

El Paso Natural Gas Company

El Paso, Texas

July 2, 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

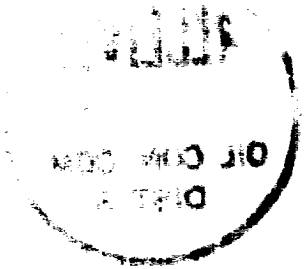
Dear Sir:

This is a request for administrative approval for a well dually completed in the Blanco Mesa Verde Pool and the Aztec Pictured Cliffs Pool. The El Paso Natural Gas Company Johnston No. 8 (PM) is located 1700 feet from the North line and 1600 feet from the East line of Section 17, Township 28 North, Range 9 West, N.M.P.M., Rio Arriba County, New Mexico.

This well has been completed in the Point Lookout and Menefee 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' with 150 sacks of cement circulated to the surface.
2. 7-5/8" intermediate casing set at 2332' and cemented with 250 sacks of cement. Top of cement by temperature survey was 820' which is above the top of the Pictured Cliffs at 2152'.
3. 5-1/2" liner set from 2263' to 4653' 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 Menefee 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 EEJ production packer on 2" EUE tubing at 2410' with the tubing perforations set opposite the Point Lookout perforation. 1-1/4" Grade "B" line pipe was landed, with the tubing perforations set opposite the Pictured Cliffs perforations, as a siphon string. The Mesa Verde gas will be produced through the 2" tubing and the Pictured Cliffs gas through the casing.

C O P Y



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

The offset operator to this well has been notified by registered mail regarding intentions to dual complete this well. Enclosed is a letter of approval from the offset operator. Also enclosed are:

- (a) Two copies of plats showing the location of this well and the offset operator.
- (b) Two copies of the schematic diagram of the mechanical installations.
- (c) Two copies of the affidavit from the packer setting company stating that the packer used was set at the depth shown.
- (d) Two copies of the packer leakage test as observed by a member of the Oil Conservation Commission.
- (e) Two copies of the initial potential test showing commercial production from the two formations.

It is intended to dedicate the E/2 of Section 17, Township 28 North, Range 9 West to the Mesa Verde formation and the NE/4 of Section 17, Township 28 North, Range 9 West to the Pictured Cliffs formation.

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

Yours truly,

ORIGINAL SIGNED E. J. COEL

E. J. Coel
Senior Petroleum Engineer

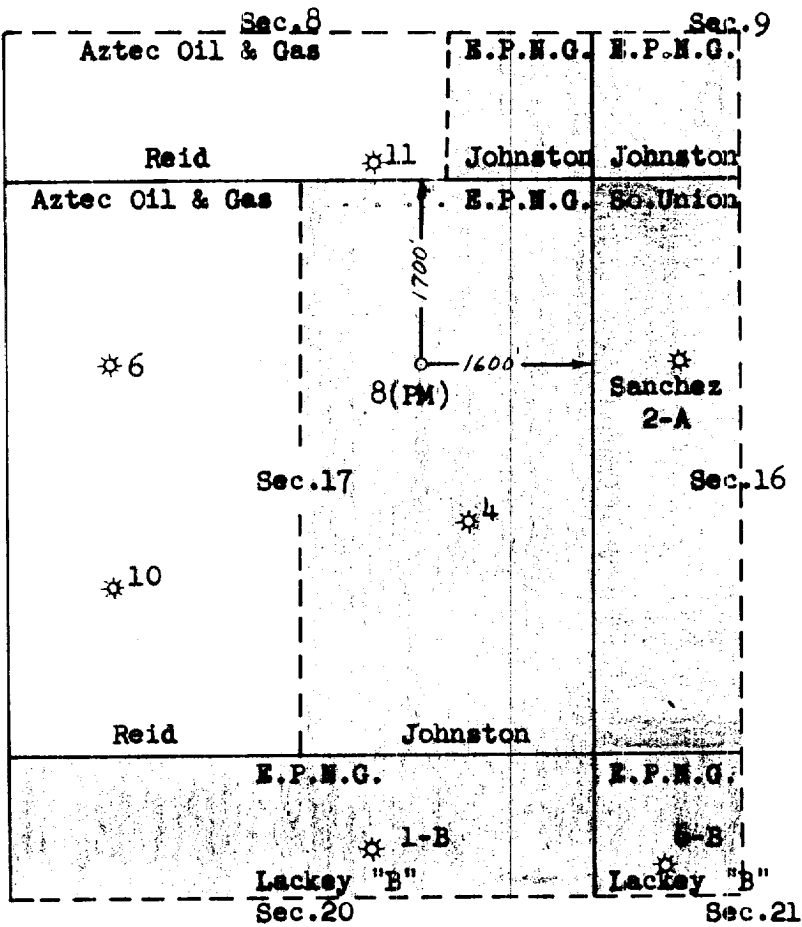
EJC/gks

Encl.

cc: Emery Arnold
R. L. Hamblin
Phil McGrath

PLAT SHOWING LOCATION OF DUALY COMPLETED
EL PASO NATURAL GAS JOHNSTON NO. 8 (PM)
AND OFFSET ACREAGE

T-28-N R-9-W



EL PASO NATURAL GAS COMPANY
EL PASO, TEXAS

SCALE
DRAWN BY

DATE
CHECKED BY

No.

