

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

30-045-22435

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

810'S, 1100'W

At proposed prod. zone

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

15. DISTANCE FROM PROPOSED*

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

16. NO. OF ACRES IN LEASE

17. NO. OF ACRES ASSIGNED
TO THIS WELL

W/2 31 & SW/4 30 282.5

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

19. PROPOSED DEPTH

5590'

20. ROTARY OR CABLE TOOLS

Rotary

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

6307' GL

22. APPROX. DATE WORK WILL START*

23.

PROPOSED CASING AND CEMENTING PROGRAM

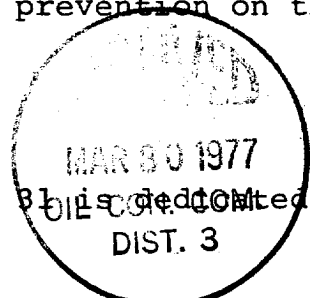
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13 3/4"	9 5/8"	32.3#	200'	224 cu.ft. to circulate
8 3/4"	7"	20.0#	3365'	350 cu.ft. to cover Ojo Alamo
6 1/4"	4 1/2"	10.5#	3215-5590'	414 cu.ft. to fill to 3215'

Selectively perforate and sandwater fracture the 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 SW/4 of Section 30 and the W/2 of Section 31 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

D. G. Lucas

TITLE

Drilling Clerk

DATE March 29, 1977

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL IF ANY:

OK
W/2 E-104 & SW/4 1121
NW 1/4 R-120

*See Instructions On Reverse Side

MAR 29 1977

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

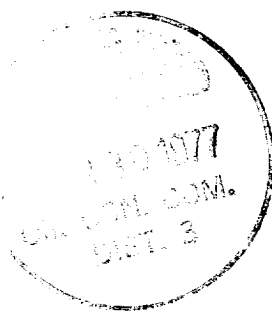
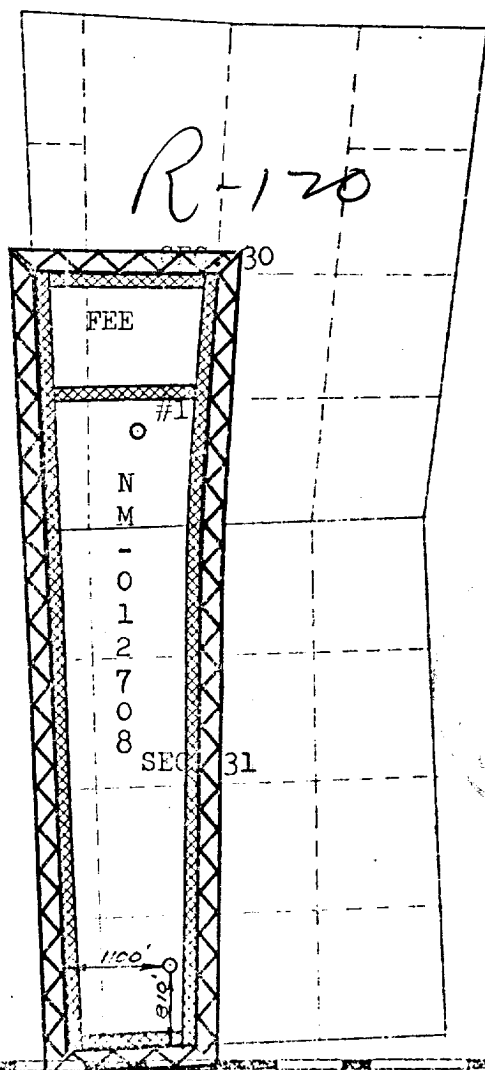
Operator EL PASO NATURAL GAS COMPANY			Lease HOWELL M (NM-012708)		Well No. 1A
Unit Letter N	Section 31	Township 30-N	Range 8-W	County SAN JUAN	
Actual Footage Location of Well: 810 feet from the SOUTH line and 1100 feet from the WEST line					
Ground Level Elev. 6307	Producing Formation MESA VERDE		Pool BLANCO MESA VERDE		Dedicated Acreage: 282.5 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 Communitization

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 Signature
D. G. Brisco

Name
Drilling Clerk

Position
El Paso Natural Gas

Company
March 29, 1977

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
MARCH 21, 1977

Registered Professional Engineer
and/or Land Surveyor

Certificate No.

