

# El Paso Natural Gas Company

El Paso, Texas  
July 30, 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 Pool and North Los Pinos Dakota Pool. The El Paso Natural Gas Company Allison Unit No. 16 (MD) is located 890 feet from the South line and 1800 feet from the West line of Section 15, Township 32 North, Range 7 West, N.M.P.M., San Juan County, New Mexico.

This well has been completed in the Point Lookout section of the Mesa Verde formation and in the Dakota Formation. Completion has been accomplished in the following manner:

1. 13 3/4" surface casing set at 231 feet with 150 sacks of cement circulated to the surface.
2. 9 5/8" intermediate casing set at 3859 feet and cemented in two stages: 400 sacks at the base of the casing and 1100 sacks across the Pictured Cliffs formation.
3. 5 1/2" production casing set at 8488 feet with 1350 sacks of cement.
4. The casing and liner were tested for leaks before perforating.
5. The Dakota formation was perforated in three intervals and fractured with water and sand.
6. The Point Lookout section 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 "D" production packer on 2" EUE tubing at 6150 feet, with an Otis circulating sleeve installed in the 2" tubing at 6117'. 1 1/4" EUE tubing was run below the production packer with tubing perforations opposite the Dakota perforations. The Dakota gas will be produced through the combination 1 1/4" and 2" tubing string, and the Point Lookout 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.

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.

The offset operators to the drilling block have been notified of El Paso Natural Gas Company's intention to dually complete this well, and have furnished waivers to any objections of such plans. Enclosed are copies of these waivers. Also 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.
- (e) Two plats showing the location of the well and offset operators.

It is intended to dedicate the W/2 of Section 15, Township 32 North, Range 7 West to the Mesa Verde formation and the SW/4 of Section 15, Township 32 North, Range 7 West to the Dakota formation.

