

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. SF 078096
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
2. NAME OF OPERATOR El Paso Natural Gas Company		7. UNIT AGREEMENT NAME
3. ADDRESS OF OPERATOR PO Box 289, Farmington, NM 87401		8. FARM OR LEASE NAME Mudge
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface 1450'N, 1690'E		9. WELL NO. 52
At proposed prod. zone same		10. FIELD AND POOL, OR WILDCAT Aztec Pic.Cliffs Ext.
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 3 miles North of Aztec, NM		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec.21,T-31-N,R-11-W NMMPM
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drilg. unit line, if any) 950'	16. NO. OF ACRES IN LEASE 2512.0	17. NO. OF ACRES ASSIGNED TO THIS WELL 149.63
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 500'	19. PROPOSED DEPTH 2675'	20. ROTARY OR CABLE TOOLS Rotary
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 5883' 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#	120'	106 cu.ft.circ.to surface
6 3/4"	2 7/8"	6.4#	2675'	569 cu.ft.to cover Ojo Alam

Selectively perforate and sandwater fracture the 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.

The NE/4 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 blow out preventer program, if any.

24. SIGNED D. G. Busco TITLE Drilling Clerk DATE April 26, 1979

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

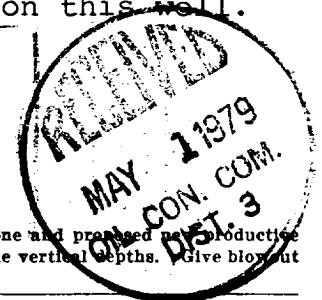
APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

write NW 1/4 of Sec 21

*See Instructions On Reverse Side

N/Mox



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.

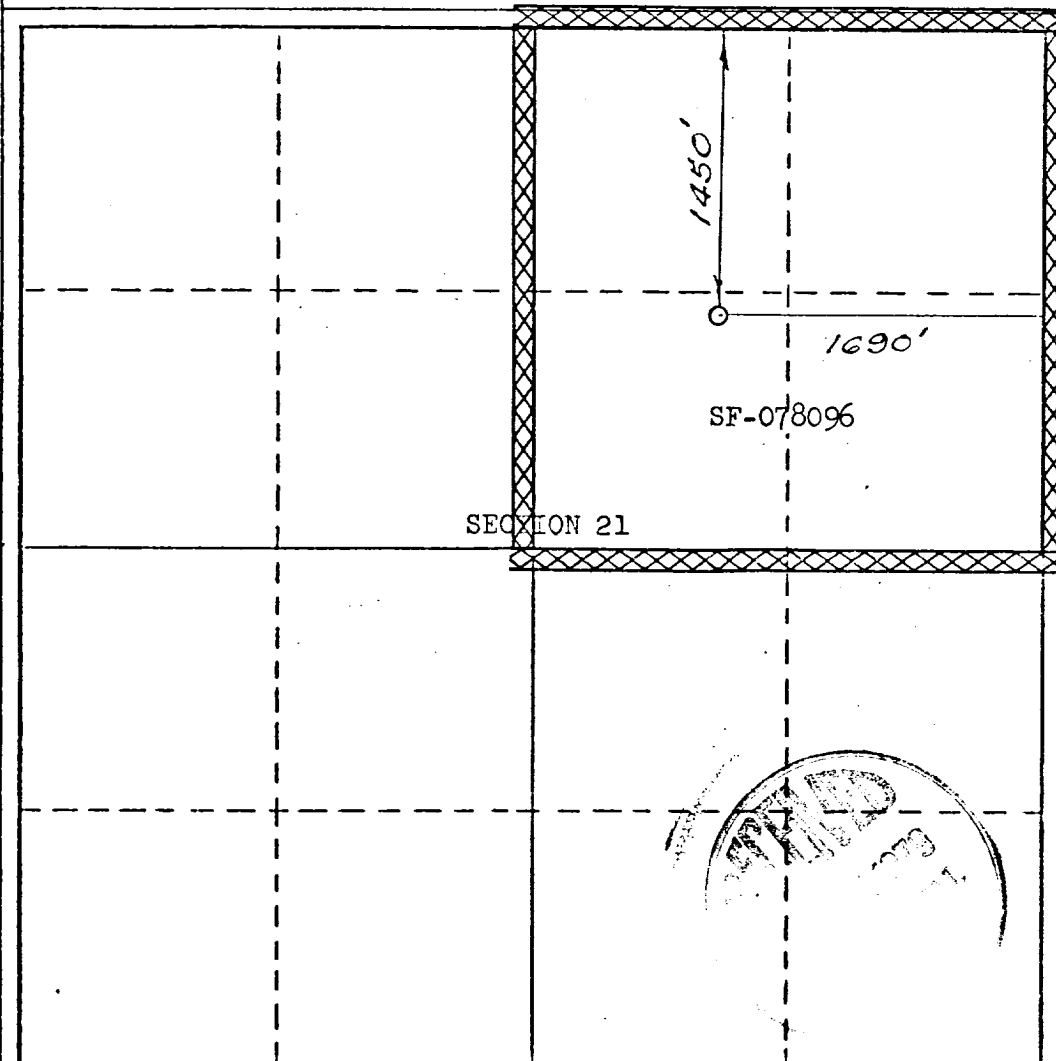
Operator EL PASO NATURAL GAS COMPANY			Lease MUDGE (SF-078096)		Well No. 52
Unit Letter G	Section 21	Township 31-N	Range 11-W	County SAN JUAN	
Actual Footage Location of Well: <div style="display: flex; justify-content: space-between;"> 1450 feet from the NORTH line and 1690 feet from the EAST line </div>					
Ground Level Elev. 5883	Producing Formation PICTURED CLIFFS	Pool AZTEC PICTURED CLIFFS EXT.	Dedicated Acreage: 149.63 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.