1760

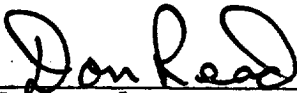
Multi-Point Surface Use Plan
Howell M #1A

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 thirty feet (30') 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 a water well located Section 9, T-29-N, R-8-W (Manzaneras Water Well)
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 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 #2 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 green (Federal Standard #595 34127)
11. Other Information - The terrain is rolling hills and sagebrush flats covered with sagebrush and cedar trees. Cattle graze the proposed project site.

12. Operator's Representative - W. D. Dawson, Post Office Box 990,
Farmington, New Mexico 87401
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.

March 29, 1977



D. R. Read
Division Drilling Engineer

DRR:pb

March 29, 1977 .

Operations Plan
Howell M #1A

I. Location: 810'S, 1100'W, Section 31, T-30-N, R-8-W, San Juan County, NM

Field: Blanco Mesa Verde

Elevation: 6315'DF

II. Geology:

A. Formation Tops:	Surface	Nacimiento	Lewis	3165'
	Ojo Alamo	1810'	Mesa Verde	4590'
	Kirtland	2020'	Menefee	4770'
	Fruitland	2670'	Point Lookout	5190'
	Pic.Cliffs	2975'	Total Depth	5590'

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

C. Coring Program: none

D. Natural Gauges: 4580', 4760', 5180' 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 3365'. 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"	32.3# H-40
	8 3/4"	3365'	7"	20.0# K-55
	6 1/4"	3215-5590'	4 1/2"	10.5# K-55

B. Float Equipment: 9 5/8" surface casing - Larkin guide shoe (fig. 102)

7" intermediate casing - Dowell guide shoe (fig. 50101) and Dowell self-fill insert float valve (fig. 53003), 5 B&W stabilizers (Prod. No. 637085) every other joint above shoe. Run float two joints above shoe.

4 1/2" liner - T.I.W. liner hanger with neoprene packoff. Larkin geyser shoe (fig. 222) and Larkin flapper type float collar (fig. 404 M&F).

C. Tubing: 5590' of 2 3/8", 4.7#, J-55 8rd EUE tubing with a common pump seating nipple above perforated pup joint with bull plugged full joint for mud anchor on bottom.