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

Yours very truly,

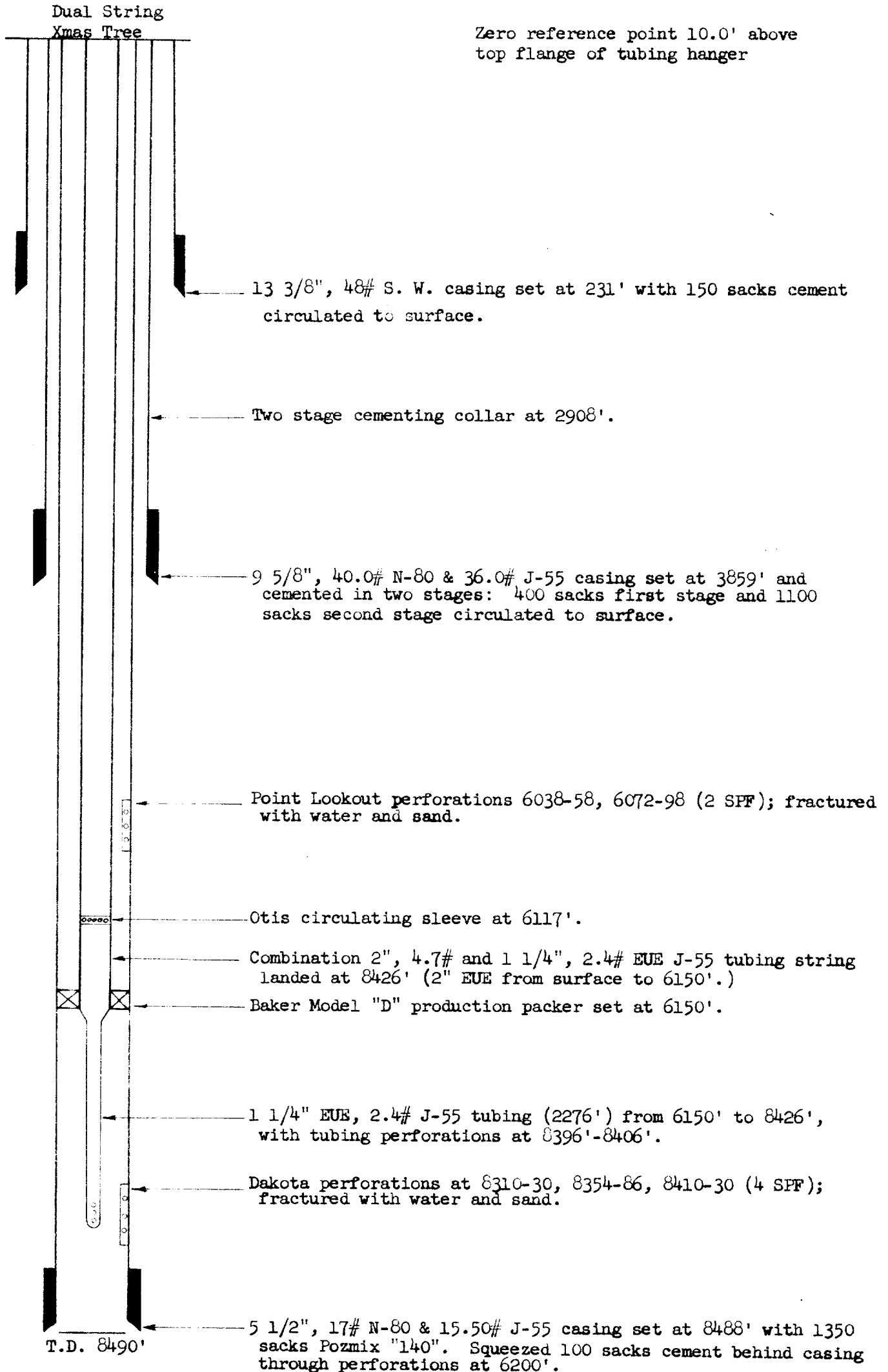
ORIGINAL SIGNED E. S. OBERLY

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. Allison Unit No. 16 (MD)  
 SW/4 Section 15, T-32-N, R-7-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 July 6, 1958, I was called to the location of the El Paso Natural Gas Company Allison Unit No. 16 (MD) Well located in the SESW/4 of Section 15, Township 32 North, Range 7 West, N.M.P.M., for advisory service in connection with installation of a production packer. In my presence, a Baker Model "D" Production Packer was set in this well at 6150 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 MacLachlan  
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 21, 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, Allison No. 16 (MD), 890S, 1800W;  
15-32-7; San Juan County, New Mexico.  
(Name - Location - Company)

Dear Mr. Arnold:

The subject well was dually completed in the Dakota and Mesa Verde zones and a packer was set at 6140 feet. The Dakota zone was tested through a 3/4" choke for three hours July 14, 1958 with the following data obtained:

MV ~~xxx~~ SIPC 1097 psig; Shut-in 8 days  
~~xxx~~ SIFT \_\_\_\_\_ psig;  
Dak ~~xxx~~ SIFT 2498 psig; Shut-in 8 days

| Time<br>Minutes | (Dak) Flowing Pressure<br>Tubing Psig | (MV) SIPC (C) Psig | ( ) Working<br>Pressure, Psig | Temp ° F |
|-----------------|---------------------------------------|--------------------|-------------------------------|----------|
| 0               |                                       | 1097               |                               |          |
| 15              | 395                                   | 1100               |                               |          |
| 30              | 330                                   | 1103               |                               | 72       |
| 45              | 296                                   | 1103               |                               | 74       |
| 60              | 275                                   | 1103               |                               | 74       |
| 180             | 196                                   | 1104               |                               | 76       |
|                 |                                       |                    |                               | 76       |

The choke volume for the Dakota was \_\_\_\_\_ MCF/D with an AOF of \_\_\_\_\_ MCF/D.

