

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

30-045-23176

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

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 990, Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface 1300'S, 2230'E  
 At proposed prod. zone same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 9 miles North of Aztec, NM

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 323'

16. NO. OF ACRES IN LEASE 2512

17. NO. OF ACRES ASSIGNED TO THIS WELL 160.00 & 320.00

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 3000'

19. PROPOSED DEPTH 5605'

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6315' GR

22. APPROX. DATE WORK WILL START\*

5. LEASE DESIGNATION AND SERIAL NO.  
 SF 078096

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
 Mudge

9. WELL NO.  
 12A

10. FIELD AND POOL, OR WILDCAT  
 Blanco MV&Blanco PC

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Sec. 17, T-31-N, R-11-V NMPM

12. COUNTY OR PARISH  
 San Juan

13. STATE  
 NM

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13 3/4"	9 5/8"	32.3#	200'	224 cu.ft. to circulate
8 3/4"	7"	20.0#	3225'	459 cu.ft. to cover Ojo Alan
6 1/4"	4 1/2"	10.5#	3075-5605'	415 cu.ft. to fill to 3225'

Selectively perforate and sandwater fracture the Mesa Verde and Pictured Cliffs 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.

Unorthodox location approval is pending.

The E/2 of Section 17 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 and true vertical depths. Give blowout preventer program, if any.

24. SIGNED A. G. Lucco TITLE Drilling Clerk DATE July 25, 1978

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

*ok Frank*

\*See Instructions On Reverse Side

*W-110-104*

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form O-102  
Supersedes O-11  
Effective 1-1-67

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

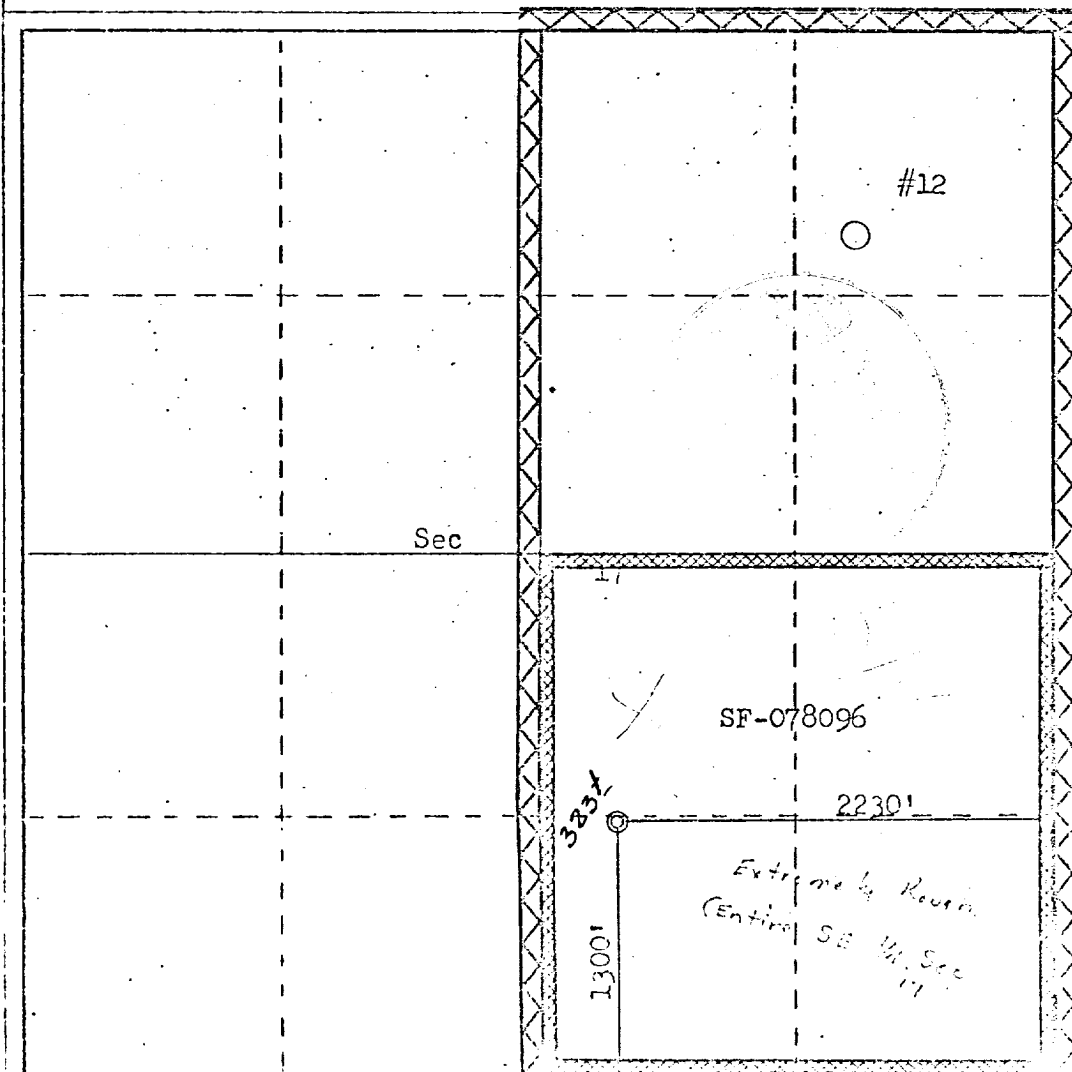
Operator <b>EL PASO NATURAL GAS COMPANY</b>			Lease <b>MUDGE (SF-078096)</b>		Well No. <b>12A</b>
Tract Letter <b>0</b>	Section <b>17</b>	Township <b>31N</b>	Range <b>11W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>1300</b> feet from the <b>South</b> line and <b>2230</b> feet from the <b>East</b> line.					
Ground Level Elev. <b>6315</b>	Producing Formation <b>PICTURED CLIFFS-MESA VERDE</b>		Pool <b>BLANCO PICTURED CLIFFS EXT. BLANCO MESA VERDE</b>		Dedicated Acreage: <b>160.00 &amp; 320.00</b>

