

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

30-045-24087

5. LEASE DESIGNATION AND SERIAL NO.

SF 077710

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Hardie F

9. WELL NO.

1E

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

11. SEC., T., R., M., OR BLK.

AND SURVEY OR AREA

Sec. 14, T-29-N, R-12-W  
NMPM

12. COUNTY OR PARISH

13. STATE

San Juan

NM

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☐GAS  
WELL ☒

OTHER

SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

El Paso Natural Gas Company

3. ADDRESS OF OPERATOR

PO Box 289, Farmington, NM 87401

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

At surface

1780'S, 1590'E

At proposed prod. zone

same

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

3.5 miles west of Bloomfield, NM

15. DISTANCE FROM PROPOSED\*

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

1590'

16. NO. OF ACRES IN LEASE

320

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

3/320

~~330.52~~

18. DISTANCE FROM PROPOSED LOCATION\*

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

1100'

19. PROPOSED DEPTH

6430'

20. ROTARY OR CABLE TOOLS

Rotary

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

5661'GL

22. APPROX. DATE WORK WILL START\*

23.

## 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#	200'	165 cu.ft. circ. to surface
7 7/8"	4 1/2"	10.5#	6430'	1633 cu.ft. - 3 stages

1st stage - 371 cu.ft. to cover Gallup  
2nd stage - 530 cu.ft. to cover Mesa Verde  
3rd stage - 732 cu.ft. to cover Ojo Alamo

Selectively perforate and sandwater fracture the Dakota formation.

A 3000 psi WP and 6000 psi test double gate preventer equipped with  
blind and pipe rams will be used for blow out prevention on this well.This gas is dedicated.

The S/2 of Section 14 is dedicated to this well.

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 true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*A. G. Luce*

TITLE

Drilling Clerk

DATE 12-7-79

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

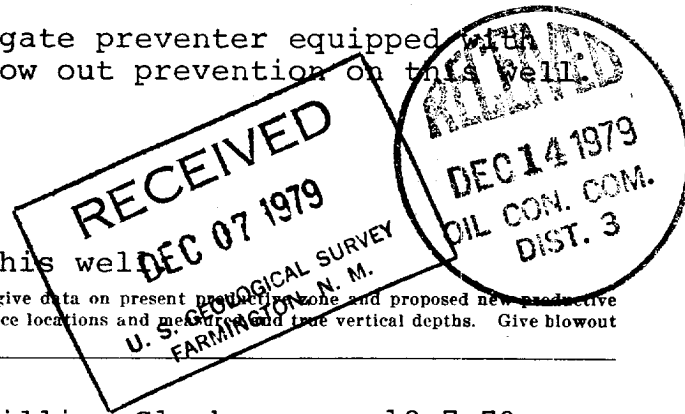
DATE

CONDITIONS OF APPROVAL, IF ANY:

