

# El Paso Natural Gas Company

El Paso, Texas

July 30, 1950

ADDRESS REPLY TO:  
POST OFFICE BOX 907  
SARASOTA, FLORIDA

Mr. A. L. Porter  
Secretary and Director  
Oil Conservation Commission  
Box 671  
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 Tapacito Pictured Cliffs Pool Extension. The El Paso Natural Gas Company San Juan 27-5 Unit No. 33 (PM) is located 1650 feet from the North line and 1550 feet from the East line of Section 26, Township 21 North, Range 5 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 accomplished in the following manner:

1. 10 3/4" surface casing set at 171 feet with 150 sacks of cement circulated to the surface.
2. 7 5/8" intermediate casing set at 3540 feet with 200 sacks of cement. Top of the cement is at 2200 feet, which is above the top of the Pictured Cliffs at 3309 feet.
3. 5 1/2" liner set from 3499 feet to 5701 feet with 300 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 3535 feet with tubing perforations set opposite the Point Lookout perforations. 1 1/4" EUE tubing siphon string was run with tubing perforations set opposite the Pictured Cliffs perforations. The Point Lookout gas will be produced through the 2" tubing and the Pictured Cliffs gas through the casing.
8. 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.

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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.

The acreage dedicated to this well lies entirely within the boundaries of the San Juan 27-5 Unit. Since El Paso Natural Gas Company is the only operator of the unit, approval has not been sought from any other operator to dually complete this well. 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 E/2 of Section 26, Township 27 North, Range 5 West to the Mesa Verde formation and the NE/4 of Section 26, Township 27 North, Range 5 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. S. OBERLY

E. S. Oberly,  
Division Petroleum Engineer

ESO:dgb

cc: NMOCC (2) (Emery Arnold)-  
Sam Smith  
USGS (Phil McGrath)

# SCHEMATIC DIAGRAM OF DUAL COMPLETION

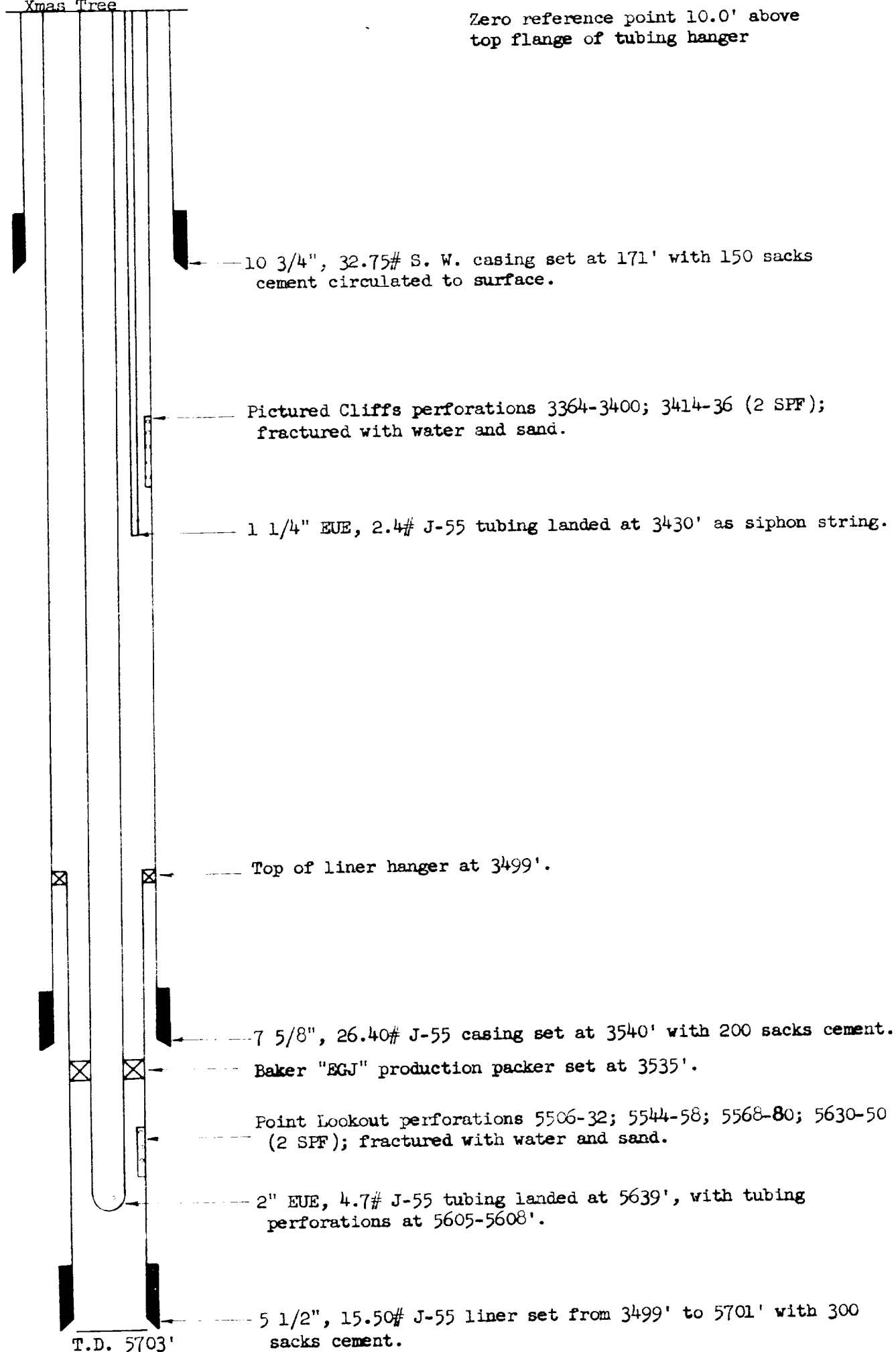
El Paso Natural Gas Co. San Juan 27-5 Unit No. 33 (PM)