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

Operations Plan - Howell M #1A

V. Cementing:

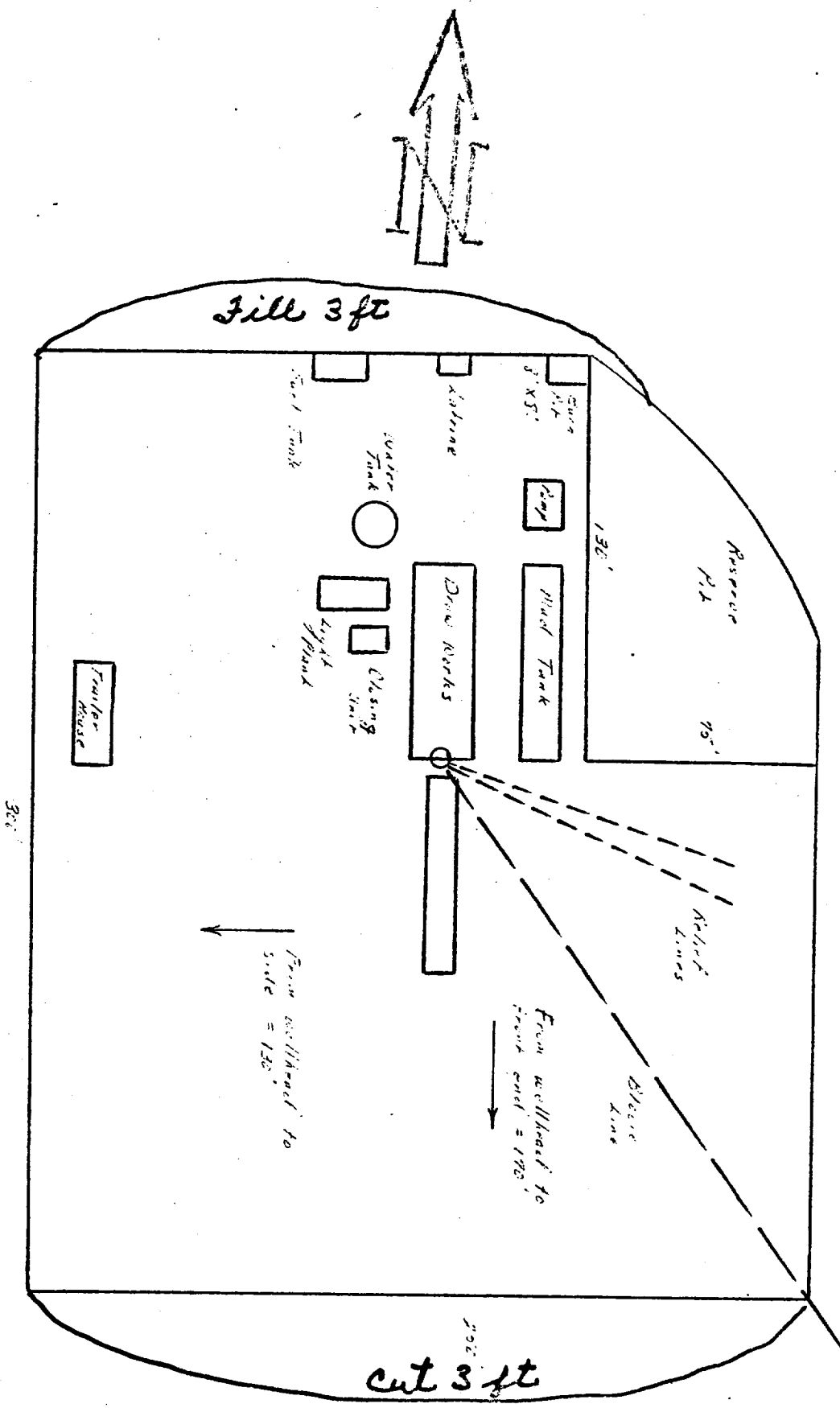
9 5/8" surface casing - use 190 sks. of Class "B" cement with 1/4# gel-flake per sack and 3% calcium chloride (224 cu.ft. of slurry, 100% excess to circulate to surface). WOC 12 hours. Test casing to 600#/30 minutes.

7" intermediate casing - use 88 sks. of 65/35 Class "B" Poz with 12% gel (15.52 gallons of water per sack) followed by 100 sks. of Class "B" with 2% calcium chloride (350 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.

