1/4" EUE tubing was run, with the tubing perforations set opposite the Pictured Cliffs perforations, as a siphon string. The Point Lookout gas will be produced through the 2" tubing and the Pictured Cliffs gas through the casing.

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9. A Garrett circulating sleeve was installed in the 2 EUE tubing string just below the Pictured Cliffs perforations. This will enable the bottom hole pressure tests to be taken at a future date if so required.
10. Initial potential tests have been run and commercial production has been found in both zones. A packer leakage test has been run and witnessed by a member of 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 the dual completion to allow production from both known producing formations, eliminating the high initial cost of drilling two separate wells.

Since El Paso Natural Gas Company is the only operator of the unit, and since the drilling block falls well within the boundaries of the unit, the approval of any other operator has not been sought. Enclosed are:

- (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 W/2 of Section 15, Township 28 North, Range 7 West to the Mesa Verde formation and the SW/4 of Section 15, Township 28 North, Range 7 West to the Pictured Cliffs formation.

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

Yours very truly,

ORIGINAL SIGNED E. J. COEL

E. J. Coel
Senior Petroleum Engineer

EJC dgb

Encl.

cc: Emery Arnold
R. L. Hamblin
Phil McGrath



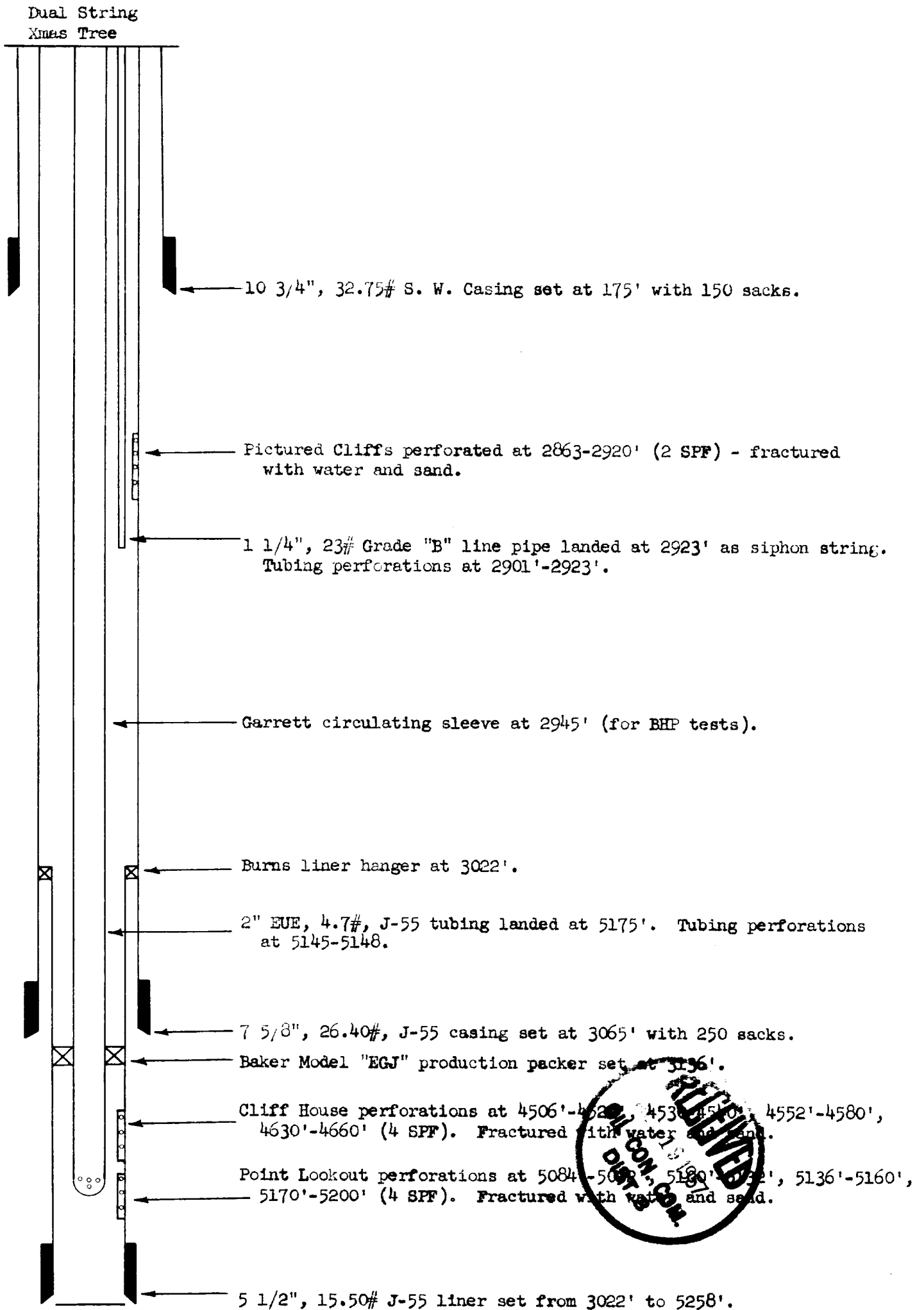
GENERAL SIGNED E. J. COBE



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SCHEMATIC DIAGRAM OF DUAL COMPLETION
 EPNG SAN JUAN 28-7 UNIT # 75 (PM)
 SW/4 Section 15, T27N, R6W

Zero Reference Point 10.0'
 above tubing head.



STATE OF NEW MEXICO)
COUNTY OF SAN JUAN)

I, Mack 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 June 16, 1957, I was called to the location of the El Paso Natural Gas Company San Juan 26-7 Unit No. 75 (FM) Well located in the NW/4 SW/4 of Section 15, Township 27N, Range 8W, 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 3136 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 7 day of Aug, 1957.

Don A. MacCall
Notary Public in and for San Juan County,
New Mexico.

My commission expires February 24, 1960.





EL PASO NATURAL GAS COMPANY

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

July 8, 1957

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

Re: Packer Leakage Test on the El Paso Natural
Gas Company Well, San Juan 28-7 Unit No. 75,
SW 15-28-7, Rio Arriba County, New Mexico.

Dear Mr. Arnold:

The subject well was dually completed in the Pictured Cliffs and Mesa Verde zones and a packer was set at 3124 feet. The Mesa Verde zone was tested through a 3/4" choke for three hours June 25, 1957 with the following data obtained:

Pictured Cliffs SIPC - 996 psig
Mesa Verde SIPT - 984 psig (shut-in 8 days)

<u>Time</u>	<u>Mesa Verde Flowing Pressure</u>	<u>Pictured Cliffs SIPC</u>	<u>Temp^oF</u>
10:35	Opened tubing	996	
10:50	371	1000	71
11:05	347	1001	74
11:20	327	1001	74
11:35	311	1002	75
2:35	253	1002	77

The choke volume for the Mesa Verde test was 3127 MCF/D with an A.O.F. of 3932 MCF/D. The well was shut-in for 10 days and the Pictured Cliffs zone was tested July 5, 1957 through a 3/4" choke for three hours with the following data obtained:

Pictured Cliffs SIPC 1057 psig (shut-in 18 days)
Pictured Cliffs SIPT 1057 psig
Mesa Verde SIPT 1012 psig



<u>Time</u>	<u>Flowing Pressure</u>	<u>Mesa Verde SIPT</u>	<u>Temp. °F</u>
11:20	Opened casing	1012	
11:35	560	1013	62
11:50	387	1013	63
12:05	274	1014	63
12:20	235	1015	64
2:20	137	1014	68

The choke volume for the Pictured Cliffs zone was 1808 MCF/D with an A.O.F. of 1839.

The results of the above test 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



EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. E. E. Alsup

Date: June 25, 1957

From: Gas Engineering Department

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test data on the El Paso Natural Gas Company Well,
SAN JUAN 28-7 UNIT NO. 75, Rio Arriba County, New Mexico.

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

Location Sec. 15 T. 28 R. 7 1850'S, 890'W

Shut-In Pressure P.C. SIPC 996 psig ; (Shut-in 7 days)
M.V. SIPT 984 psig

0.750" Choke Volume 3127 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 3932 MCF/D

Working Pressure On Calculated = 499 Psig

Producing Formation Mesa Verde

Stimulation Method Sand Water Frac.

Total Depth 5260 - c/o 5220. Packer at 3124

Field Blanco

H₂S Sweet to lead acetate.

Ending Pictured Cliffs SIPC - 1002 psig

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. Dudenhoeffler

File

Bill Parrish
Dean Rittmann
H. H. Lines

Made heavy fog of distillate during 3 hour

Lewis D. Galloway
L. D. Galloway



EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE June 25, 1957

Operator El Paso Natural Gas Company		Lease San Juan 28-7 Unit No. 75	
Location 1850'S, 890'W, Sec. 15-28-7		County Rio Arriba	State New Mexico
Formation Mesa Verde		Pool Blanco	
Casing: Diameter 7 5/8	Set At: Feet 3055	Tubing: Diameter 2"	Set At: Feet 5165
Pay Zone: From 4506	To 5200	Total Depth: 5260 - c/o 5220. Packer at 3124	
Stimulation Method Sand Water Frac.		Flow Through Casing	Flow Through Tubing X