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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.

*A. G. Duice*

Name  
**Drilling Clerk**  
Position  
**El Paso Natural Gas Co.**  
Company  
**July 25, 1978**  
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.

Date Surveyed  
**July 1978**  
Registered  
**July 1978**  
I, *[Signature]*  
Sr. Surveyor  
Certification No. **3950**

Multi-Point Surface Use Plan  
Mudge #12A

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 the Ditch at Aztec, NM
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 high sandstone hills and ledges with pinon and cedar growing. Coyote run 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.



\_\_\_\_\_  
D. C. Walker  
Project Drilling Engineer

July 26, 1978

Operations Plan  
Mudge #12A

I. Location: 1300'S, 2230'E, Section 17, T-31-N, R-11-W, San Juan County, NM

Field: Blanco MV & Blanco PC Ext.                      Elevation: 6315'GR

II. Geology:

A. Formation Tops:	Surface	Nacimiento	Lewis	3025'
	Ojo Alamo	1190'	Mesa Verde	4445'
	Kirtland	1305'	Menefee	4745'
	Fruitland	2580'	Point Lookout	5155'
	Pic.Cliffs	2910'	Total Depth	5605'

B. Logging Program: GR-Ind. and GR-Density at Total Depth.

C. Coring Program: none

D. Natural Gauges: 4435', 4735', 5145' and at Total Depth.  
Also gauge any noticeable increase in gas. Record all gauges in daily drilling report and on morning report.

III. Drilling:

A. Mud Program: mud from surface to 3225'. Gas from intermediate casing to Total Depth.

IV. Materials:

A. Casing Program:	<u>Hole Size</u>	<u>Depth</u>	<u>Casing Size</u>	<u>Wt.&amp;Grade</u>
	13 3/4"	200'	9 5/8"	32.3# H-40
	8 3/4"	3225'	7"	20.0# K-55
	6 1/4"	3075-5605'	4 1/2"	10.5# K-55

B. Float Equipment: 9 5/8" surface casing - Pathfinder guide shoe (Part #2006-1-012).

7" intermediate casing - Pathfinder guide shoe (Part #1003-1-007) and Pathfinder self-fill insert float valve (Part #2010-6-007), 5 Pathfinder stabilizers (Part #107-10) every other joint above shoe. Run float two joints above shoe.

4 1/2" liner - 4 1/2" liner hanger with neoprene packoff. Pathfinder geyser shoe (Part #2017-1-050) and Larkin flapper type float collar (fig. 404 M&F).

C. Tubing: 5605' of 2 3/8", 4.7#, J-55 8rd EUE tubing with a common pump seating nipple one joint above bottom. Tubing will be open ended.  
3025' of 1 1/4", 2.33# J-55 IJ tubing with a common pump seating nipple above a perforated joint plugged on bottom. Isolate producing formations with a packer.