The Mesa Verde zone was tested July 21, 1958 with a 3/4" choke for 3 hours with the following data obtained:

~~xxx~~ SIPC \_\_\_\_\_ psig; Shut-in 7 days  
Dak ~~xxx~~ SIFT 2537 psig;  
MV SIPC 1059 psig; Shut-in 15 days

| Time<br>Minutes | (MV) Flowing Pressure |      | (Dak) SIP (T) Psig | ( ) Working<br>Pressure, Psig | Temp ° F |
|-----------------|-----------------------|------|--------------------|-------------------------------|----------|
|                 | Casing                | Psig |                    |                               |          |
| 0               | 1059                  |      | 2537               |                               |          |
| 15              | 627                   |      | 2538               |                               | 72       |
| 30              | 577                   |      | 2544               |                               | 73       |
| 45              | 528                   |      | 2546               |                               | 74       |
| 60              | 473                   |      | 2546               |                               | 74       |
| 180             | 374                   |      | 2548               |                               | 75       |

The choke volume for the Mesa Verde test was 4837 MCF/D with an AOF of 5433 MCF/D.

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

Very truly yours,

---

Richard Proctor  
Gas Technician

RP/nb

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

OPEN FLOW TEST DATA

DUAL COMPLETION

DATE July 21, 1958

|  |  |
|--|--|
| Operator<br><b>El Paso Natural Gas</b>                       | Well Name<br><b>Allison Unit 16 (M)</b>  |
| Location<br><b>890S, 1800W; 15-32-7</b>                      | County State<br><b>San Juan New Mexico</b>   |
| Formation<br><b>Mesa Verde</b>                               | Well Type<br><b>Blanco MV</b>  |
| Casing Diameter<br><b>5-1/2</b> Ser. At. Feet<br><b>8478</b> | Casing Diameter<br><b>1-1/4 6140 - 8426, 2" at 6140</b> Ser. At. Feet<br><b>6140</b> |
| Pay Zone<br><b>6038</b>                                      | Pay Zone<br><b>8490 c/o 8460</b> Shut-in 7/6/58                                      |
| Stimulation Method<br><b>Sand Water Frac.</b>                | Flow Through Casing<br><b>X</b>  |

|  |                                 |                     |
|--|---------------------------------|---------------------|
| Choke Size, inches<br><b>.75</b>           | Choke Constant<br><b>12.365</b> | 5-1/2 liner at 8478 |
| Shut-in Pressure, psig<br><b>(MV) 1059</b> | PSIA<br><b>1071</b>             | 15                  |
| Flowing Pressure, P<br><b>374</b>          | PSIA<br><b>386</b>              | Dak. 2537           |
| Temperature<br><b>75</b>                   | Gravim<br><b>.75</b>            | 2549                |
|  |                                 | Calc. 406           |
|  |                                 | 1.028               |
|  |                                 | .600                |

Final SIPT (Dak) 2548 psig

Packer at 6140

CHOKE VOLUME =  $Q = C \times R \times F \times P_1 \times F_2$

$Q = 12.365 \times 386 \times 9859 \times 1.000 \times 1.028 = 4837$  MCF/D

OPEN FLOW  $Q = \left( \frac{1147041}{982205} \right)^n$

$Q = \left( \frac{1147041}{982205} \right)^n$

$1.1678^{.75} \times 4837 = 1.1233 \times 4837$

$Q = 5433$  MCF/D

Checked By Richard Proctor

Witnessed By Fred Cook N.M.O.C.C.

Checked By Tom Grant

*Lewis D. Galloway*  
L. D. Galloway

EL PASO NATURAL GAS COMPANY  
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE July 14, 1958

|   |                             |  |                                 |
|---|-----------------------------|--|---------------------------------|
| Operator<br><b>El Paso Natural Gas</b>        |                             | Lease<br><b>Allison Unit 16 (D)</b>                    |                                 |
| Location<br><b>890S, 1800W; 15-32-7</b>       |                             | County<br><b>Rio Arriba</b>                            | State<br><b>New Mexico</b>      |
| Formation<br><b>Dakota</b>                    |                             | Pool<br><b>N. Los Pinos Dakota</b>                     |                                 |
| Casing: Diameter<br><b>9-5/8</b>              | Set At: Feet<br><b>3847</b> | Casing: Diameter<br><b>2" at 6140, 1-1/4 6140-8416</b> | Set At: Feet<br><b>8416</b>     |
| Pay Zone: From<br><b>8310</b>                 | To<br><b>8430</b>           | Total Depth<br><b>8490 c/o 8460</b>                    | <b>Shut-in 7/6/58</b>           |
| Stimulation Method<br><b>Sand Water Frac.</b> |                             | Flow Through Casing                                    | Flow Through Tubing<br><b>X</b> |

