

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name Blanco M. V & South Blanco P. C.		County Rio Arriba	Date October 9, 1958
Operator El Paso Natural Gas Company		Lease Rincon Unit	Well No. 107 (FM)
Location of Well K	Unit 19	Township 41	Range 6W

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO ☒ _____
2. If answer is yes, identify one such instance: Order No. _____ ; Operator, Lease, and Well No.:

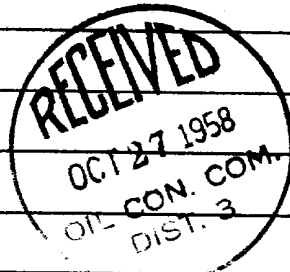
3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	Pictured Cliffs	Mesa Verde
b. Top and Bottom of Pay Section (Perforations)	3100-3160	4754-4844 (Cliff House) 4916-5134 (Manatee) 5306-5492 (Point Lookout)
c. Type of production (Oil or Gas)	Gas	Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing	Flowing

4. The following are attached. (Please mark YES or NO)

- ☒ a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- ☒ b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- ☒ c. Waivers consenting to such dual completion from each offset operator; or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
- ☒ d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

El Paso Natural Gas Company is unit operator



6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES _____ NO _____. If answer is yes, give date of such notification _____.

CERTIFICATE: I, the undersigned, state that I am the **Div. Petroleum Engineer** of the **El Paso Natural Gas Co.** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

ORIGINAL SIGNED E. S. OBERLY

Signature

- * Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

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 12,
1958, I was called to the location of the El Paso Natural Gas Company
Rincon Unit No. 107 (FM) Well located in the NE1/4 of Section 19,
Township 27 North, Range 6 West, N.M.P.M., for advisory service in
connection with installation of a production packer. In my presence,
a Baker Model "BJ" Production Packer was set in this well at 3800
feet in accordance with the usual practices and customs of the industry.

Mack M. Mahaffey

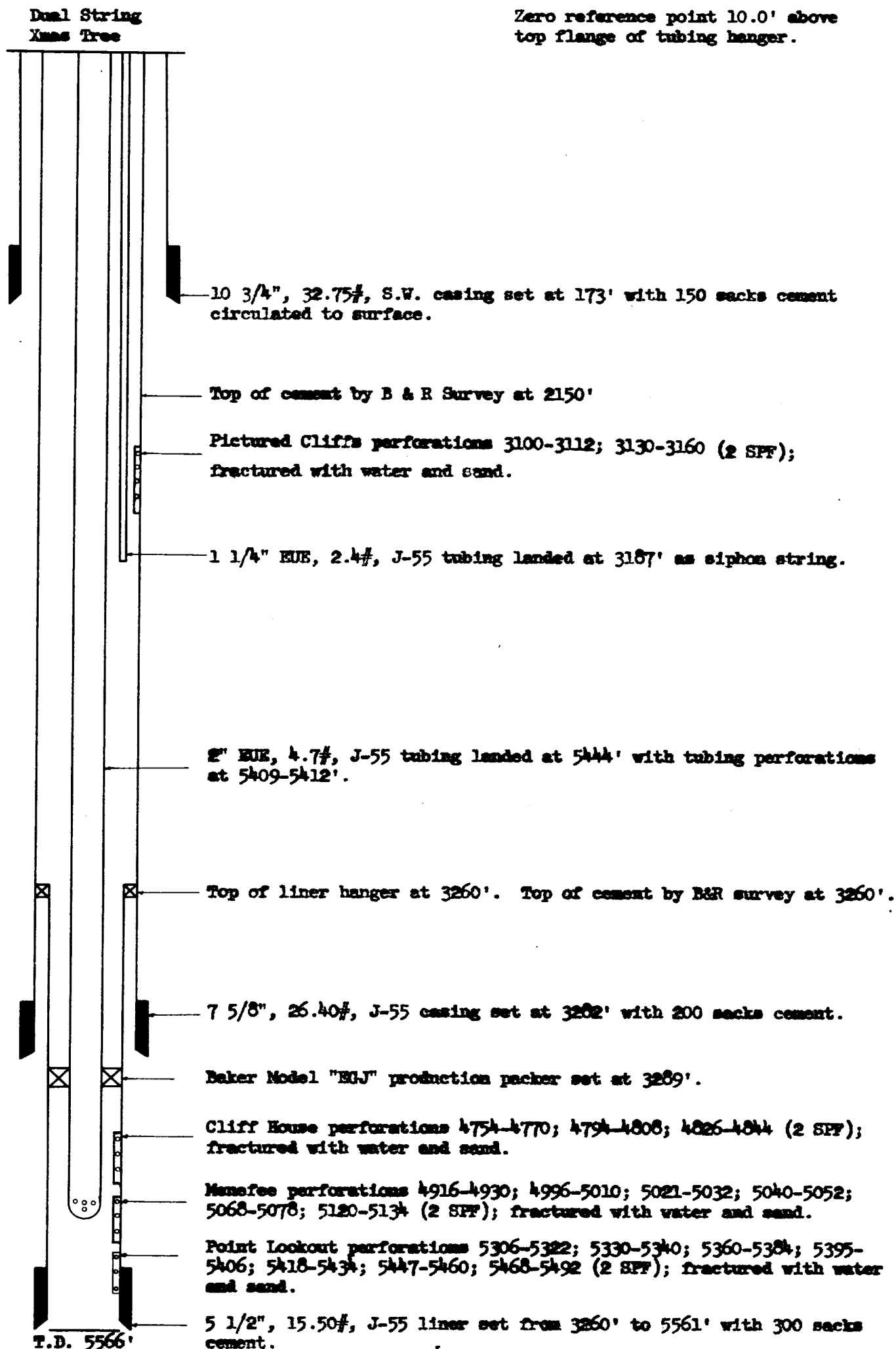
Subscribed and sworn to before me, a Notary Public in and for San Juan
County, New Mexico, the 22nd day of Oct, 1958.

