

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

30-045-20842

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## 2. TYPE OF WELL

OIL  
WELL ☐GAS  
WELL ☒OTHER ☐SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐

## 3. NAME OF OPERATOR

El Paso Natural Gas Company

## 4. ADDRESS OF OPERATOR

PO Box 990, Farmington, NM 87401

## 5. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)

At surface

990°N, 800°E

At proposed prod. zone

## 6. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

## 7. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also is nearest grid unit line, if any)

## 8. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

## 9. ELEVATIONS (Show whether DE, RT, GR, etc.)

5625'GL

## 10.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24.0#	130'	110 cu. ft. to circulate
6 3/4"	2 7/8"	6.4#	2500'	240 cu. ft. to cover Ojo Alamo

Selectively perforate and sandwater fracture the Pictured Cliffs formation.

ILLEGIBLE

The NE/4 of Section 18 is dedicated to this well.

DEC 16 1971

U. S. GEOLOGICAL SURVEY

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

## 24.

Original signed by

SIGNED

Carl E. Matthews

TITLE

Petroleum Engineer

DATE

December 15, 1971

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form O-1, 1-64  
Supersedes C-128  
Effective 1-1-64

All distances must be from the outer boundaries of the Section.

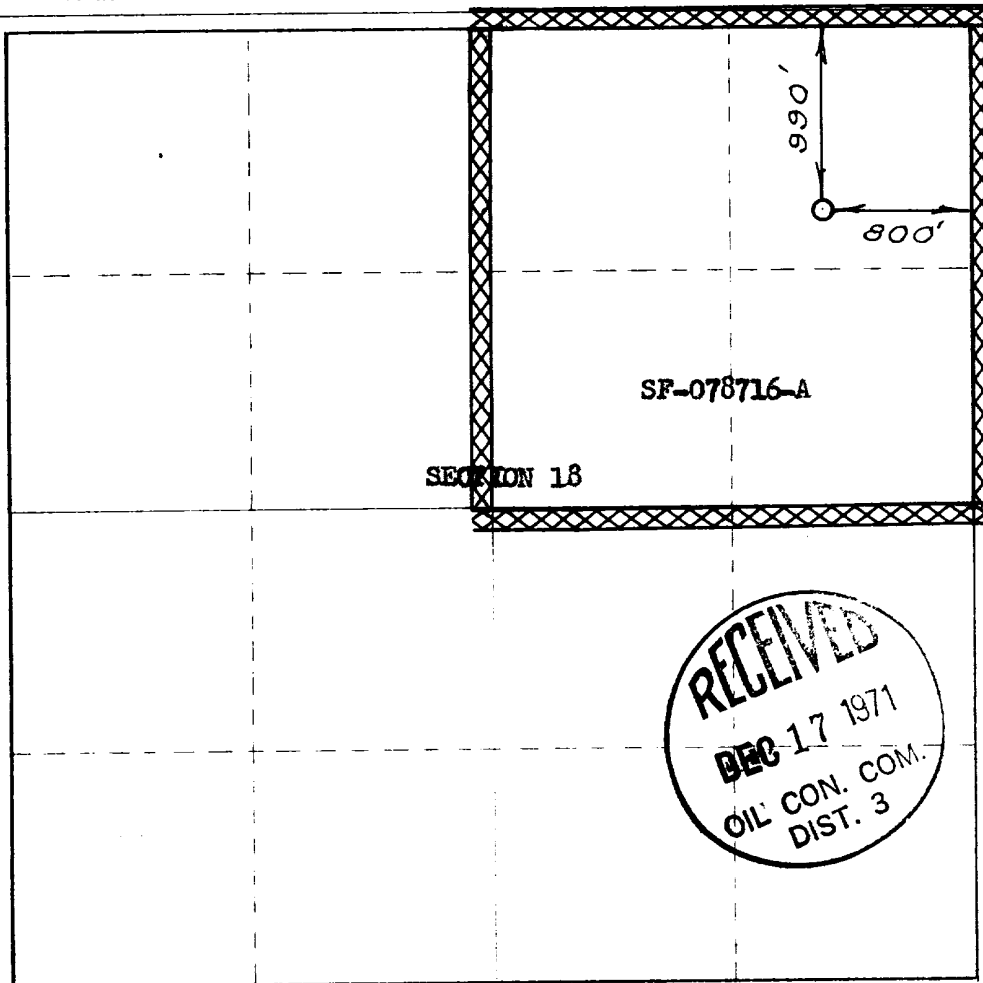
EL PASO NATURAL GAS COMPANY			HUBBELL		(SF-078716-A)	8
A	18	29-N	10-W	SAN JUAN		
990	NORTH		800	EAST		
5625	PICTURED CLIFFS		AZTEC PICTURED CLIFFS		158.84	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Original signed by  
Carl E. Matthews