|  |                                 |   |
|--|---------------------------------|---|
| Choke Size, inches<br><b>.75</b>                   | Choke Constant<br><b>12.365</b> | <b>5-1/2 casing 8478</b>                                    |
| Shut-In Pressure, Casing, PSIG<br><b>(MV) 1097</b> | PSIA<br><b>1109</b>             | Shut-In Pressure, Tubing, PSIG<br><b>(Dak) 2498</b>         |
| Flowing Pressure, P, PSIG<br><b>196</b>            | PSIA<br><b>208</b>              | Working Pressure, P <sub>w</sub> , PSIG<br><b>Calc. 734</b> |
| Temperature, T, F<br><b>76</b>                     | Gravity<br><b>.75</b>           | Flow From Tubing, Gravity<br><b>1.015</b>                   |
|  |                                 | <b>2510</b>   |
|  |                                 | <b>746</b>  |
|  |                                 | <b>.600</b>   |

Initial Mv SIPT 1097 psig  
Final MV SIPT 1104 psig

Packer at 6140  
2" at 6140  
1-1/4" from 6140 - 8416

CHOKE VOLUMES:  $Q = C \times P_1 \times F_1 \times F_2 \times F_3$

$$Q = 12.365 \times 208 \times .9850 \times 1.000 \times 1.015 \quad 2571 \quad \text{MCF/D}$$

OPEN FLOW:  $Q = \left( \frac{P_1^2 - P_w^2}{P_1^2} \right)^n$

$$\frac{Q_1}{Q_2} = \left( \frac{6300100}{5743584} \right)^n = \frac{1.0968}{1.0718}$$

ANS: **2756** MCF/D

Richard Proctor

Fred Cook, N.M.O.C.C.