Walter H. Hachacek
Notary Public in and for San Juan County,
New Mexico

My commission expires February 24, 1960.

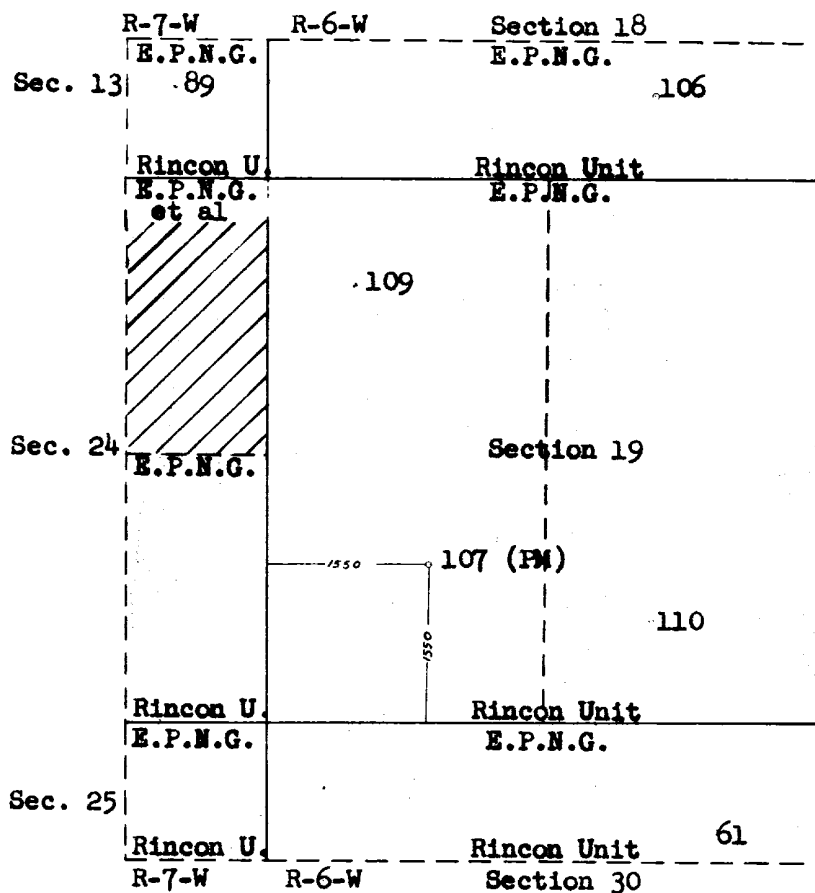


SCHEMATIC DIAGRAM OF DUAL COMPLETION
El Paso Natural Gas Company Rincon Unit No. 107 (FM)
SW/4 Section 19, T-27-N, R-6-W



PLAT SHOWING LOCATION OF DUALY COMPLETED
El Paso Natural Gas Co. Rincon Unit No. 107 (PM)
and Offset Acreage

T-27-N, R-6-W



Not committed to Unit.

EL PASO NATURAL GAS COMPANY
EL PASO, TEXAS

SCALE

DATE

No.

DRAWN BY

CHECKED BY

EL PASO NATURAL GAS COMPANY

P. O. Box 997
Farmington, New Mexico

September 16, 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, Rincon 107 (PM), 1550S, 1550W;
19-27-6, Rio Arriba County, New Mexico
(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 3289 feet. The Mesa Verde zone was tested through a 3/4" choke for three hours Sept. 5, 1958 with the following data obtained:

PC	SIPC	<u>963</u>	psig;	Shut-in	<u>45</u>	days
PC	SIPT	<u>963</u>	psig;			
MV	SIPT	<u>1103</u>	psig;	Shut-in	<u>45</u>	days

Time Minutes	(MV) Flowing Pressure Tubing Psig	(PC) SIP (C) Psig	(MV) Working Pressure, Psig	Temp ° F
15	402	965		62
30	369	966		63
45	333	966		63
60	317	968		64
120	266	968		64
180	228	966	Calc. 462	65

The choke volume for the Mesa Verde was 2803 MCF/D with an AOF of 3256 MCF/D.

