El Paso Natural Gas Company

El Paso, Texas

June 10, 1958

ADDRESS REPLY TO:
POST OFFICE 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 and Wildcat Pictured Cliffs Pools. The El Paso Natural Gas Company San Juan 27-4 Unit No. 13 (PM) is located 1800 feet from the North line and 1500 feet from the East line of Section 20, Township 27 North, Range 4 West, N.M.P.M., Rio Arriba County, New Mexico.

This well has been completed in the Cliff House and Point Lookout 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 172 feet with 150 sacks of cement circulated to the surface.
2. 7 5/8" intermediate casing set at 3793 feet with 250 sacks of cement. Top of the cement is at 2990 feet, which is above the top of the Pictured Cliffs at 3615 feet.
3. 5 1/2" liner set from 3735 feet to 5972 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 six intervals and fractured with water and sand.
6. The Cliff House section was perforated in three intervals and fractured 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 treatment and completion was accomplished by setting a Baker Model "EGJ" production packer on 2" EUE tubing at 3769 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.
9. 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.

COPY

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 holds all leases immediately adjacent to the drilling block, no other operators have been notified of intentions 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 20, Township 27 North, Range 4 West to the Mesa Verde formation and the NE/4 of Section 20, Township 27 North, Range 4 West to the Pictured Cliffs formations.