NE/4 Section 26, T-27-N, R-5-W

Dual String

Xmas Tree

Zero reference point 10.0' above  
top flange of tubing hanger



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 June 19, 1958,  
I was called to the location of the El Paso Natural Gas Company San Juan  
27-5 Unit No. 33 (PM) Well located in the SWNE/4 of Section 26, Township  
27 North, Range 5 West, N.M.P.M., for advisory service in connection with  
installation of a production packer. In my presence, a Baker Model "EGJ"  
Production Packer was set in this well at 3535 feet 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 31st day of July, 1958.

Paul 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, New Mexico

July 18, 1958

Mr. E. C. Arnold  
Oil Conservation Commission  
1003 Rio Brazos Road  
Aztec, New Mexico

Re: Packer Leakage Test on the El Paso Natural Gas  
Company Well, San Juan 27-5 No. 33 (PM),  
1650N, 1550E; 26-27-5, Rio Arriba, New Mex.  
(Name - Location - Company)

Dear Mr. Arnold:

The subject well was dually completed in the Pictured Cliffs and Mesa Verde zones and a packer was set at 3535 feet. The Mesa Verde zone was tested through a 3/4" choke for three hours July 9, 1958 with the following data obtained:

PC SIPC 1035 psig; Shut-in 22 days  
PC SIPC 1035 psig;  
MV SIFT 1140 psig; Shut-in 22 days

Time Minutes	(MV) Flowing Pressure Tubing Psig	(PC) SIPC (C) Psig	( ) Working Pressure, Psig	Temp ° F
0				
15	381	1036		63
30	312	1037		63
45	277	1037		65
60	254	1037		64
180	186	1037	Calc. 383	65

The choke volume for the Mesa Verde was 2334 MCF/D with an AOF of 2564 MCF/D.

The Pictured Cliffs zone was tested July 18, 1958 with a 3/4" choke for 3 hours with the following data obtained:

PC SIPC 1046 psig; Shut-in 7 days  
PC SIFT 1046 psig;  
MV SIFT 1134 psig; Shut-in 29 days

San Juan 27-5 No. 33 (PM)

Page Two

July 18, 1958

Time Minutes	(PC) Flowing Pressure Casing Psig	(MV) SIP (T) Psig	(PC) Working tbg. Pressure, Psig	Temp ° F
0				
15	707	1135		61
30	667	1136		61
45	642	1137		63
60	627	1138		63
120	541	1138		65
180	460	1139	Calc. 482	66

The choke volume for the Pictured Cliffs test was 5771 MCF/D with an AOF  
of 7113 MCF/D.

The results of the above tests indicate there is no packer leakage.

Very truly yours,

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Frank Clark  
Gas Technician

FC/nb

cc: W. H. Rodgers  
E. S. Oberly (C)  
File

# OPEN FLOW TEST DATA

DUAL COMPLETION

DATE July 9, 1958

El Paso Natural Gas		San Juan 27-5 No. 33 (M)	
1650N, 1550E; 26-37-5		Rio Arriba New Mex.	
Mesa Verde		Blanco MV	
7-5/8	3530	2"	5629
5506	5650	5703 c/o 5671	Shut-in 6/19/58
Sand Water Frac.		X	

.75	12.365	5-1/2 liner 3499-5701
1035 (PC)	1047 22	1140 (MV)
186	198	1152
65	.75	395
		1.020
		.68

Initial SIPC (PC) 1035

Final SIPC (PC) 1037

Packer at 3535

CHOKED VOLUME  $Q = T \times E_1 \times E_2 \times E_3 \times E_4$

$$Q = 12.365 \times 198 \times .9952 \times .9393 \times 1.020$$

2,334

MCF/D

$$Q_{\text{corrected}} = Q \left( \frac{P_1}{P_2} \right)^n$$

$$\left( \frac{1327104}{1171079} \right)^n$$

$$1.1332 (2334) = (1.0984)(2334)$$

2,564 MCF/D

Frank Clark

Checked By

Tom Grant

Lewis D. Galloway  
L. D. Galloway

EL PASO NATURAL GAS COMPANY  
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE **July 18, 1958**