*oh Frank*

\*See Instructions On Reverse Side

NMOCC



All distances must be from the outer boundaries of the Section

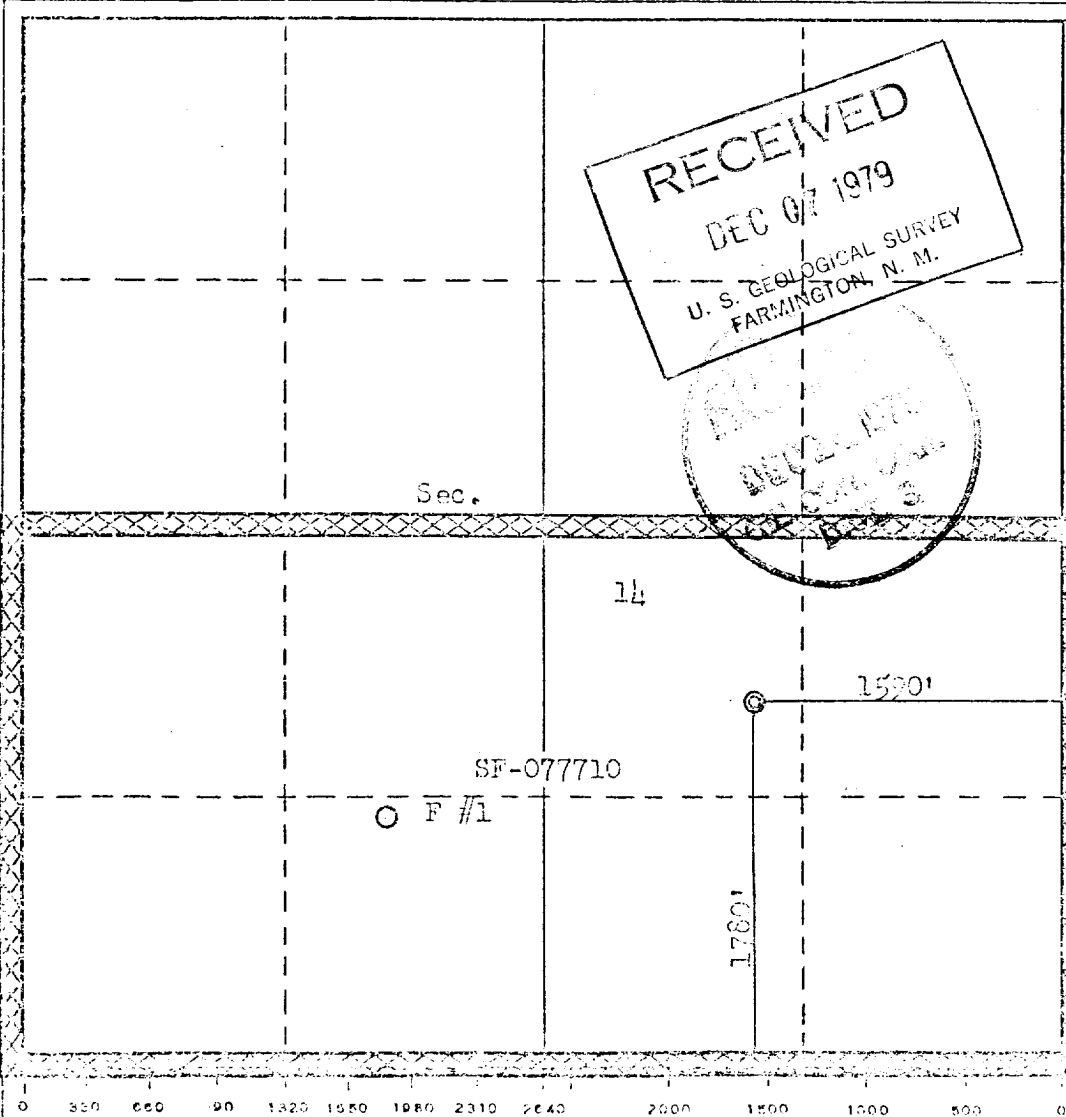
Lessor <b>EL PASO NATURAL GAS COMPANY</b>			Lease <b>HARDIE "F" (SF-077710)</b>		Well No. <b>1-E</b>
Well Name <b>J</b>	Section <b>14</b>	Township <b>29N</b>	Range <b>12W</b>	County <b>San Juan</b>	
Actual Portage Location of Well: <b>1780</b> feet from the <b>South</b> line and <b>1590</b> feet from the <b>East</b> line					
Ground Level Elev. <b>5561</b>	Producing Formation <b>Dakota</b>	Pool <b>Basin Dakota</b>		Dedicated Acres: <b>330.52 320</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. 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.



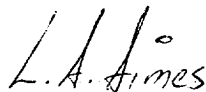
CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Name <i>A. G. Guise</i>	
Position <b>Drilling Clerk</b>	
Company <b>El Paso Natural Gas Co.</b>	
Date <b>December 7, 1979</b>	
I hereby certify that the well location shown 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.	
Date Surveyed <i>October 1, 1979</i>	
Registered Professional Engineer and/or Land Surveyor <i>[Signature]</i>	
Certificate No. <b>3950</b>	