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

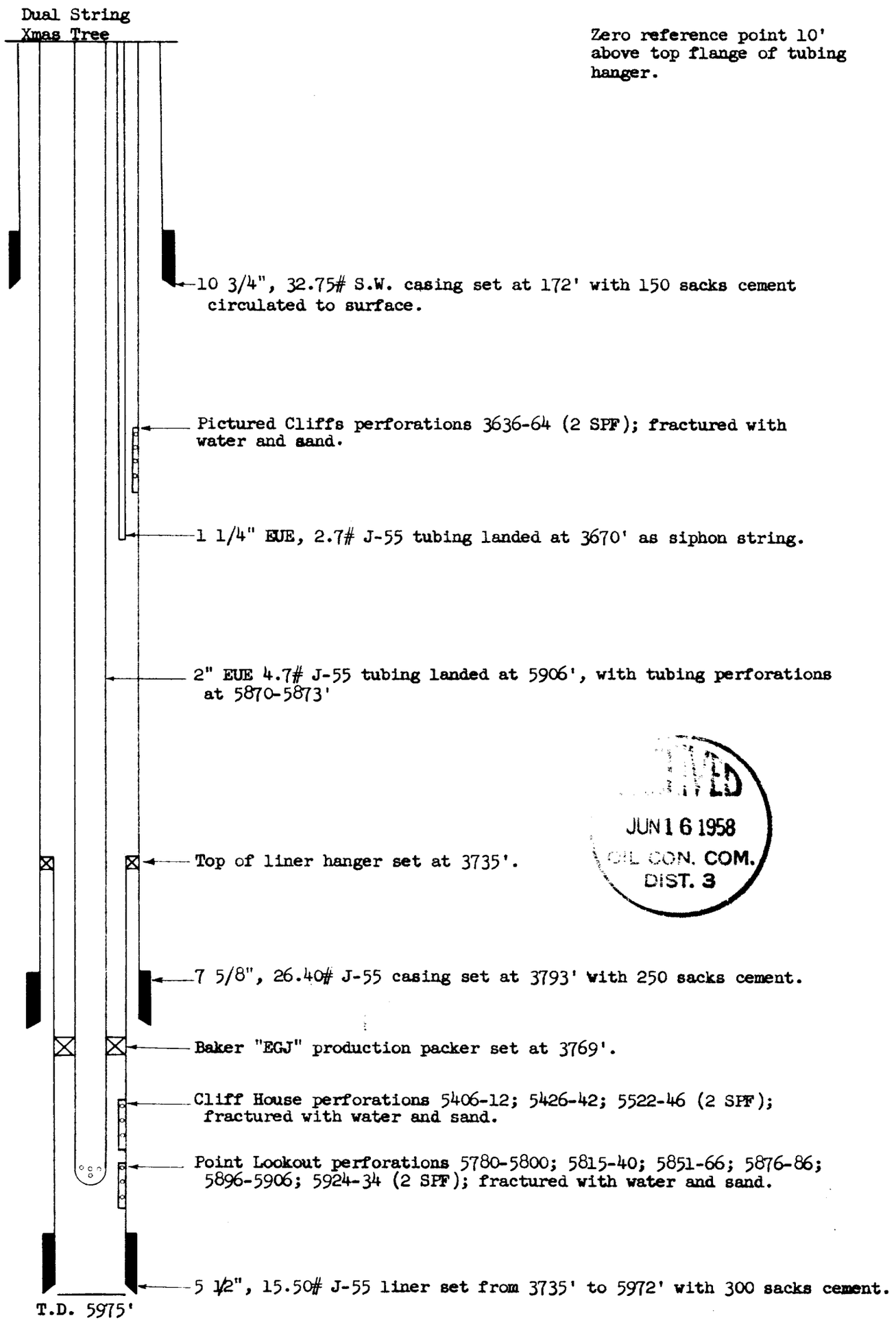
Yours very truly,

ORIGINAL SIGNED E. S. OBERLY

E. S. Oberly,
Division Petroleum Engineer

ESO:dgb
Encl.
cc: NMOCC (Emery Arnold)
Sam Smith
USGS (Phil McGrath)

SCHEMATIC DIAGRAM OF DUAL COMPLETION
El Paso Natural Gas Co. San Juan 27-4 Unit No. 13 (PM)
NE/4 Section 20, T-27-N, R-4-W



STATE OF NEW MEXICO)
)
COUNTY OF SAN JUAN)

I, Mack M. Mahaffey, being first duly sworn upon my oath depose and say as follows:

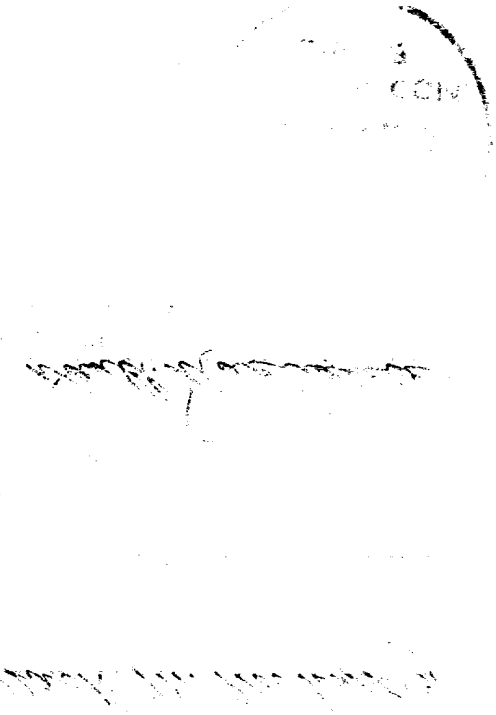
I am an employee of Baker Oil Tools, Inc., and that on January 9, 1958, I was called to the location of the El Paso Natural Gas Company San Juan 27-4 Unit No. 13 (PM) Well located in the SWNE/4 of Section 20, Township 27 North, Range 4 West, N.M.P.M., for advisory service in connection with the installation of a production packer. In my presence, a Baker Model "EGJ" Production Packer was set in this well at 3769 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 Public in and for San Juan County, New Mexico, the 4th day of June, 1958.

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

May 1, 1958

Mr. E. C. Arnold
Oil Conservation Commission
1000 Rio Brazos Road
Aztec, New Mexico

Re: Packer Leakage Test on the El Paso Natural Gas Company Well, San Juan 27-4 Unit No. 13 (PM) 1800N, 1500E; 20-27-4; Rio Arriba County, N.M.

Dear Mr. Arnold:

The subject well was dually completed in the Pictured Cliffs and Mesa Verde zones and a packer was set at 3769 feet. The Pictured Cliffs zone was tested through a 3/4" choke for three hours February 3, 1958 with the following data obtained:

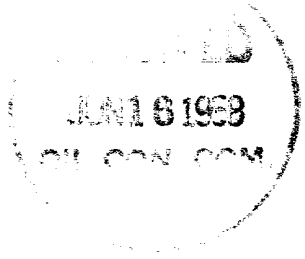
PC SIPC 888 psig; shut-in 24 days
PC SIPT 881 psig;
MV SIPT 961 psig; shut-in 24 days

Time Minutes	PC Flowing Pressure Casing Psig	MV SIPT Psig	PC Working Pressure, Psig	Temp °F
0	-	961		-
15	352	962		51
30	296	964		53
45	244	964		55
60	219	964		55
180	158	964	Tbg. 175	57

The choke volume for the Pictured Cliffs was 1,965 MCF/D with an AOF of 2,040 MCF/D.

The Mesa Verde zone was tested April 28, 1958 with a 3/4" choke for 3 hours with the following data obtained:

PC SIPC 1006 psig; shut-in 84 days
MV SIPT 1094 psig; shut-in 108 days



Time Minutes	MV Flowing Pressure Tubing Psig	PC SIPC Psig	MV Working Pressure, Psig	Temp ° F
0	-	1006		-
15	438	1008		60
30	426	1010		62
45	410	1010		62
60	399	1010		62
180	368	1010	Calc. 771	64

The choke volume for the Mesa Verde Test was 4,611 MCF/D with an AOF of 7,770 MCF/D.