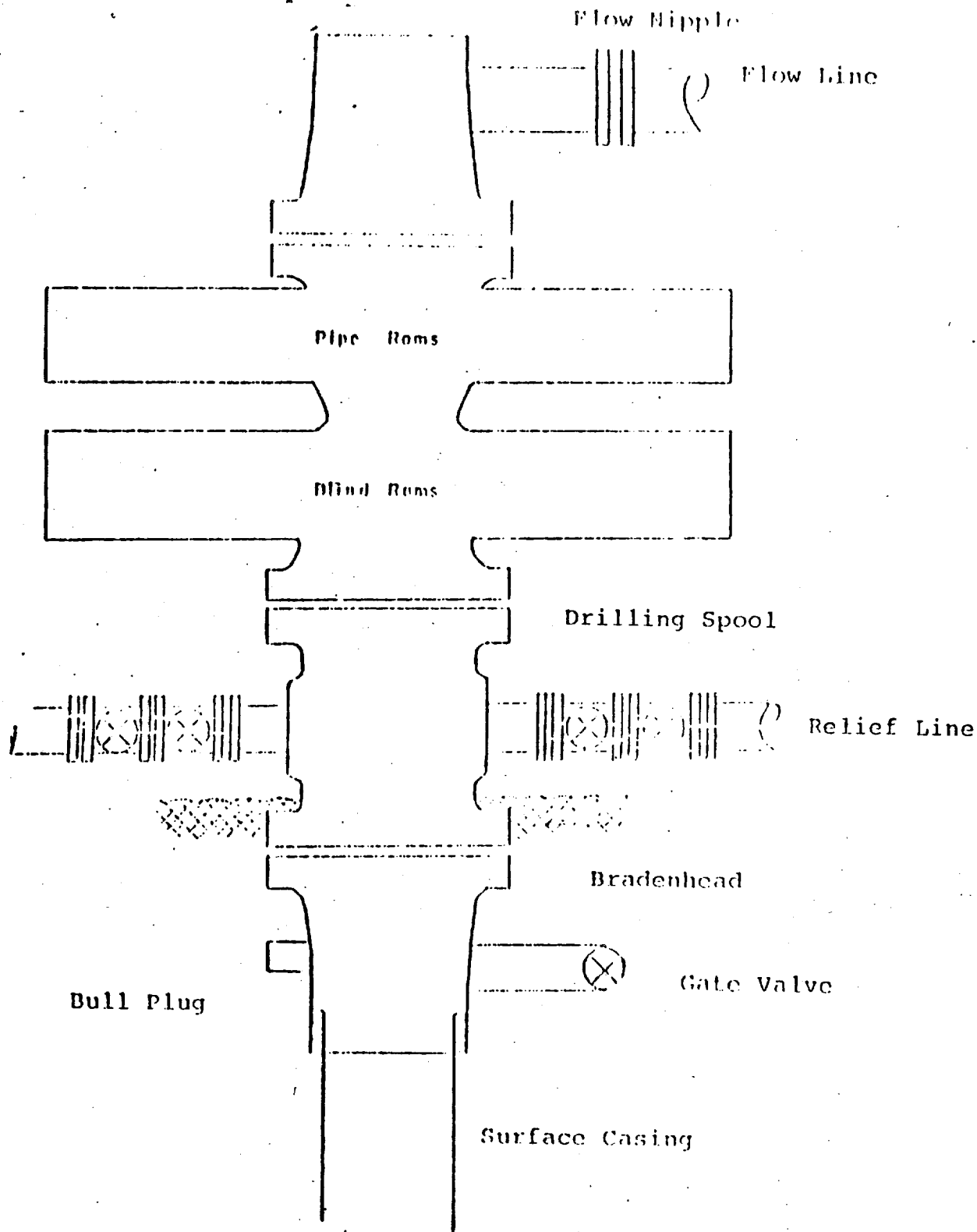
4 1/2" liner - precede cement with 20 barrels of gel water (2 sks. gel) Cement with 230 sks. of Class "B" cement with 4% gel, 1/4 cu.ft. of fine gilsonite per sack and 0.6% Halad-9 (414 cu.ft. of slurry, 70% excess to circulate liner).

DRR:pb

E1 Pass Natural Gas Company
 Typical location plat for lease wells and pithead wells