D. Wellhead Equipment: 10" 900 x 9 5/8" casing head. 10" 900 x 6" 900 xmas tree.

Operations Plan - Mudge #12A

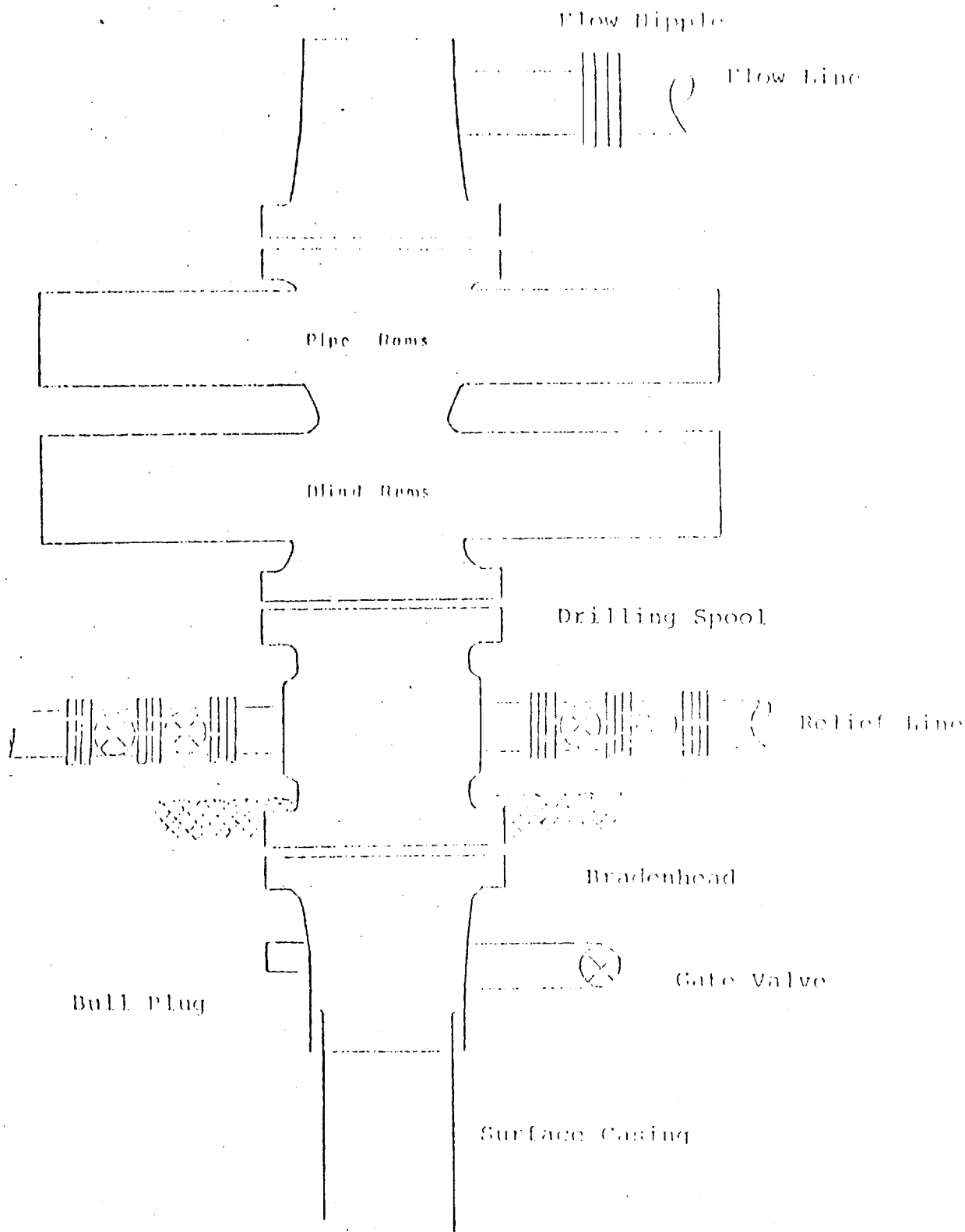
V. Cementing:

9 5/8" surface casing - use 190 sks. of Class "B" cement with 1/4# gel-flake per sack and 3% calcium chloride (224 cu.ft. of slurry, 100% excess to circulate to surface). WOC 12 hours. Test casing to 600#/30 minutes.