EL PASO NATURAL GAS COMPANY

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

June 20, 1957

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

Re: Packer Leakage Test on the El Paso Natural
Gas Company Well, Johnston No. 8, NE 17-28-9,
San Juan County, New Mexico.

Dear Mr. Arnold:

The subject well was dually completed in the Pictured Cliffs and Mesa Verde zones. A packer was set at 2410 feet and the Pictured Cliffs zone was tested June 11, 1957 after a 10 day shut-in, with the following results:

Pictured Cliffs - SIPC - 633 psig; shut-in 10 days.
Pictured Cliffs - SIPT - 633 psig
Mesa Verde - SIPT - 611 psig

The casing was opened at 11:30 A.M. through a 3/4 inch choke and tested for three hours.

| <u>Time</u> | <u>Casing Flow Pressure Psig</u> | <u>Temp °F.</u> | <u>SIPT Psig</u> |
|-------------|--------------------------------------|-----------------|------------------|
| 11:30 | Opened casing | 62 | 611 |
| 11:45 | 280 | 62 | 612 |
| 12:00 | 244 | 62 | 612 |
| 12:15 | 228 | 62 | 613 |
| 12:30 | 216 | 62 | 613 |
| 1:30 | 188 | 65 | 614 |
| 2:30 | 172 | 62 | 614 |

The measured choke volume was 2254 MCF/Day. The Mesa Verde zone was tested June 18, 1957 through a 3/4" choke, after seven day shut-in, with the following results:


Pictured Cliffs - SIPC - 651 psig
Pictured Cliffs - SIPT - 651 psig
Mesa Verde - SIPT - 624 psig; shut-in 7 days.

The tubing was opened at 11:00 A.M. with the following results:

| <u>Time</u> | <u>Tubing Flow Pressure Psig</u> | <u>Temp °F</u> | <u>SIPC Psig</u> |
|-------------|--------------------------------------|----------------|------------------|
| 11:00 | Opened tubing | 77 | 651 |
| 11:15 | 436 | 77 | 655 |
| 11:30 | 389 | 74 | 655 |
| 11:45 | 354 | 75 | 655 |
| 12:00 | 324 | 75 | 655 |
| 1:00 | 253 | 75 | 655 |
| 2:00 | 233 | 75 | 655 |

The measured choke volume was 2824. The data obtained from the tests indicates there is no packer leakage.

Very truly yours,


S. V. Roberts
Gas Engineer

SVR/jla

cc: W. T. Hollis
W. M. Rodgers
E. J. Coel, Jr.
File

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATA

DATE June 18, 1957

| | |
|---|--|
| Company El Paso Natural Gas Company | Lease Johnston No. 8 |
| Location 1700 N, 1600 E; Sec. 17-28-9 | County San Juan State New Mexico |
| Section Mesa Verde | Blanco |
| Well Depth 7-5/8" 2322 | Well Depth 2" 4513 |
| Well Depth 4055 4610 | Well Depth 4680 - c/o - 4620 |
| Well Name Sand Water Frac. | Well Name X |

| | |
|-------------------------------------|---|
| Well Depth 0.750 12.365 | Well Depth 5-1/2" Liner 2266-4656 |
| Well Depth 651 (PC) 663 7 | Well Depth 624 (MV) 636 |
| Well Depth 233 245 | Well Depth 453 (Calc.) |
| Well Depth 75 0.75 | Well Depth 1.025 .709 |

Packer at 2410 1-1/4" at 2204

PACKER: 12.365 x 245 x .9859 x .9225 x 1.025 2,824

OPEN FLOW: 404,496 199,287 2.0297 .75 x 2,824 = 1.700 x 2,824

4,801

S. V. Roberts

Fred Cook (N.M.O.C.C.)

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

Well made considerable water and some oil during three hour blow.

