

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

30-045-24139

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 289, Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
At surface 1660'N, 1760'W

F At proposed prod. zone
same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
5 miles southeast of Aztec, NM

15. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any) 1660'

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT. 2300'

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
6426'GL

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"	36.0#	200'	224 cu.ft. to circulate
8 3/4"	7"	20.0#	3320'	380 cu.ft. to cover Ojo Alamo
6 1/4"	4 1/2" liner	10.5#	3170-5705'	442 cu.ft. to circ. liner

Selectively perforate and sandwater fracture the Pictured Cliffs
and Mesa Verde 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 W/2 of Section 21 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. Guisco TITLE Drilling Clerk

(This space for Federal or State office use)

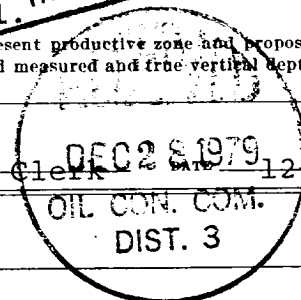
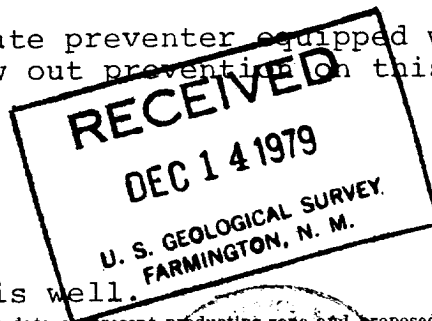
PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

NMOCC



C CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-102
Revised 10-1-78

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

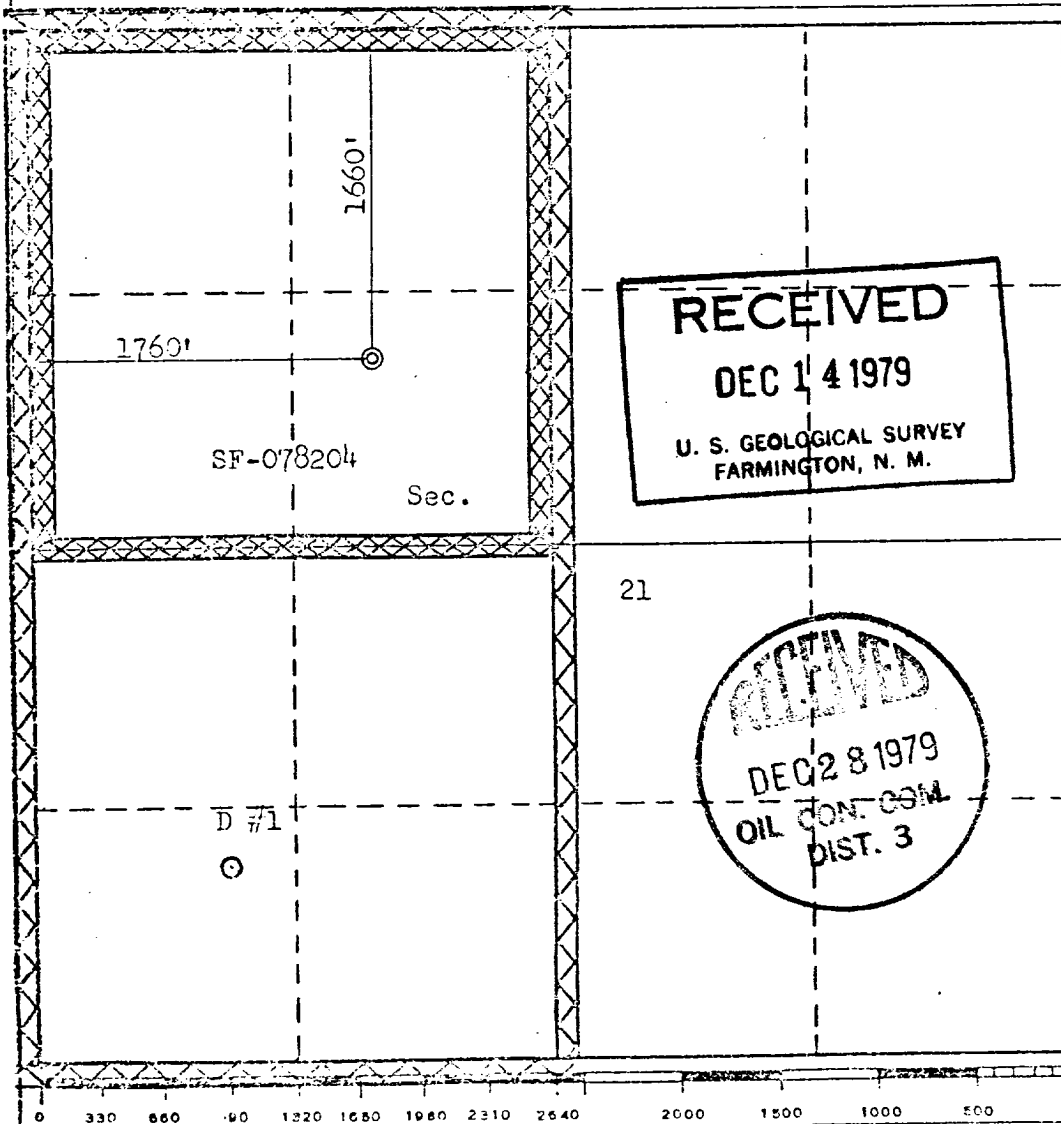
Operator EL PASO NATURAL GAS COMPANY			Lease SUNRAY "D" (SF-078204)		Well No. 1-A
Unit Letter F	Section 21	Township 30N	Range 10W	County San Juan	
Actual Footage Location of Well: 1660 feet from the North line and 1760 feet from the West line					
Ground Level Elev. 5426	Producing Formation Mesa Verde -	Pictured Cliffs	Pool Aztec Pictured Cliffs Ext. Blanco Mesa Verde	Dedicated Acreage: 159.84 & 318.68 acres	