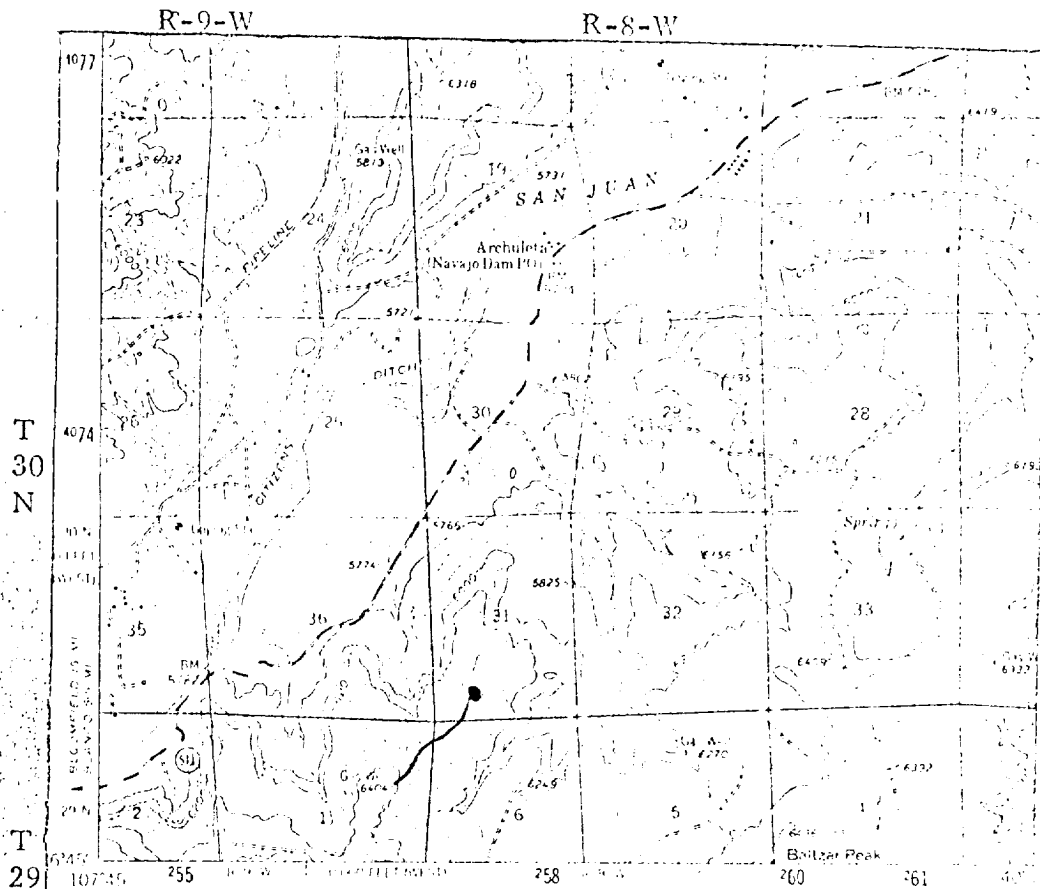


Typical B.O.P. Installation
for Mesa Verde Well



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
HOWELL N #1A
SW 31-30-8

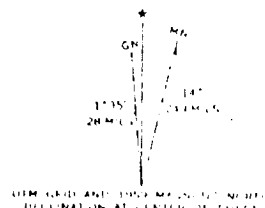


Mapped, edited, and published by the Geological Survey
Control by USGS and USC & GS

East half compiled in 1954 from 1:24,000 scale maps dated 1954. West half topography by photogrammetric methods from aerial photographs taken 1955. Field checked 1955.

Polyconic projection - 1927 North American datum
10,000 foot grid based on New Mexico coordinate system, west and central zones.
1000 meter Universal Transverse Mercator grid ticks, zone 13, shown in blue.

Blue hatching indicates area to be submerged by Navajo Reservoir at elevation 5050 feet.
Area covered by dashed light blue pattern is subject to controlled inundation to 5100 feet.



DECLINATION AND TRUE MAGNETIC NORTH
DECLINATION AT CENTER OF MAP

FO.