L. D. Galloway
L. D. Galloway

DATE June 11, 1957

| | | | |
|--|----------------------|---|----------------------|
| Operator El Paso Natural Gas Company | | Lease Johnston No. 8 | |
| Location 1700'N, 1600'E, Sec. 17-28-9 | | County San Juan | State New Mexico |
| Formation Pictured Cliffs | | Pool Aztec | |
| Casing: Diameter 7 5/8 | Set At: Feet 2322 | Tubing: Diameter 1 1/4 | Set At: Feet 2204 |
| Pay Zone: From 2154 | | Total Depth: 4680 - c/o - 4620. Packer at 2410 | |
| 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 - 2266 - 4656 | |
| Shut-In Pressure, Casing, PC 633 | PSIG 12 | PSIA 645 | Days Shut-In 10 | Shut-In Pressure, Tubing PC 633 | PSIG 12 |
| Flowing Pressure: P PC 172 | PSIG 12 | PSIA 184 | | Working Pressure: Pw PC 175 | PSIG 12 |
| Temperature T 62 | | | | Flow (From Tables) 1.016 | Gravity 0.630 |

2" at 4513. SIPT (MV) - 611 psig

CHOKE VOLUME = Q_c = C x P_c² x F_p x F_g x F_{pv}

Q 12.365 x 184 x .9981 x .9759 x 1.016 2252 MCF/D

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

Asf $\left(\frac{416,025}{381,056} \right)^n$ 1.0917^{.85} x 2254 = 1.0775 x 2252

Asf 2427 MCF/D

TESTED BY S. V. Roberts

WITNESSED BY

cc: E. J. Coel (6)

By:

H. L. Kendrick

L. D. Galloway
L. D. Galloway

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

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

Date: June 18, 1957
Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test Data on El Paso Natural Gas Company Well, Johnston No. 8, San Juan County, New Mexico.

Tested By: S. V. Roberts
Fred Cook (New Mexico Oil Conservation Commission)

Location Sec. 17 T. -28-N R. --9-W , 1700N, 1600E

Shut-In Pressure SIPT 651 psig ; (Shut-in 7 days)
SIPT 624 psig

0.750" Choke Volume 2,824 MCF/D @ 14.7 psia and 60° F. for 0.6 gravity gas. Flow through for 3 hours.

Calculated 3 Hour Absolute Open Flow 4,801 MCF/D

Working Pressure On Calculated = 453 psig Psia

Producing Formation Mesa Verde

Stimulation Method Sand-Water Frac.

Total Depth 4680c/o 4620

Field Blanco

H2S sweet to lead acetate.

SIPT (PC) = 651 PSIG

cc: D. H. Tucker

W. T. Hollis

W. M. Rodgers

Drilling Department

B. D. Adams

Roland Hamblin

Jack Purvis

C. C. Kennedy (6)

E. J. Coel, Jr.

A. J. Dudenhoefter

File

Bill Parrish
Dean Rittmann
H. H. Lines

Louis D Galloway
L. D. Galloway

Well made Frac Water and some oil for
three hours during test.

EL PASO NATURAL GAS COMPANY
GAS WELL TEST

To: Mr. E. E. Alsup

Date: June 11, 1957

From: Gas Engineering Department

Place: Farmington, New Mexico

DUAL COMPLETION

Subject: Test data on the El Paso Natural Gas Company Well,
JOHNSTON NO. 8, San Juan County, New Mexico.

Tested By: S. V. Roberts

Location Sec. 17 T. 28N R. 9W ,1700'N, 1600'E

Shut-In Pressure SIPC 633 psig ; (Shut-in 10 days)
SIPT 633 psig

0.750" Choke Volume 2252 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 2427 MCF/D

Working Pressure On tubing 175 Psig

Producing Formation Pictured Cliffs

Stimulation Method Sand Water Frac.

Total Depth 4680 - c/o - 4620. Packer at 2410

Field Aztec

H2S Sweet to lead acetate.

SIPT (MV) - 611 psig

cc: D. H. Tucker

H. H. Lines

~~R. H. Morris~~

Bill Parrish

W. T. Hollis

Dean Rittmann

~~C. D. Walker~~

W. M. Rodgers

~~W. J. Chapp~~

Drilling Department

B. D. Adams

Roland Hamblin

Jack Purvis

~~W. J. Hinkle~~

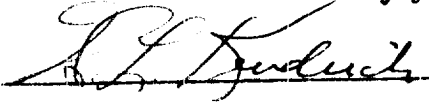
C. C. Kennedy

E. J. Coel, Jr. (6)

A. J. Dudenhoeffer

File


L. D. Gallopy

By: 

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 May 31,
1957, I was called to the location of the El Paso Natural Gas Company
Johnston No. 6 (JM) Well located in the SW/4 NE/4 of Section 17,
Township 28 North, Range 9 West, N.M.P.M. for the purpose of installing
a production packer. Under my direct supervision a Baker Model "EEJ"
production packer was set at 2410 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 12 day of JUNE, 1957.

Paul MacBeech
Notary Public in and for San Juan
County, New Mexico

My commission expires:

2-24-60

SCHEMATIC DIAGRAM OF DUAL COMPLETION
EPNG JOHNSTON NO. 8 (JM)
(NE/4 Section 17, T28N, R9W)

Zero reference point 10.0
feet above tubing head flange.