7" intermediate casing - use 210 sks. of 65/35 Class "B" Poz with 6% gel and 2% calcium chloride (8.3 gallons of water per sack) followed by 100 sks. of Class "B" with 2% calcium chloride (459 cu.ft. of slurry, 50% excess to cover Ojo Alamo). Run temperature survey at 8 hours. WOC 12 hours. Test casing to 1200#/30 minutes.

4 1/2" liner - precede cement with 20 barrels of gel water (2 sks. gel) Cement with 299 sks. of 50/50 Class "B" Poz with 2% gel, 0.6% Halad-9, 6.25# gilsonite plus 1/4# Flocele per sack (415 cu.ft. of slurry, 70% excess to circulate liner). WOC 18 hours.

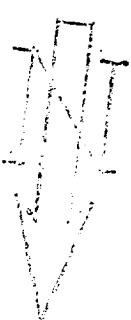
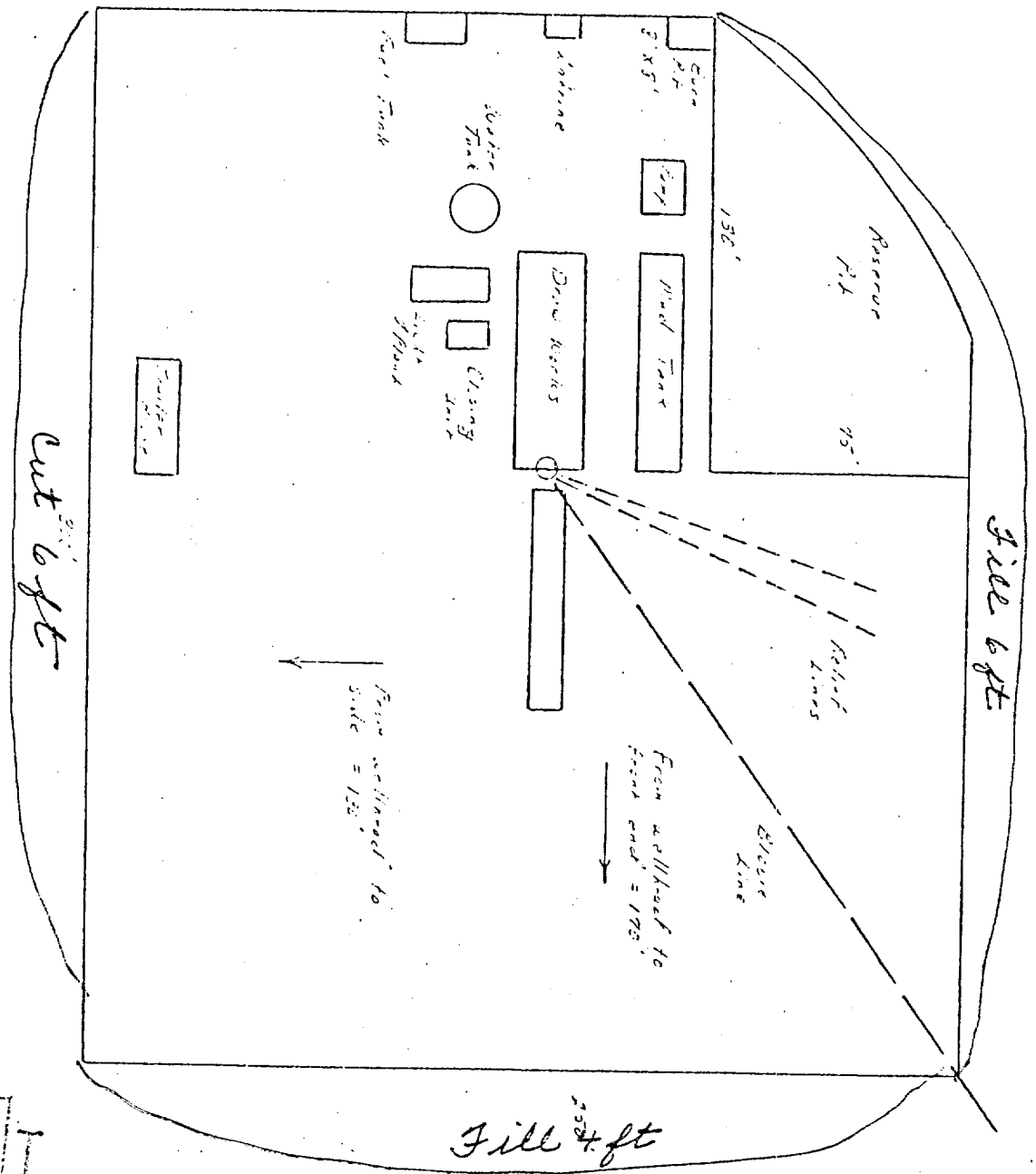
Typical B.O.P. Installation  
for Mesa Verde Well



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  
 General Location Map for mass sands and shales wells

Well Name: **Mudgts #12A**  
 SE 17-31-11 R.C. M.V.