Multi-Point Surface Use Plan

Hardie F #1E

1. Existing Road - Please refer to Map No. 1 which shows the existing roads. New roads which will be required have been marked on this map. All existing and new roads will be properly maintained during the duration of this project.
2. Planned Access Roads - Please refer to Map No. 1. The grade of the access roads will be consistent with that of the local terrain. The road surface will not exceed twenty feet (20') in width. Upon completion of the project, the access road will be adequately drained to control soil erosion. Drainage facilities may include ditches, water bars, culverts or any other measure deemed necessary by trained Company personnel to insure proper drainage. Gates and/or cattleguards will be installed if necessary.
3. Location of Existing Wells - Please refer to Map No. 2.
4. Location of Tank Batteries, Production Facilities, and Production Gathering and Service Lines - Please refer to Maps No. 1 and No. 2. Map No. 2 shows the existing gas gathering lines. Map No. 1 shows the existing roads and new proposed access roads. All known production facilities are shown on these two maps.
5. Location and Type of Water Supply - Water for the proposed project will be obtained from San Juan River.
6. Source of Construction Materials - No additional materials will be required to build either the access road or the proposed location.
7. Methods of Handling Waste Materials - All garbage and trash materials will be put into a burn pit shown on the attached Location Plat No. 1. When clean-up operations are begun on the proposed project, the burn pit with its refuse will be buried to a depth of at least three feet (3'). A latrine, the location of which is also shown on Plat No. 1,

7. cont'd. will be provided for human waste. If large amounts of liquids are left in the reserve pit after completion of the project, the pit will be fenced until the liquids have had adequate time to dry. The location clean-up will not take place until such time as the reserve pit can be properly covered over to prevent run-off from carrying any of these materials into the watershed. No earthen pit will be located on natural drainages; all earthen pits will be so constructed as to prevent leakage from occurring.
8. Ancillary Facilities - No camps or airstrips will be associated with this project.
9. Wellsite Layout - Please refer to the attached Plat No. 1.
10. Plans for Restoration of the Surface - After completion of the proposed project, the location will be cleaned and leveled. The location will be left in such a condition that will enable reseeding operations to be carried out. Seed mixture as designated by the responsible government agency will be used. The reseeding operation will be performed during the time period set forth by the regulatory body. The location production equipment will be painted as designated by the responsible government agency.
11. Other Information - The terrain is rolling hills with pinon and juniper growing. Cattle and deer are seen occasionally on the proposed project site.
12. Operator's Representative - W.D. Dawson, PO Box 990, Farmington, NM
13. Certification - I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by El Paso Natural Gas Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.



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L. A. Aimes  
Project Drilling Engineer

## Operations Plan - Hardie F #1E

I. Location: 1780'S, 1590'E, Section 14, T-29-N, R-12-W, San Juan County, NM

Field: Basin Dakota

Elevation: 5671'

II. Geology:

A. Formation Tops:	Surface	Ojo Alamo	Menefee	3440'
	Ojo Alamo	surface	Point Lookout	4085'
	Kirtland	540'	Gallup	5344'
	Fruitland	1465'	Greenhorn	6088'
	Pic.Cliffs	1730'	Graneros	6146'
	Lewis	1910'	Dakota	6270'
	Mesa Verde	3232'	Total Depth	6430'

B. Logging Program: Induction Electric and Gamma Ray Density at TD.

C. Coring: none

III. Drilling:

A. Mud Program: mud from surface to Total Depth.

IV. Materials:

A. Casing Program:	<u>Hole Size</u>	<u>Depth</u>	<u>Csg.Size</u>	<u>Wt.&amp;Grade</u>
	12 1/4"	200'	8 5/8"	24.0# K-55
	7 7/8"	6430'	4 1/2"	10.5# K-55

B. Float Equipment: 8 5/8" surface casing - cement guide shoe

4 1/2" production casing - guide shoe and self-fill insert valve  
Two multiple stage cementers equipped for three stage cementing.  
Set tool for second stage at 4685' and tool for third stage at 2010'. Run 20 centralizers spaced as follows: one on each of the bottom 8 joints, one below each stage tool, and five above each stage tool spaced every other joint.