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. NOTE: THIS PLAT IS REISSUED TO SHOW DUAL COMPLETION. 11-2-79



CERTIFICATION

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

A. J. Guisco

Name

Drilling Clerk

Position

El Paso Natural Gas Co.

Company

December 13, 1979

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

September 1979
Registered Professional Engineer
and/or Licensed Surveyor

Certification

El Paso NATURAL GAS
COMPANY

P.O. BOX 1000
FARMINGTON, NEW MEXICO 87401
PHONE (505) 425-2044

Well Name Sunray D#1 A
Location NW 21 30-10
Formation PC-MU

We, the undersigned, have inspected this location and road.

U. S. Forest Service
Dobson FRC
Archaeologist

Date
10/4/79
Date

Bureau of Indian Affairs Representative
GOB Mule
Bureau of Land Management Representative

Date
10/4/79
Date

A. Sturmy
U. S. Geological Survey Representative - AGREES
TO THE FOOTAGE LOCATION OF THIS WELL.

Date
10/4/79
Date

REASON:

Seed Mixture: II

Equipment Color: GREEN

Road and Row: (Same) or (Separate)

Remarks: _____

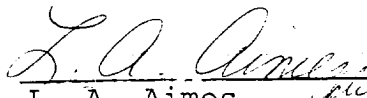
C.C. to Dave Vilvin
Earl Mealer
John Ahlm

Multi-Point Surface Use Plan

Sunray D #1A

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 Knickerbocker Butte Water Well #1.
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 reseeded operations to be carried out. Seed mixture as designated by the responsible government agency will be used. The reseeded 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 occasionally seen 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.



L. A. Aimes
Project Drilling Engineer

Operations Plan
Sunray D#1A

I. Location: 1660'N, 1760'W, Section 21, T-30-N, R-10-W, San Juan County, NM

Field: Aztec PC & Blanco MV

Elevation: 6426'GR

II. Geology:

A. Formation Tops:	Surface	Nacimiento Lewis	3120'
	Ojo Alamo	1630' Mesa Verde	4613'
	Kirtland	1740' Menefee	4765'
	Fruitland	2597' Point Lookout	5256'
	Pic.Cliffs	2977' Total Depth	5705'

B. Logging Program: I-ES and GR-Density at 3320'.
GR-Ind. and GR-Density at Total Depth.

C. Coring Program: none

D. Natural Gauges: 4600', 4755', 5245' 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 3320'. 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.&Grade</u>
	13 3/4"	200'	9 5/8"	36.0# H-40
	8 3/4"	3320'	7"	20.0# K-55
	6 1/4"	3170-5705'	4 1/2"	10.5# K-55

B. Float Equipment: 9 5/8" surface casing - cement guide shoe.

7" intermediate casing - cement guide shoe and self-fill insert float valve, 5 stabilizers every other joint above shoe. Run float two joints above shoe.