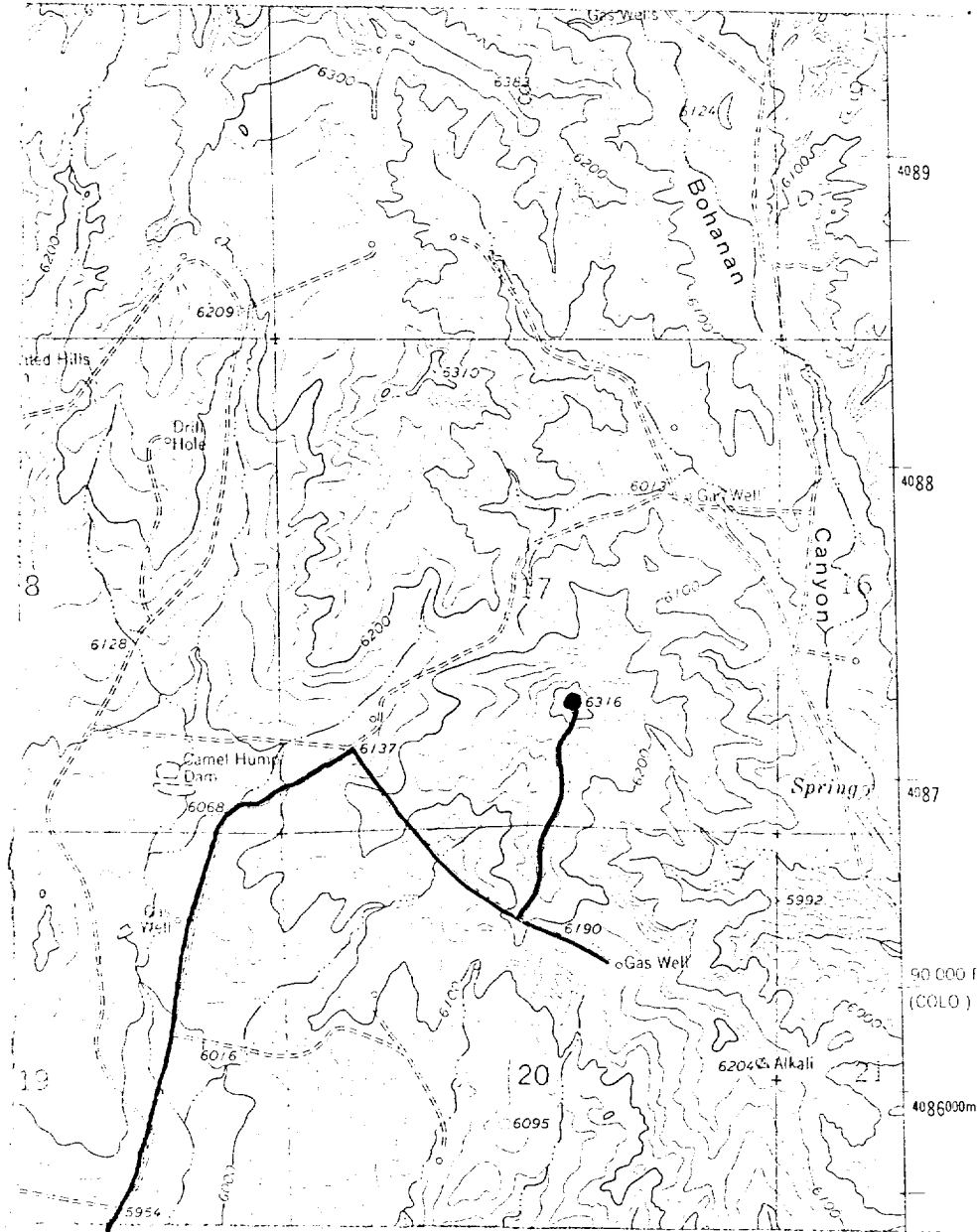
EL PASO NATURAL GAS COMPANY

Mudg# #12A (PM)