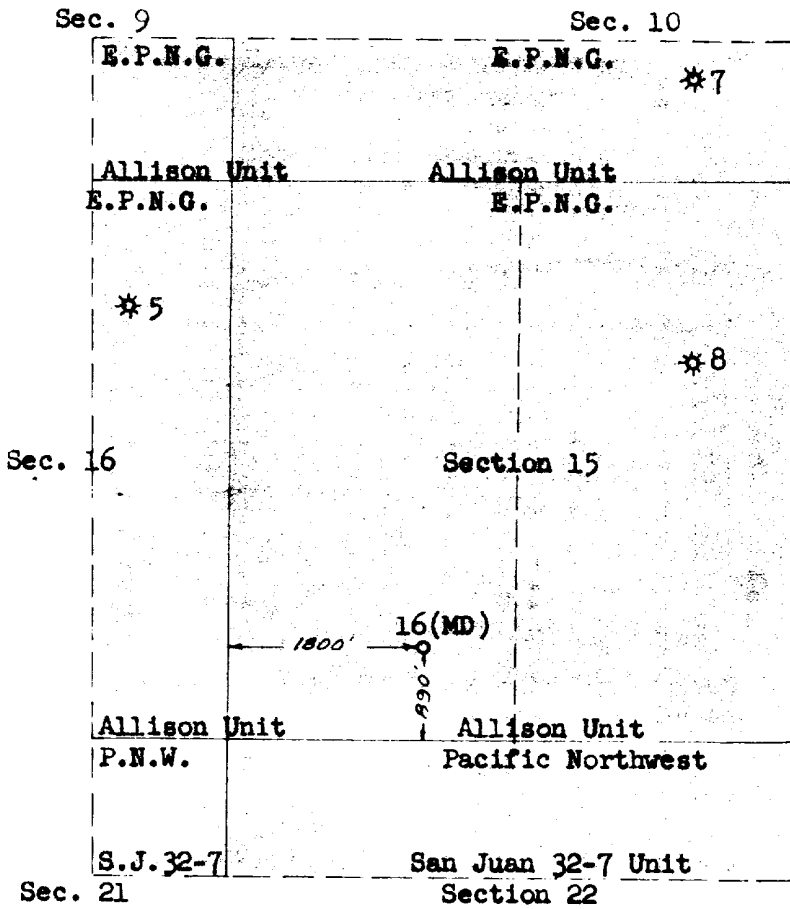
Checked By Tom Grant

*Lewis D Galloway*  
L. D. Galloway



PLAT SHOWING LOCATION OF DUALY COMPLETED  
 El Paso Natural Gas Co. Allison Unit No. 16 (MD)  
 and Offset Acreage

T-32-N, R-7-W



EL PASO NATURAL GAS COMPANY  
 EL PASO, TEXAS

SCALE

DATE

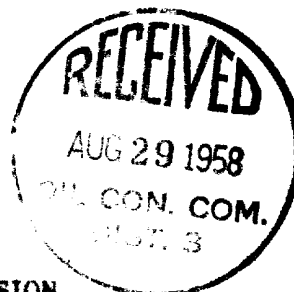
No.

DRAWN BY

CHECKED BY

THE APPLICATION OF EL PASO NATURAL GAS COMPANY FOR PERMISSION TO EFFECT DUAL COMPLETION OF ITS ALLISON UNIT WELL NO. 16, LOCATED 890 FEET FROM THE SOUTH LINE AND 1800 FEET FROM THE WEST LINE OF SECTION 15, TOWNSHIP 32 NORTH, RANGE 7 WEST, NMPM, SAN JUAN COUNTY, NEW MEXICO, IN SUCH A MANNER AS TO PRODUCE GAS FROM THE NORTH LOS PINOS DAKOTA POOL AND GAS FROM THE BLANCO MESAVERDE POOL.

ORDER NO. DC-624



ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION COMMISSION

Under the provisions of Rule 112-A (c) El Paso Natural Gas Company made application to the New Mexico Oil Conservation Commission on August 11, 1958, for permission to dually complete its Allison Unit Well No. 16, located 890 feet from the South line and 1800 feet from the West line of Section 15, Township 32 North, Range 7 West, NMPM, San Juan County, New Mexico, in such a manner as to produce gas from the North Los Pinos Dakota Pool and gas from the Blanco Mesaverde Pool.

NOW, on this 20th day of August, 1958, the Secretary-Director finds:

- (1) That application has been duly filed under the provisions of Sub-section 'c' of Rule 112-A of the Commission's Rules and Regulations;
- (2) That satisfactory information has been provided that all operators of offset acreage have been duly notified; and
- (3) That no objections have been received within the waiting period as prescribed by said rule.
- (4) That the proposed dual completion will not cause waste nor impair correlative rights.
- (5) That the mechanics of the proposed dual completion are feasible and consonant with good conservation practices.

IT IS THEREFORE ORDERED:

That the applicant herein, El Paso Natural Gas Company, be and the same is hereby authorized to dually complete its Allison Unit Well No. 16, located 890 feet from the South line and 1800 feet from the West line of Section 15, Township 32 North, Range 7 West, NMPM, San Juan County, New Mexico, in such a manner as to produce gas from the North Los Pinos Dakota Pool and gas from the Blanco Mesaverde Pool, through the casing-tubing annulus and the tubing respectively.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A, as amended by Order R-1214.

PROVIDED FURTHER, That the operator shall make any and all tests, including segregation and packer-leakage tests upon completion and annually thereafter during the Annual Deliverability Test Period for the Blanco Mesaverde Pool, commencing in the year 1959, and whenever the packer is disturbed, but not excluding any other tests and/or determinations as deemed necessary by the Commission.