4 1/2" liner - 4 1/2" liner hanger with neoprene packoff & PBR. Geyser shoe and flapper type float collar

C. Tubing: 5705' 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.
3170' 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" x 7" casing hanger, 10" 2000 x 6" 2000 dual tubing head.

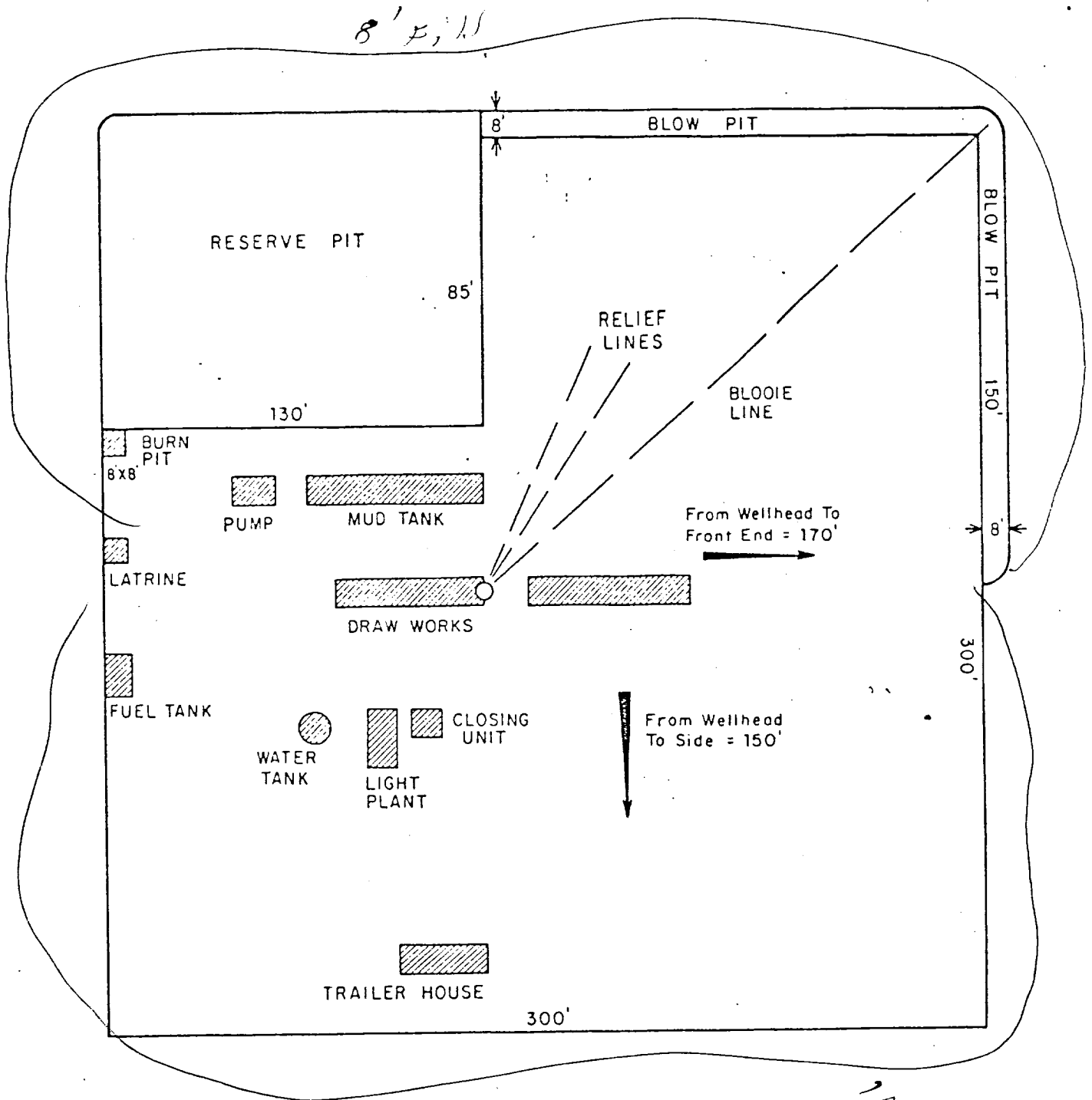
Operations Plan - Sunray D #1A

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 162 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 (380 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 318 sks. of 50/50 Class "B" Poz with 2% gel, 0.6% Halad-9, 6.25# gilsonite plus 1/4# Flocele per sack (442 cu.ft. of slurry, 70% excess to circulate liner). WOC 18 hours.