C. Tubing: 6430' of 2 3/8", 4.7#, J-55 tubing, common pump seating nipple and Baker expendable check valve with drill type guide.

D. Wellhead Equipment: 8 5/8" x 8" 2000 psi WOG casinghead with 4 1/2" casing hanger and 8" 2000 x 6" 2000 xmas tree with 2 3/8" tubing hanger.

V. Cementing:

Surface casing (12 1/4" x 8 5/8") - use 140 sks. of Class "B" cement with 1/4# gel-flake per sack and 3% calcium chloride (165 cu.ft. of slurry, 100% excess to circulate). WOC 12 hours. Test to 600#/30 min.

Operations Plan - Hardie F #1E

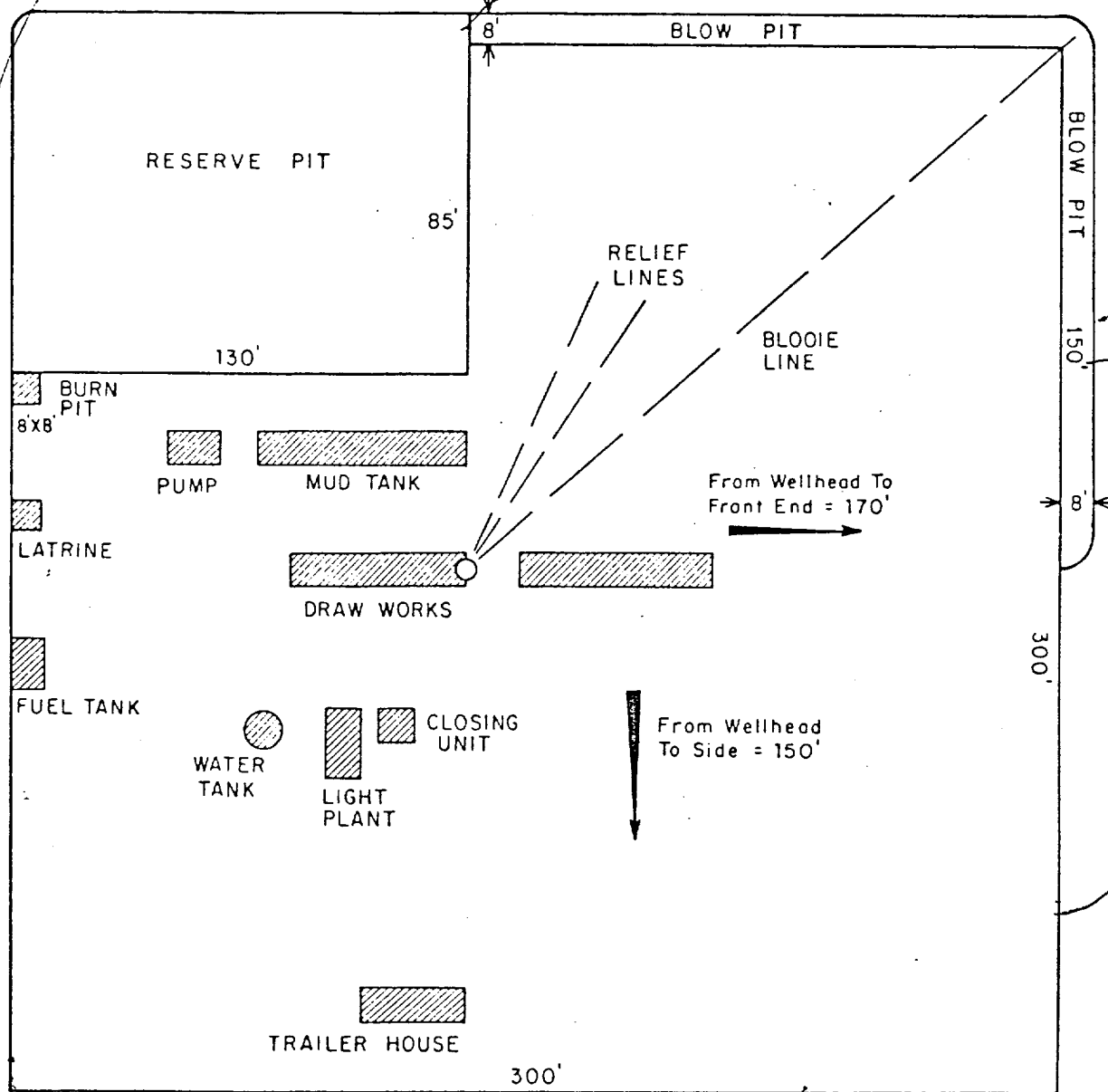
V. Cementing, cont'd.