The Pictured Cliffs zone was tested Sept. 16, 1958 with a 3/4" choke for 3 hours with the following data obtained:

PC	SIPC	<u>967</u>	psig;	Shut-in	<u>56</u>	days
PC	SIPT	<u>967</u>	psig;			
MV	SIPT	<u>1089</u>	psig;	Shut-in	<u>11</u>	days

September 16, 1958

<u>Time</u> <u>Minutes</u>	(PC) Flowing Pressure <u>Casing</u> Psig	(MV) SIP (T) Psig	(PC) Working <u>Pressure, Psig</u>	<u>Temp ° F</u>
15	460	1089		54
30	354	1090		55
45	301	1090		56
60	266	1090		57
180	155	1091	157	62

The choke volume for the Pictured Cliffs test was 2040 MCF/D with an AOF
of 2093 MCF/D.

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

Very truly yours,



H. L. Kendrick
Gas Engineer

HLK/nb

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

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE **September 5, 1958**

Operator El Paso Natural Gas		Lease Rincon 107 (M)	
Location 15508, 1550W; Sec. 19-27-6		County Rio Arriba	State New Mexico
Formation Mesa Verde		Pool Blanco MV	
Casing Diameter 7-5/8	Set At: Feet 3269	Tubing Diameter 2"	Set At: Feet 5434
Pay Zone: From 4754	To 5492	Total Depth 5566 c/o 5517	Shut-in 7/22/58
Stratigraphic Member Sand Water Frac.		Flow Through Casing	Flow Through Tubing X

Choke Size, Inches .75		Choke Constant 12.365		5-1/2 liner 3260 - 5561	
Shut-in Pressure, Casing, PSIG 963 (PC)	PSIA 975	Days Shut-In 45	Shut-in Pressure, Tubing, PSIG 1103 (MV)	PSIA 1115 (MV)	
Flowing Pressure, Casing, PSIG 228 (MV)	PSIA 240 (MV)		Working Pressure, Pw, PSIG Calc.	PSIA 474	
Temperature, T, F 65			Flow From Tables 1.026	Gravity .700	

Initial SIPT (PC) = 963 psig
Final SIPC (PC) = 966 PSIG

Packer at 3289
1-1/4" at 3177

CHOKE VOLUME $Q = C \times P_1 \times P_2 \times F_g \times F_v$

$$Q = 12.365 \times 240 \times .9952 \times .9258 \times 1.026 \quad 2803 \quad \text{MCF/D}$$

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

$$Q_{\text{FEET}} = \left(\frac{1243225}{1018549} \right)^{.75} \times 2803 = 1.1615 \times 2803$$

$$Q_{\text{FEET}} = 3256 \quad \text{MCF/D}$$

Jesse B. Goodwin

Checked By

M. W. Rischard

Lewis D. Galloway
L. D. Galloway

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE September 16, 1958

Operator El Paso Natural Gas		Lease Rincon 107 (P)	
Location 15508, 1550W; 19-27-6		County Rio Arriba	State New Mexico
Formation Pictured Cliffs		Pool South Blanco	
Casing: Diameter 7-5/8	Set At: Feet	Tubing: Diameter 1-1/4	Set At: Feet 3177
Pay Zone: From 3100	To 3160	Total Depth: 5566	Shut in 7/22/58
Stimulation Method Sand Water Frac.		Flow Through Casing X	Flow Through Tubing

Choke Size, Inches .75		Choke Constant: C 12.365		5-1/2" liner 3260 - 5561	
Shut-In Pressure, Casing, PSIG 967	+ 12 = PSIA 979	Days Shut-In 56	Shut-In Pressure, Tubing PSIG 967	+ 12 = PSIA 979	
Flowing Pressure: P PSIG 155	+ 12 = PSIA 167		Working Pressure: P _w PSIG 157	+ 12 = PSIA 169	
Temperature: T °F 62	n = 85		F _{pv} (From Tables) 1.014	Gravity .631	

Initial SIPT (MV) = 1089 PSIG
Final SIPT (MV) = 1091 PSIG

Packer at 3289

$$\text{CHOKE VOLUME} = Q = C \times P_1 \times F_t \times F_g \times F_{pv}$$

$$Q = 12.365 \times 167 \times .9981 \times .9759 \times 1.014 = 2040 \text{ MCF/D}$$

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

$$Aof = \left(\frac{958441}{929880} \right)^n = (1.0307)^{.85} = 1.0260 \times 2040$$

$$Aof = 2093 \text{ MCF/D}$$

TESTED BY Jesse B. Goodwin

WITNESSED BY _____

Checked By S. V. Roberts

L. D. Galloway
L. D. Galloway