PRT.	SEP.	DATE	TO	W.O.	ENG. REC.	DATE
					DRAWN	J.L.H. 8-16-78
					CHECKED	
					CHECKED	
					PROJ. APP.	
					DESIGN	

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El Paso Natural Gas Company

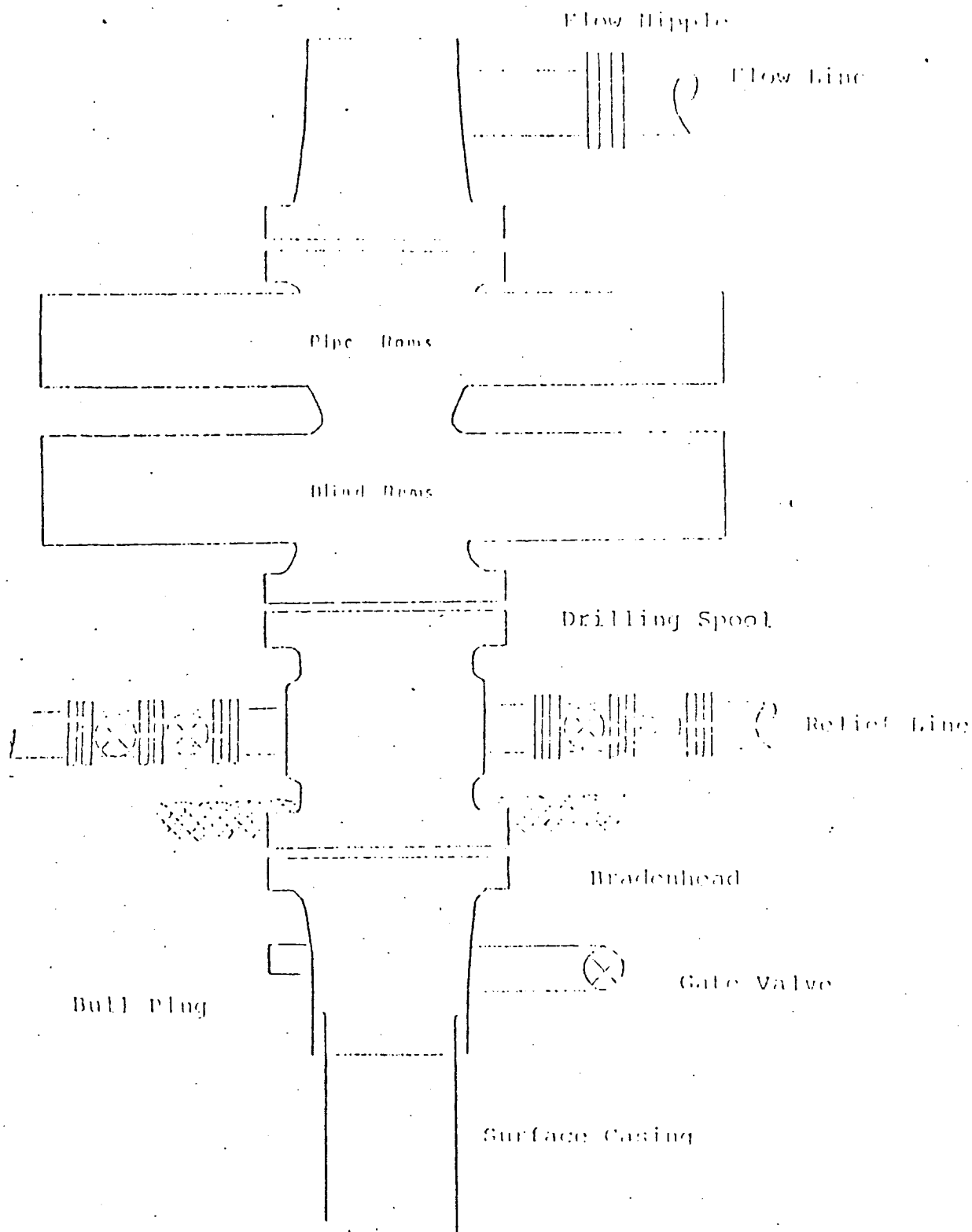
TYPICAL LOCATION PLAT FOR
MESAVERDE OR DAKOTA DRILL SITE

SCALE: 1" = 50'

DWG.