Production casing - (7 7/8" x 4 1/2")

First stage - use 167 sks. of 65/35 Class "B" Pozmix with 6% gel and 2% calcium chloride mixed with 8.3 gallons water per sack followed by 80 sks. 50/50 Class "B" Pozmix with 2% gel, 2% calcium chloride and 1/4# fine tuf-plug per cu.ft. (371 cu.ft. of slurry, 50% excess to cover the Gallup).

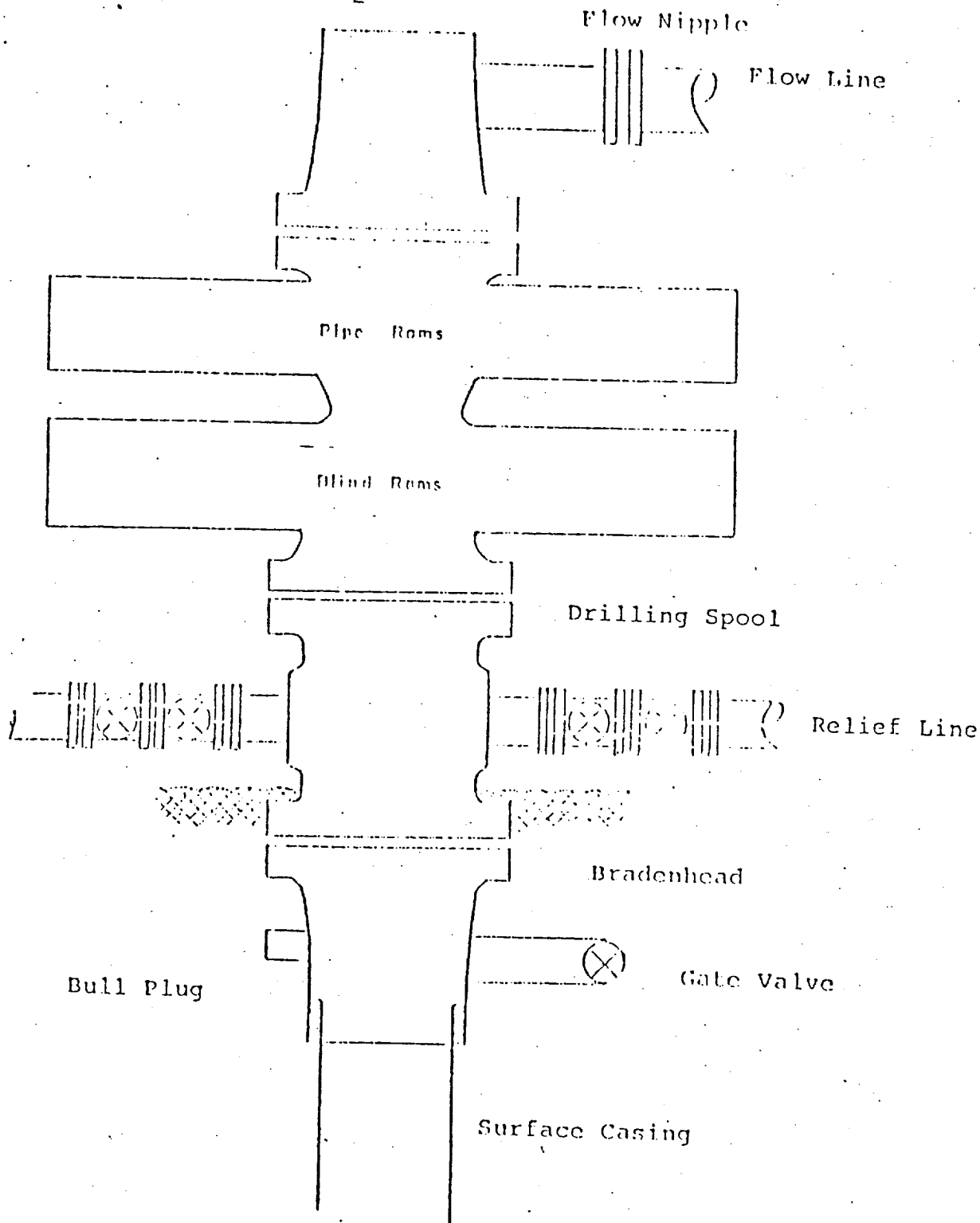
Second stage - circulate mud for 2 hours, then cement with 327 sks. of 65/35 Class "B" Pozmix with 6% gel and 2% calcium chloride and 8.3 gallons of water per sack (530 cu.ft. of slurry, 60% excess to cover the Mesa Verde).