SE 17-31-11

R-11-W

T  
31  
N



MAP #1

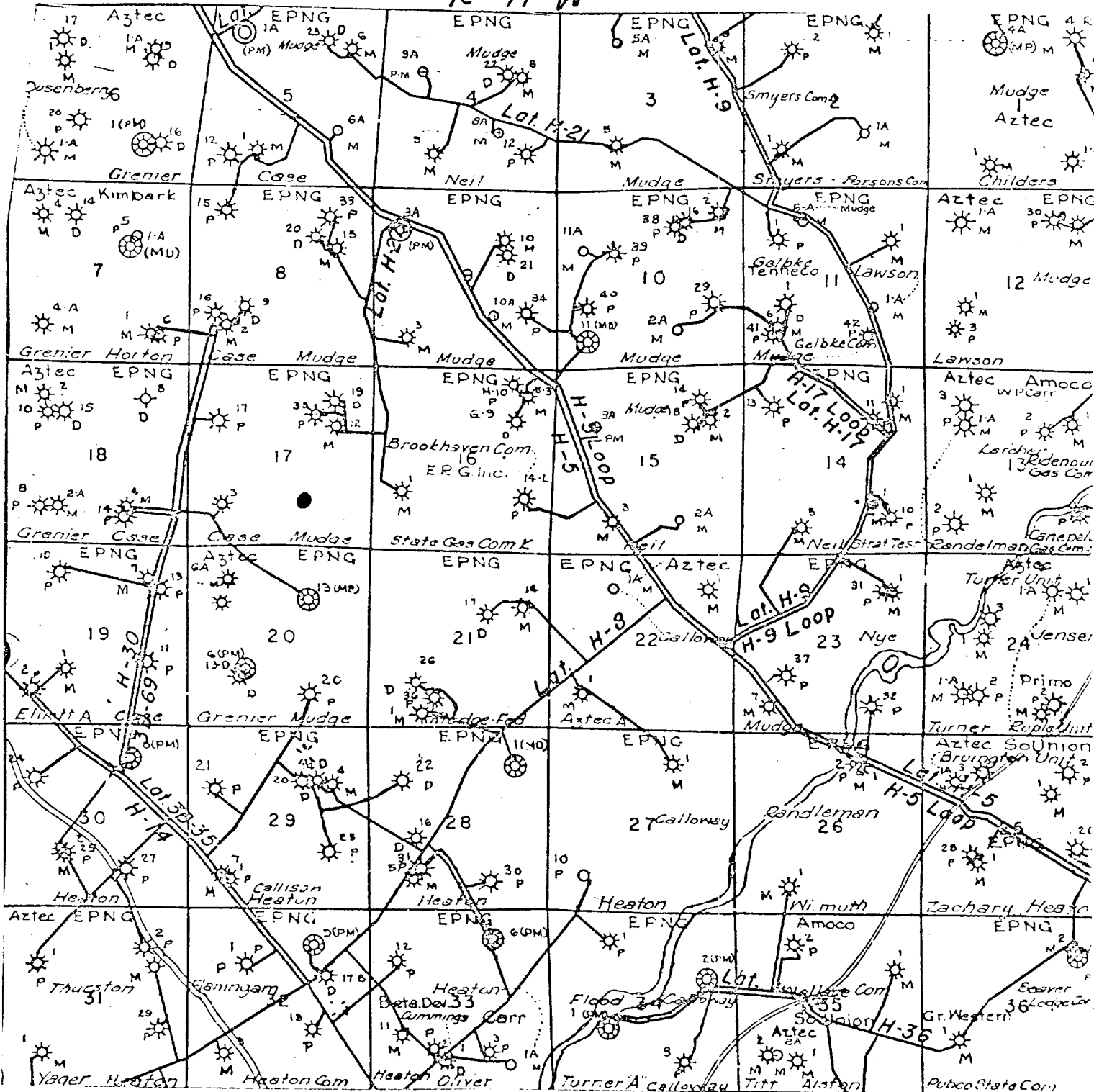
LEGEND OF RIGHT-OF-WAYS

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

EL PASO NATURAL GAS COMPANY  
Mudge #12A (PM)  
SE 17-31-11

R-11-W

T  
31  
N



Map #2

Proposed Location ●