Name

**Petroleum Engineer**

Position

**El Paso Natural Gas Co.**

Company

**December 15, 1971**

Date

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

By the Surveyor

**DECEMBER 2, 1971**

Signature of Surveyor

*David E. Kline*  
1760

390 600 90 1320 1650 1980 2310 2640 2970 3300 3630 3960

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE\*  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.

SF 078716-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Hubbell

9. WELL NO.

8

10. FIELD AND POOL, OR WILDCAT

Aztec Pictured Cliffs

11. SEC., T., R., M., OR BLK. AND  
SURVEY OR AREA

Sec. 18, T-29-N, R-10-W  
NMPM

12. COUNTY OR PARISH 13. STATE

San Juan New Mexico

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

El Paso Natural Gas Company

3. ADDRESS OF OPERATOR

PO Box 990, Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*  
See also space 17 below.)

At surface 990'N, 800'E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

5625'GL

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐  
FRACTURE TREAT ☐  
SHOOT OR ACIDIZE ☐  
REPAIR WELL ☐

PULL OR ALTER CASING ☐  
MULTIPLE COMPLETE ☐  
ABANDON\* ☐  
CHANGE PLANS ☐

(Other) Permit to Drill Extension

X

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐  
FRACTURE TREATMENT ☐  
SHOOTING OR ACIDIZING ☐

REPAIRING WELL ☐  
ALTERING CASING ☐  
ABANDONMENT\* ☐

(Other)

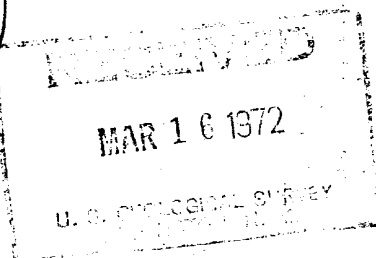
(NOTE: Report results of multiple completion on Well  
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

It is anticipated that the "Permit to Drill" will expire before this well can be spudded.

Therefore, an extension is requested.

Void after 60 days from date of  
approval if not spudded.



18. I hereby certify that the foregoing is true and correct

SIGNED Original Signed F. H. WOOD

TITLE Petroleum Engineer

DATE March 16, 1972

(This space for Federal or State office use)

APPROVED BY  
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYSUBMIT IN TRIPPLICATE\*  
(Other instructions on re-  
verse side)Form approved,  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

SF 078716-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

## SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT--" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		7. UNIT AGREEMENT NAME	
2. NAME OF OPERATOR El Paso Natural Gas Company		8. FARM OR LEASE NAME Hubbell	
3. ADDRESS OF OPERATOR Box 990, Farmington, New Mexico		9. WELL NO. 8	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface  990' North, 800' East		10. FIELD AND POOL, OR WILDCAT Aztec Pictured Cliffs	
14. PERMIT NO.		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 18, T-29-N, R-10-W N.M.P.M.	
15. ELEVATIONS (Show whether DF, RT, CR, etc.) 5625' GL		12. COUNTY OR PARISH San Juan	
		13. STATE New Mexico	

## 16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

## NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON\*

REPAIR WELL

CHANGE PLANS

(Other)

## SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

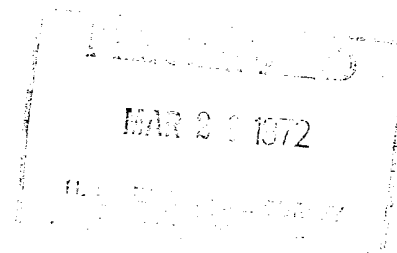
ALTERING CASING

ABANDONMENT\*

(NOTE: Report results of multiple completion on Well  
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

- 3-22-72: Spudded well, drilled surface hole and ran 4 joints 8 5/8", 24#, J-55 surface casing, 129' set at 141'. Cemented with 107 cu. ft. cement circulated to surface. W. O. C. 12 hours, held 600#/30 minutes.