Choke Size, Inches .750	Choke Constant: C 12,365	5 1/2" liner at 5258	
Shut-In Pressure, Casing, PSIG P.C. 996	- 12 - PSIA 1008	Days Shut-In 7	Shut-In Pressure, Tubing, PSIG 984
Flowing Pressure: P, PSIG 253	- 12 - PSIA 265	Working Pressure: P _w , PSIG Calculated	- 12 - PSIA 511
Temperature: T 77	F _g .75	F _{pv} (From Tables) 1.025	Gravity .670

Ending Pictured Cliffs SIPC - 1002 psig

CHOKE VOLUME = Q · C · P_c · F_g · F_{pv}

Q = 12,365 x 265 x .9840 x .9463 x 1.025 = 3127 MCF/D

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

A_{of} $\left(\frac{992,016}{730,895} \right)^n \cdot 1.3572^{.75} \times 3127 = 1.2575 \times 3127$

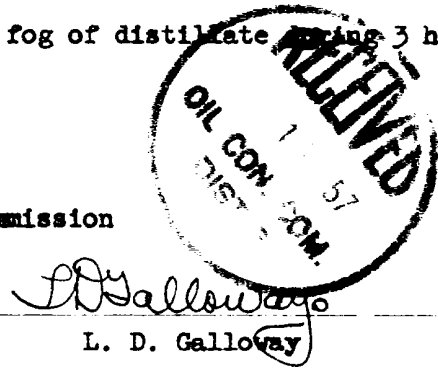
A_{of} 3932 MCF/D

Made heavy fog of distillate during 3 hour test.

TESTED BY K. C. McBride

WITNESSED BY Fred Cook, New Mexico Oil Conservation Commission

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



L. D. Galloway

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

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

Date: July 5, 1957
Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test data on the El Paso Natural Gas Company Well,
SAN JUAN 28-7 UNIT NO. 75, Rio Arriba County, N.M.

Tested By: K. C. McBride

Location Sec. 15 T. 28 R. 7 1850'S, 890'W

Shut-In Pressure P.C. SIPC 1057 psig ; (Shut-in 18 days)
P.C. SIPT 1057 psig
M.V. SIPT 1012 psig

0.750" Choke Volume 1808 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 1839 MCF/D

Working Pressure On tubing = 139 Psig

Producing Formation Pictured Cliffs

Stimulation Method Sand Water Frac.

Total Depth 5260 - c/o 5220. Packer at 3124

Field Wildcat

H₂S Sweet to lead acetate.

Ending SIPT (M.V.) - 1014 psig.

- cc: D. H. Tucker
- ~~R. H. Hester~~
- W. T. Hollis
- ~~G. H. Walker~~
- W. M. Rodgers
- ~~Wayne G. Hester~~
- Drilling Department
- B. D. Adams
- Roland Hamblin
- Jack Purvis
- ~~W. H. Hester~~
- 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
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE July 5, 1957

Operator El Paso Natural Gas Company		Lease San Juan 28-7 Unit No. 75	
Location 1850'S, 890'W, Sec. 15-28-7		County Rio Arriba	State New Mexico
Formation Pictured Cliffs		Pool Wildcat	
Casing: Diameter 7 5/8	Set At: Feet 3055	Tubing: Diameter 1 1/4	Set At: Feet 2912
Pay Zone: From 2863	To 2920	Total Depth: 5260 - c/o 5220. Packer at 3124	
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 at 5258	
Shut-In Pressure, Casing, PSIG 1057	FS: A 1069	Days Shut-in 18	Shut-In Pressure, Tubing, PSIG 1069
Flowing Pressure: P, PSIG 137	PSIA 149	Working Pressure: P _w , PSIG 139	PSIA 151
Temperature: T, F 68	F _v .85	F _v From Tables 1.013	Gravity .630

SIPT (MV) - 1012. Ending SIPT (MV) - 1014 psig.

CHOKE VOLUME $Q = C \times P_r \times F_v \times F_g \times F_{pv}$

$Q = 12.365 \times 149 \times .9924 \times .9759 \times 1.013 = 1808$ MCF D

OPEN FLOW $A_{of} = Q \left(\frac{P_r^2}{P_w^2} \right)^n$

$A_{of} = \left(\frac{1,142,761}{1,119,960} \right)^n \cdot 1.0203^{.85} \times 1808 = 1.0172 \times 1808$

$A_{of} = 1839$ MCF D

TESTED BY K. C. McBride

WITNESSED BY _____

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



L. D. Galloway
L. D. Galloway