MAP #1

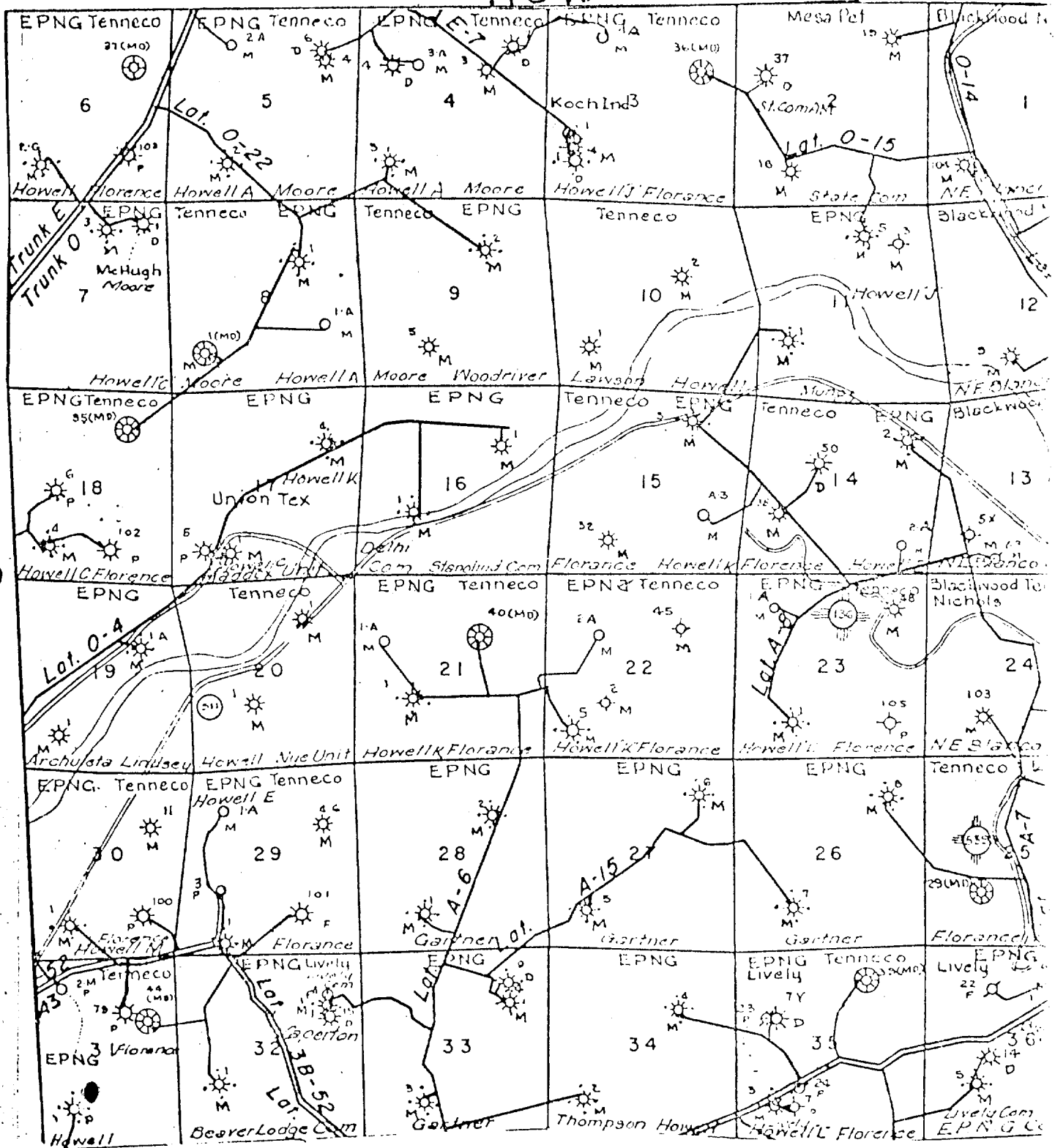
LEGEND OF RIGHT-OF-WAYS

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

EL PASO NATURAL GAS COMPANY
HOWELL M #1A
SW 31-30-8

R8W

T
30
N



MAP #2

Proposed Location



DIRECTOR
JOE D. RAMEY

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
1000 RIO BRAZOS RD. - AZTEC

87410

LAND COMMISSIONER
PHIL R. LUCERO



STATE GEOLOGIST
EMERY C. ARNOLD

March 30, 1977

Mrs. Dora Brisco
El Paso Natural Gas Company
Box 990
Farmington, New Mexico 87401

Re: El Paso Natural Gas Co.
Howell M #1A
N-31-30N-8W

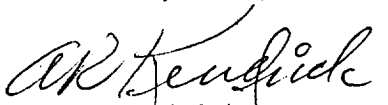
Dear Mrs. Brisco:

The subject well is located at a non-standard footage location.

Approval of the location must be approved prior to production.

If there are questions please contact us.

Yours very truly,


A. R. Kendrick
Supervisor, District #3

ARK/bk