18. I hereby certify that the foregoing is true and correct

SIGNED

TITLE

Petroleum Engineer

DATE

March 28, 1972

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

# B. & R. SERVICE, INC.

## TEMPERATURE SURVEY

COMPANY EL PASO NATURAL GAS COMPANY  
WELL HUBBELL #8 FIELD \_\_\_\_\_  
COUNTY SAN JUAN STATE NEW MEXICO  
SEC. 18 TWP. 29 N RGE. 10 W

APPROX. TOP CEMENT 620'

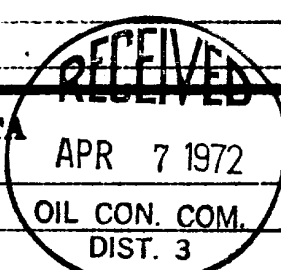
Survey Begins at 500 Ft. Ends at 2154 Ft.  
Approx. Fill-Up \_\_\_\_\_ Max. Temp. 98° @ 2154  
Log Measured From K.B. Run No. 1

Casing Size	Casing Depth	Diam of Hole	Depth
<u>2 7/8"</u> from _____	to <u>2068</u>	<u>6 3/4"</u> from _____	to _____
from _____	to _____	from _____	to _____

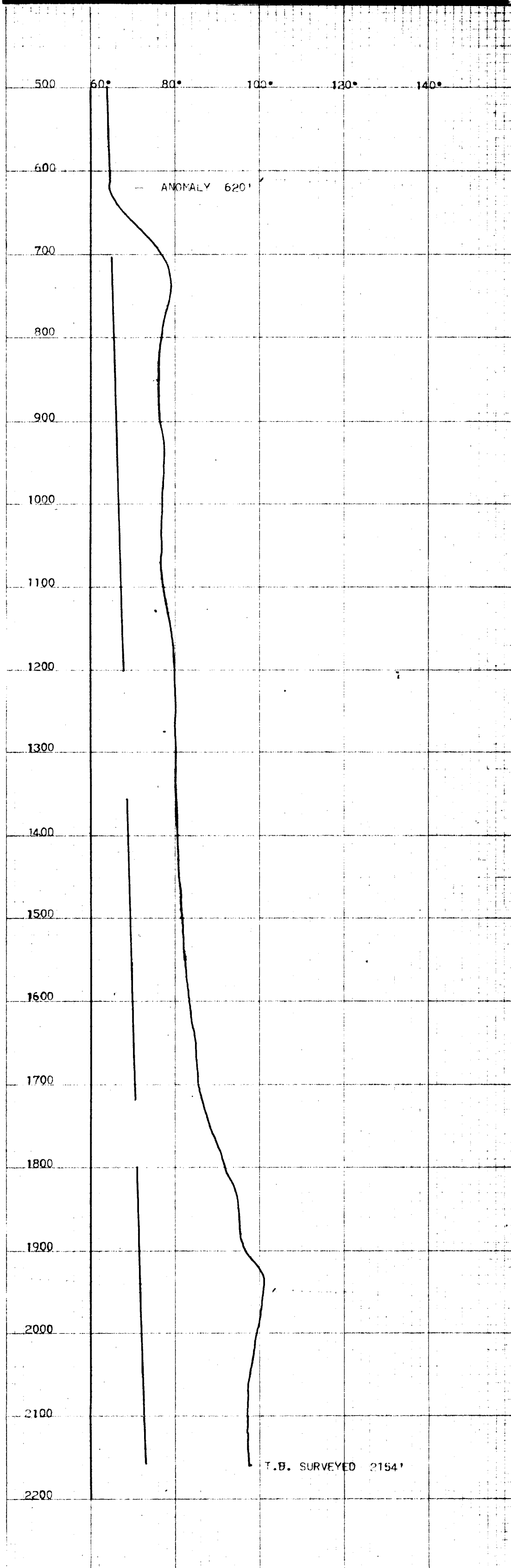
Date of Cementing 3-24-72 Time 11:30 P.M.  
Date of Survey 3-25-72 Time 11:30 A.M.  
Amount of Cement 135 SKS. CL. 'C' 10% GEL 50 SKS. CL. 'C' HEAT  
412 CU.F.T.