Third stage - circulate mud for 2 hours, then cement using 452 sks. Class "B" Pozmix with 6% gel and 2% calcium chloride mixed with 8.3 gallons water per sack (732 cu.ft. of slurry, 60% excess to fill to base of Ojo Alamo). Run temperature survey on top stage only at 8 hours. WOC 18 hours.



				ENG. REC.		DATE		El Paso Natural Gas Company TYPICAL LOCATION PLAT FOR MESAVERDE OR DAKOTA DRILL SITE		SCALE: 1" = 50' DWG. NO. REV.	
				DRAWN		J. L. H. 8-16-78					
				CHECKED							
				CHECKED							
				PROJ. APP							
PRT.	SEP.	DATE	TO	W.O.	DESIGN						
PRINT RECORD								W.O.			

Typical B.O.P. Installation  
for Dakota Well

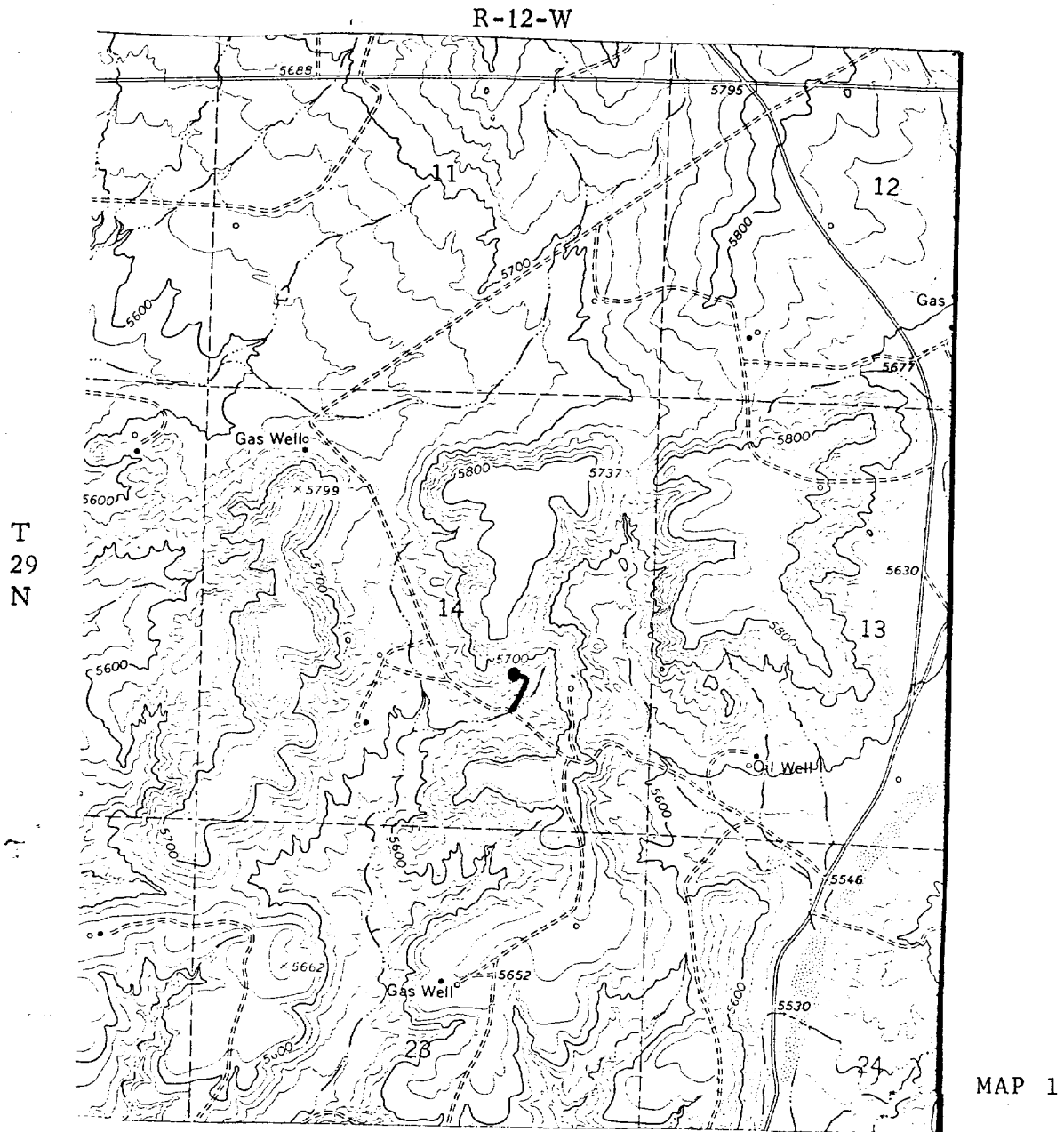


Series 900 Double Gate BOP, rated  
at 3000 psi Working Pressure

When gas drilling operations begin a Shaffer type  
50 or equivalent rotating head is installed on top of  
the flow nipple and the flow line is converted into  
a blowie line.



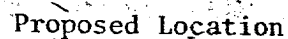
El Paso Natural Gas Company  
Hardie F #1E  
SE 14-29-12



LEGEND OF RIGHT-OF-WAYS

EXISTING ROADS	—————
EXISTING PIPELINES	+ + +
EXISTING ROAD & PIPELINE	+ + +
PROPOSED ROADS	—————
PROPOSED PIPELINES	+ + +
PROPOSED ROAD & PIPELINE	+ + +

R-12-W