Operator <b>El Paso Natural Gas</b>		Lease <b>San Juan 27-5 Unit 33 (P)</b>	
Location <b>1650N, 1550E; 26-27-5</b>		County <b>Rio Arriba</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>3530</b>	Tubing Diameter <b>1-1/4</b>	Set At Feet <b>3420</b>
Pay Zone From <b>3364</b>	To <b>3436</b>	Total Depth <b>5703 c/o 5671</b>	Shut-in 6/19/58
Stimulation Method <b>Sand Water Frac.</b>		Flow Through Casing <b>X</b>	Flow Through Tubing

Choke Size, Inches <b>.75</b>	Choke Constant C <b>12.365</b>	<b>5-1/2 liner 3499 - 5701</b>	
Shut-in Pressure, Casing <b>1046</b>	PSIG 12 PSIA <b>1058</b>	Days Shut-In <b>29</b>	Shut-in Pressure, Tubing <b>1046</b>
Flowing Pressure, P (PC) <b>460</b>	PSIG 12 PSIA <b>472</b>		Working Pressure, P <sub>w</sub> (PC) <b>482</b>
Temperature, T <b>66</b>	n <b>.85</b>	Flow From Tables <b>1.051</b>	Gravity <b>.670</b>

Initial SIPT (MV) **1134 psig**Packer at **3335**Final SIPT (MV) **1139 psig**CHOKE VOLUME =  $Q = C \times P_1 \times F_1 \times F_g \times F_{ov}$ 

$$Q = 12.365 \times 472 \times .9943 \times .9463 \times 1.051 \quad 5771 \quad \text{MCF/D}$$

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

$$A_{of} = \left( \frac{1119364}{875328} \right)^n \quad 1.2787^{.85} \times 5771 = 1.2325 \times 5771$$

$$A_{of} = 7113 \quad \text{MCF/D}$$

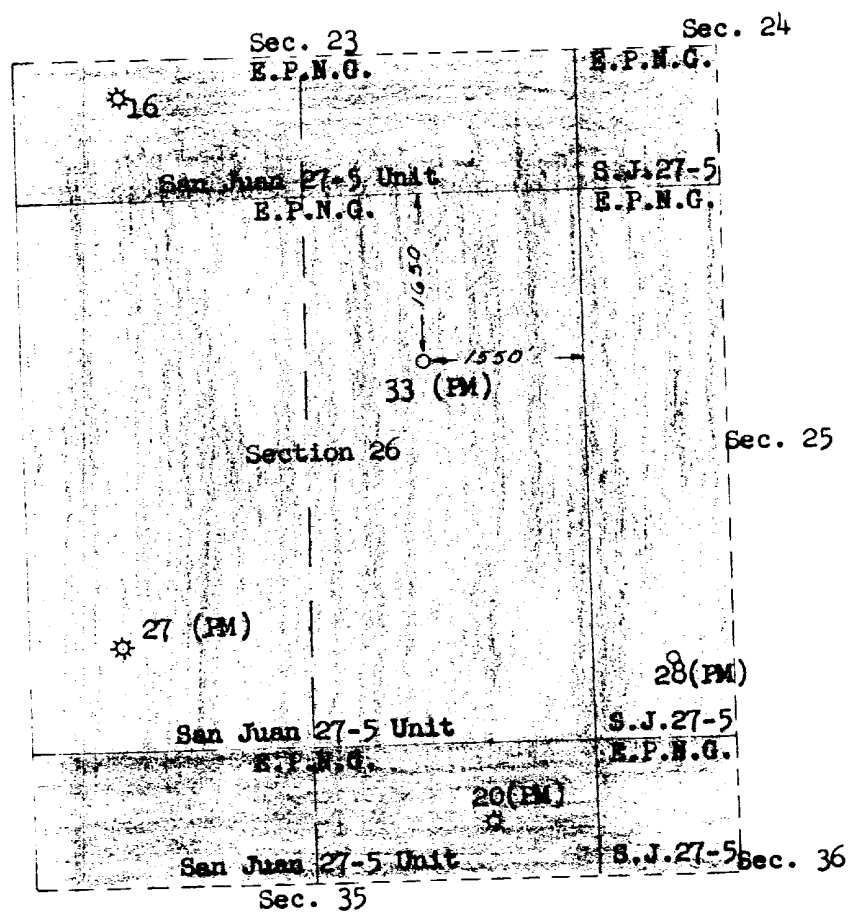
TESTED BY **Frank Clark**

WITNESSED BY

Checked By **Tom Grant**

*Lewis D. Galloway*  
L. D. Galloway

PLAT SHOWING LOCATION OF DUAL COMPLETION  
 El Paso Natural Gas Co. San Juan 27-5 Unit No. 33 (FM)  
 T-27-N, R-5-W



EL PASO NATURAL GAS COMPANY  
 EL PASO, TEXAS