Recorded by BEAN & SMITH Witnessed by \_\_\_\_\_

REMARKS OR OTHER DATA



TEMPERATURE IN DEGREES FAHRENHEIT





UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPPLICATE\*  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

SF 078716-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
Hubbell

9. WELL NO.  
8

10. FIELD AND POOL, OR WILDCAT  
Aztec Pictured Cliffs

11. SEC., T., R., M., OR BLK. AND  
SURVEY OR AREA  
Sec. 18, T-29-N, R-10-W  
NMPM

12. COUNTY OR PARISH 13. STATE  
San Juan New Mexico

1. OIL ☐ GAS ☒ OTHER ☐  
WELL WELL

2. NAME OF OPERATOR  
El Paso Natural Gas Company

3. ADDRESS OF OPERATOR  
PO Box 990, Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*  
See also space 17 below.)  
At surface 990'N, 800'E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, CR, etc.)

5625'GL

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐

FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

(Other) ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

ABANDON\* ☐

CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☒

FRACTURE TREATMENT ☒

SHOOTING OR ACIDIZING ☐

(Other) ☐

REPAIRING WELL ☐

ALTERING CASING ☐

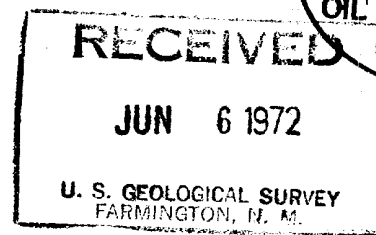
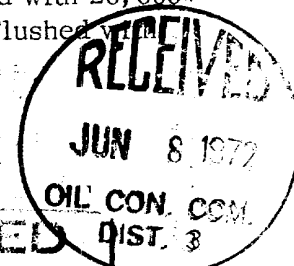
ABANDONMENT\* ☐

(NOTE: Report results of multiple completion on Well  
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

3-24-72 T.D. 2068'. Ran 66 joints 2 7/8", 6.4#, J-55 production casing, 2058' set at 2068'.  
Baffle set at 2058'. Cemented with 412 cu. ft. cement. WOC 18 hours. Top of cement  
at 620'.

5-31-72 PBTD 2058'. Perf'd 1976-1984' with 32 shots per zone. Fraced with 20,000#  
10/20 sand and 10,000 gallons treated water. No balls dropped. Flushed with  
2,000 gallons water.



18. I hereby certify that the foregoing is true and correct

SIGNED

*[Signature]*

TITLE

Petroleum Engineer

DATE

June 5, 1972

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

EL PASO NATURAL GAS COMPANY  
OPEN FLOW TEST DATA

DATE June 16, 1972

Operator El Paso Natural Gas Company		Lease Hubbell No. 8	
Location 990/N, 800/E, Sec. 18-29N-10W		County San Juan	State New Mexico
Formation Pictured Cliffs		Pool Aztec	
Casing: Diameter 2.875	Set At: Feet 2068	Tubing: Diameter No Tubing	Set At: Feet
Per Zone: From 1976	To 1984	Total Depth: 2068	Shut In 6-6-72
Stimulation Method SWF		Flow Through Casing XX	Flow Through Tubing

Choke Size, Inches 0/750		Choke Constant: C 12.365		Tubingless Completion	
Shut-in Pressure, Casing, 387	PSIG	+ 12 = PSIA 399	Days Shut-In 10	Shut-In Pressure, Tubing No Tubing	PSIG
Flowing Pressure: P 40	PSIG	+ 12 = PSIA 52		Working Pressure: P <sub>w</sub> Calculated	PSIG
Temperature: T = 62 °F		n = .85		F <sub>pv</sub> (From Tables) 1.003	Gravity .635
	F <sub>t</sub> = .9981				F <sub>g</sub> = .9721

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

$$Q = (12.365)(52)(.9981)(.9721)(1.003) = 626 \text{ MCF/D}$$

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

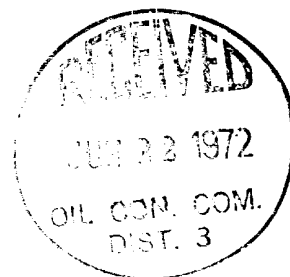
NOTE: Light fog of water and distillate in approximately five minutes.

$$Aof = \left( \frac{159201}{155480} \right)^n = (626)(1.0239)^{.85} = (626)(1.0203)$$

$$Aof = 638 \text{ MCF/D}$$

TESTED BY Don Norton

WITNESSED BY


  
 L. E. Mabe, Jr.