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

**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 Form 9-331-C for such proposals.)

1. oil ☐ well gas ☒ well other  
2. NAME OF OPERATOR  
El Paso Natural Gas Company  
3. ADDRESS OF OPERATOR  
Box 289, Farmington, New Mexico 87401  
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)  
AT SURFACE: 1780'S, 1590'E  
AT TOP PROD. INTERVAL:  
AT TOTAL DEPTH:

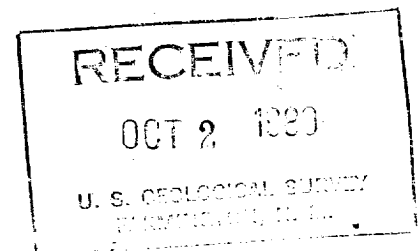
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF <input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE <input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES <input type="checkbox"/>	<input type="checkbox"/>
ABANDON* <input type="checkbox"/>	<input type="checkbox"/>
(other) <input type="checkbox"/> Extend Approval on Permit to Drill	

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.

*Approved to 7/10/81*

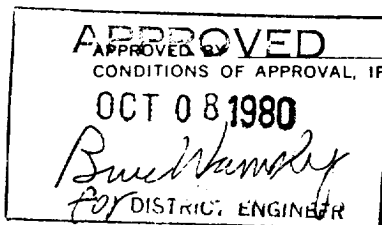


Subsurface Safety Valve: Manu. and Type \_\_\_\_\_ Set @ \_\_\_\_\_ Ft.

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

SIGNED *A. G. Susco* TITLE Drilling Clerk DATE October 2, 1980

(This space for Federal or State office use)



\*See Instructions on Reverse Side

411000