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:

-2-  
Order No. DC-624

upon failure 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.

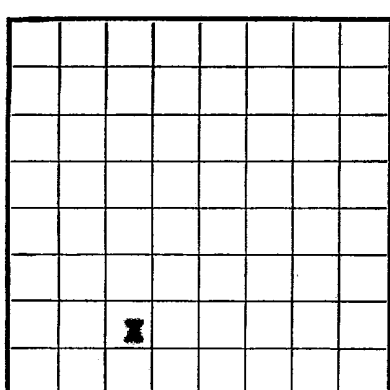
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

A. L. Porter, Jr.,  
Secretary-Director

S E A L

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U. S. LAND OFFICE Santa Fe  
SERIAL NUMBER 67099-3  
LEASE OR PERMIT TO PROSPECT

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
SEP 12 1958  
U. S. GEOLOGICAL SURVEY  
FARMINGTON, NEW MEXICO

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Company El Paso Natural Gas Company Address Box 277, Farmington, New Mexico  
Lessor or Tract Allison Unit Field N. Las Planchillas State New Mexico  
Well No. 1600 Sec. 15 T. 20N R. 10W Meridian N.M.P.M. County San Juan  
Location 600 ft. [N] of [8] Line and 200 ft. [E] of [7] Line of Section 15 Elevation 6865'  
(Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.  
Signed \_\_\_\_\_ Original Signed F. H. WOOD  
Date September 9, 1958 Title Petroleum Engineer

The summary on this page is for the condition of the well at above date.

Commenced drilling 4-26, 1958 Finished drilling 6-15, 1958

OIL OR GAS SANDS OR ZONES  
(Denote gas by G)

No. 1, from 2611 to 2620 (G) No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from 2721 to 2730 (G) No. 5, from 754 to 840 (G)  
No. 3, from 6038 to 6175 (G) No. 6, from \_\_\_\_\_ to \_\_\_\_\_

IMPORTANT WATER SANDS

No. 1, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from \_\_\_\_\_ to \_\_\_\_\_

| Size casing | Weight | Depth    | Remarks | Surface |
|-------------|--------|----------|---------|---------|
| 13 3/8"     | 40     | 0-100'   | ...     | Surface |
| 9 5/8"      | 26     | 100-200' | ...     | ...     |
| 5 1/2"      | 15.5   | 200-300' | ...     | ...     |
| 4"          | 11.7   | 300-400' | ...     | ...     |
| 3 1/2"      | 8.4    | 400-500' | ...     | ...     |

CEMENTING RECORD

| Size casing | Where set | Number sacks of cement | Method used                                       | Mud gravity | Amount of mud used |
|-------------|-----------|------------------------|---|-------------|--------------------|
| 13 3/8"     | 0-100'    | 150                    | circulated  |             |                    |
| 9 5/8"      | 100-200'  | 1900                   | 2 stages (1st stage 800 sck, 2nd stage 1100 sck.) |             |                    |
| 5 1/2"      | 200-300'  | 1350                   | single stage                                      |             |                    |

PLUGS AND ADAPTERS

Heaving plug—Material \_\_\_\_\_ Length \_\_\_\_\_ Depth set \_\_\_\_\_  
Adapters—Material \_\_\_\_\_ Size Baker Model "D" Packer # 6150'

SHOOTING RECORD

| Size             | Shell used | Explosive used | Quantity | Date | Depth shot | Depth cleaned out |
|------------------|------------|----------------|----------|------|------------|-------------------|
| See Well History |            |                |          |      |            |                   |

TOOLS USED

Rotary tools were used from 230 feet to 3579 feet, and from 3579 feet to 6890 feet  
Cable tools were used from 0 feet to 230 feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

DATES

Put to producing \_\_\_\_\_, 19\_\_\_\_  
The production for the first 24 hours was \_\_\_\_\_ barrels of fluid of which \_\_\_\_\_% was oil; \_\_\_\_\_% emulsion; \_\_\_\_\_% water; and \_\_\_\_\_% sediment. Gravity, °Bé. \_\_\_\_\_