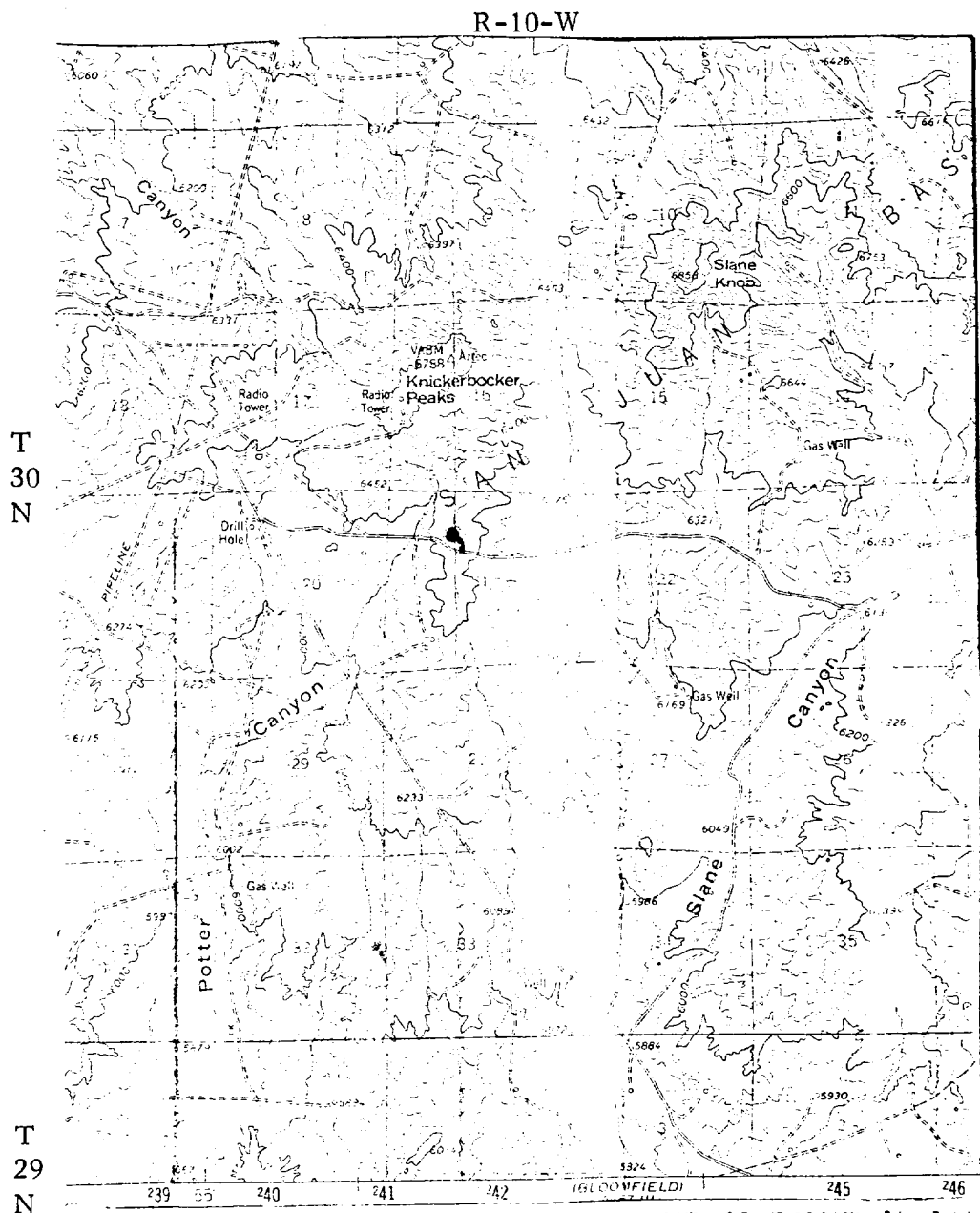
RE

Typical B.O.P. Installation for Mega 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
 Sunray D #1A
 NW 21-30-10