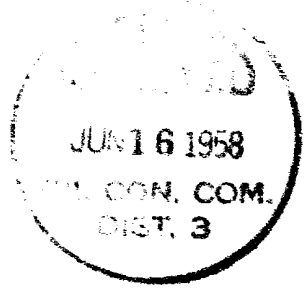
The results of the above tests indicate there is no packer leakage.

S. V. Roberts

S. V. Roberts
Gas Engineer

SVR/nb

cc: W. M. Rodgers
E. S. Oberly (6)
File



FORM 23-75 6-56

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DUAL COMPLETION

DATE April 28, 1958

Operator: El Paso Natural Gas Company		Lease: San Juan 27-4 Unit No. 13 (M)	
Location: 1800N, 1500E; 20-27-4		County: Rio Arriba	State: New Mexico
Formation: Mesa Verde		Pool: Blanco	
Casing: Diameter: 7-5/8"	Set At: Feet: 3782	Tubing: Diameter: 2"	Set At: Feet: 5896
Pay Zone: From: 5780	To: 5934	Total Depth: 5975 c/o 5950	Shut-In 1-10-58
Stimulation Method: Sand Water Frac.		Flow Through Casing	Flow Through Tubing: X

Choke Size, Inches: .75	Choke Constant: C: 12.365		5-1/2" liner 3735 - 5972	
Shut-In Pressure, Casing, PSIG: (PC) 1006	· 12 = PSIA: 1018	Days Shut-In: 108 (MV)	Shut-In Pressure, Tubing PSIG: (MV) 1094	· 12 = PSIA: 1106
Flowing Pressure: P PSIG: (MV) 368	· 12 = PSIA: 380		Working Pressure: P_w PSIG: (Calc.)	· 12 = PSIA: 783
Temperature: T °F: 64	n = .75		Fpv (From Tables): 1.041	Gravity: .672

Final SIPC (PC) 1010 PSIG

1-1/4 at 3660 Packer at 3769

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

$Q = (12.365)\ (380)\ (.9962)\ (.9463)\ (1.041) =$ 4611 MCF/D

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

Aof $\left(\frac{1,223,236}{610,147} \right)^{n} = (2.0048)^{.75}\ (4611) = (1.6850)\ (4611)$

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Aof = 7,770 MCF/D

TESTED BY S. V. Roberts

WITNESSED BY

Lewis D. Galloway.

L. D. Galloway

FORM 23-75 6-56

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DUAL COMPLETION

DATE **February 3, 1958**

Operator: **El Paso Natural Gas Company**		Lease: **San Juan 27-4 Unit No. 13 (P)**	
Location: **1800'N, 1500'E, Sec. 20-27-4**		County: **Rio Arriba**	State: **New Mexico**
Formation: **Pictured Cliffs**		Pool: **Undesignated**	
Casing: Diameter: 7-5/8	Set At: Feet: 3782	Tubing: Diameter: 1-1/4	Set At: Feet: 3660
Pay Zone: From: 3640	To: 3645	Total Depth: 5975 - c/o 5950	
Stimulation Method: **Sand Water Frac.**		Flow Through Casing: X	Flow Through Tubing:

Choke Size, Inches: 0.750	Choke Constant: C: 12.365		5-1/2" liner, 3735 - 5972		
Shut-In Pressure, Casing, PSIG: PC 888	+ 12 = PSIA: 900	Days Shut-In: 24	Shut-In Pressure, Tubing PSIG: PC 881	+ 12 = PSIA: 893	
Flowing Pressure: P PSIG: 158	+ 12 = PSIA: 170		Working Pressure: P_w PSIG: 175	+ 12 = PSIA: 187	
Temperature: T F: 57	n: 0.85		Fpv (From Tables): 1.021	Gravity: 0.722	

Initial SIPT (MV) - 961 psig; final - 964 psig. 2" at 5896. Packer at 3769.

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

$Q = 12.365 \times 170 \times 1.0029 \times .9129 \times 1.021 = 1965$ MCF/D

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

Aof $\left(\frac{810,000}{775,031} \right)^n$ $1.0451^{.85} \times 1965 = 1.0382 \times 1965$

Aof = 2040 MCF D

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DIST. 3

TESTED BY: S. V. Roberts

WITNESSED BY: Tony King

cc: E. S. Oberly (6)

L. D. Galloway

L. D. Galloway