If gas well, cu. ft. per 24 hours \_\_\_\_\_ M.V. 1,341,288 gallons gasoline per 1,000 cu. ft. of gas  
Rock pressure, lbs. per sq. in. \_\_\_\_\_ M.V. 1071 A.O.F. 5433 M.V. 2756 M.V. 2756

EMPLOYEES

\_\_\_\_\_, Driller \_\_\_\_\_, Driller  
\_\_\_\_\_, Driller \_\_\_\_\_, Driller

FORMATION RECORD

| FROM—  | TO—  | TOTAL FEET | FORMATION   |
|--------|------|------------|---|
| Undev. | 2930 | 2930       | Sh to gry cr-gra ss interbedded w/gry sh.   |
| 2930   | 3310 | 330        | Ojo Alamo ss. White cr-gra s.   |
| 3310   | 3613 | 303        | Kirtland form. Gry sh interbedded w/tight gry fine-gra ss.  |
| 3613   | 3808 | 195        | Fruitland form. Gry carb sh, scattered coals, coals and gry, tight, fine-gra ss.  |
| 3808   | 5521 | 1693       | Pictured Cliffs form. Gry, fine-gra, tight, varicolored soft ss.  |
| 5521   | 6038 | 517        | Louis formation. Gry to white dense sh w/silt; to shaly ss breaks.  |
| 6038   | 6175 | 137        | Mesa Verde form. Gry, fine-gra, dense sil ss, carb sh & coal.   |
| 6175   | 7554 | 1379       | Point Lookout form. Gry, very fine sil ss w/frequent sh breaks.   |
| 7554   | 8490 | 936        | Mancos formation. Gry carb sh. Gallup form. Lt gry to brn calc carb micaceous very fine gry ss w/irreg. interbedded sh. |

FORMATION RECORD—Continued

U. S. LAND OFFICE
SERIAL NUMBER
LEASE OR PERMIT TO PROSPECT

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
UNITED STATES



Grid for well location: LOCATE WELL CORRECTLY

LOG OF OIL OR GAS WELL

Company: El Paso Natural Gas Company
Address: Box 391, Farmington, New Mexico
Field: H. Lee Farmington
State: New Mexico
County: San Juan
Well No.: 12 (10) Sec. 12 T. 35N. R. 10W. Meridian
Location: 300 ft. E. of line and 100 ft. W. of line of Section 12
Elevation: 6347
Date: September 3, 1928
Signed: Original signed F. H. Wood
Title: Petroleum Engineer

The summary on this page is for the condition of the well at above date.
Commenced drilling: 1-12-28
Finished drilling: 1-12-28
Oil or Gas Sands or Zones:
No. 1, from 2038' (6) to 2038' (6)
No. 2, from 2038' (6) to 2038' (6)
No. 3, from 2038' (6) to 2038' (6)

IMPORTANT WATER SANDS
No. 1, from 2038' (6) to 2038' (6)
No. 2, from 2038' (6) to 2038' (6)
No. 3, from 2038' (6) to 2038' (6)

Table: MUDS AND CEMENTING RECORD
Columns: Cement, Mud, Method used, Amount of mud used

PLUGS AND ADAPTERS
Leaving plug: Material
Adapters: Material

Table: SHOOTING RECORD
Columns: Size, Shell used, Explosive used, Quantity, Date, Depth shot, Depth cleaned out

TOOLS USED
Rotary tools were used from 330 feet to 330 feet and from 330 feet to 330 feet
Cable tools were used from 330 feet to 330 feet and from 330 feet to 330 feet

DATES
The production for the first 24 hours was ...
If gas well, cut. ft. per 24 hours ...
Rock pressure, lbs. per sq. in. ...

Table: EMPLOYEES
Columns: Name, Position

Table: FORMATION RECORD
Columns: FROM, TO, TOTAL FEET, FORMATION

FORMATION RECORD—Continued