MAP #1

LEGEND OF RIGHT-OF-WAYS

EXISTING ROADS

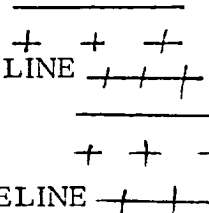
EXISTING PIPELINES

EXISTING ROAD & PIPELINE

PROPOSED ROADS

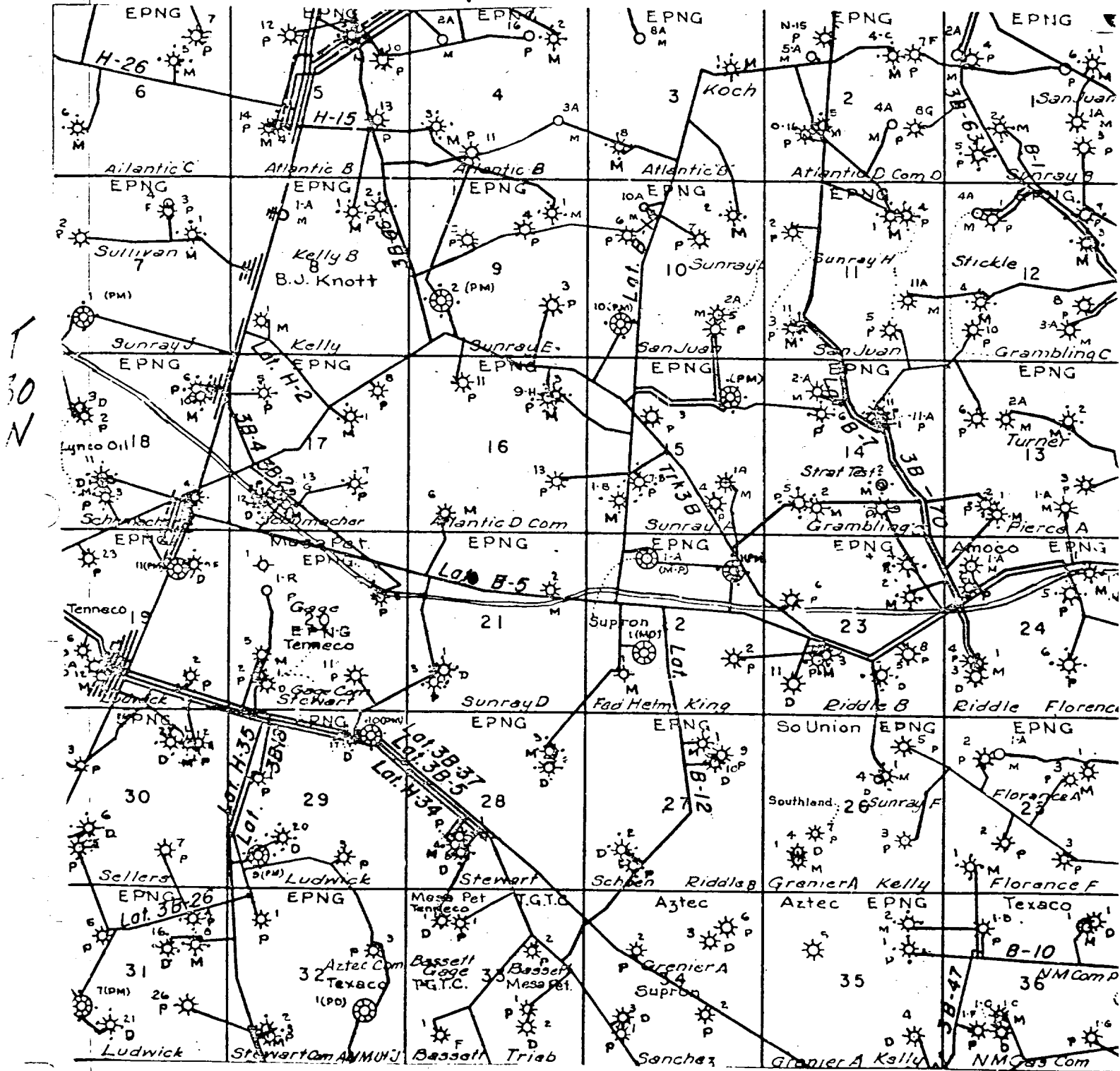
PROPOSED PIPELINES

PROPOSED ROAD & PIPELINE



El Paso Natural Gas Company
 Sunray D #1A
 NW 21-30-10

R-10-W



MAP 2

Proposed Location