CERTIFICATION

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

D. G. Guisco
Name

Drilling Clerk
Position

El Paso Natural Gas
Company

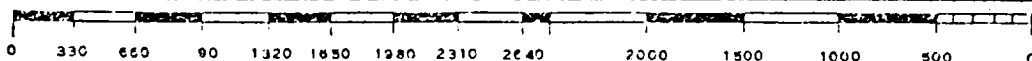
April 26, 1979
Date

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
APRIL 16, 1979

Registered Professional Engineer
and Land Surveyor

David J. Kilian
Certificate No. 1760



Multi-Point Surface Use Plan

Mudge #52

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 Bohanan Water Hole.
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 sagebrush, cedar and pinon growing. Deer, cattle and rabbits 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

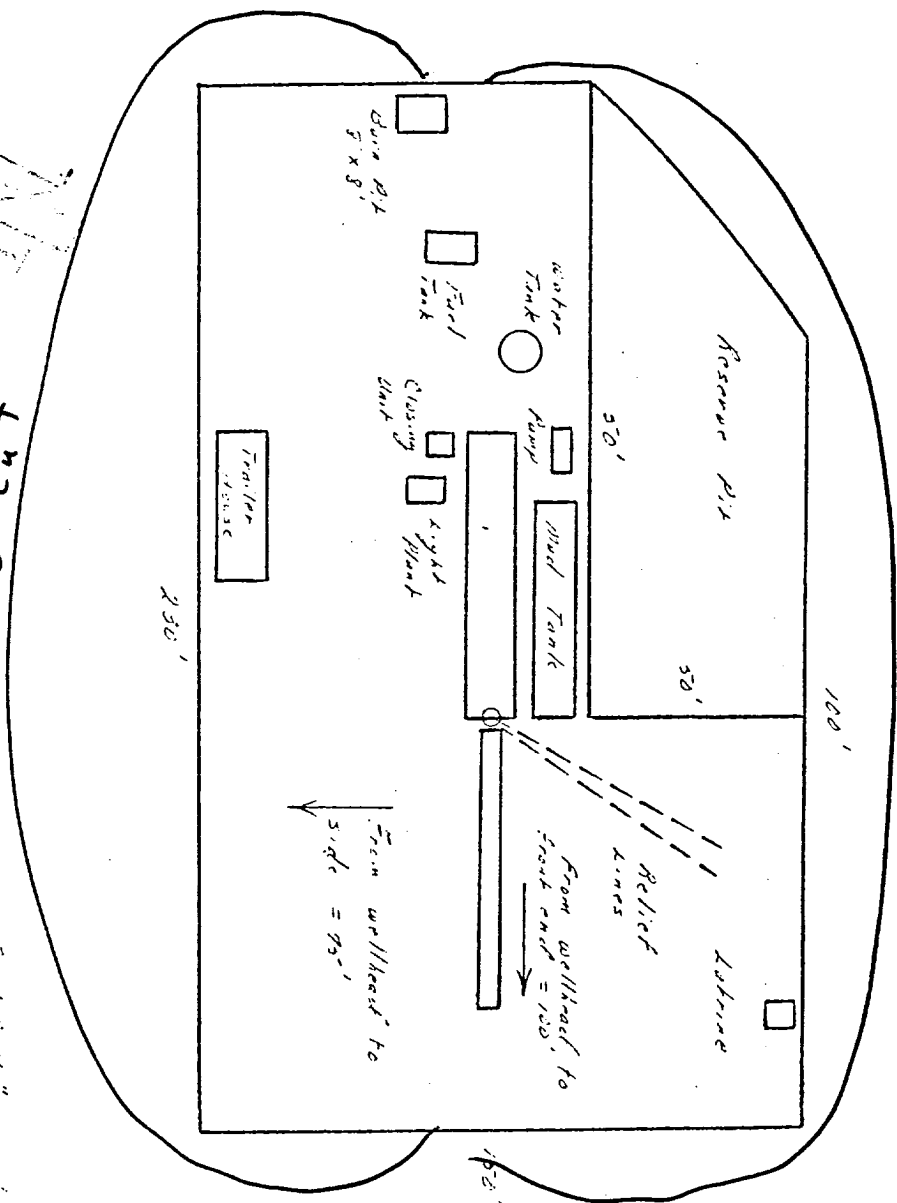
L. A. Aimes
Project Drilling Engineer

Operations Plan - Mudge #52

- I. Location: 1450'N, 1690'E, Section 21, T-31-N, R-11-W, San Juan County, NM
Field: Aztec Pictured Cliffs Ext. Elevation: 5883'GL
- II. Geology:
- A. Surface Formation: Nacimientito
- Sub-surface Formation Tops:
- | | | | |
|-----------|-------|-----------------|-------|
| Ojo Alamo | 805' | Pictured Cliffs | 2500' |
| Kirtland | 925' | Lewis | 2635' |
| Fruitland | 2135' | Total Depth | 2675' |
- B. Logging Program: Induction Electric and Gamma Ray Density at TD.
- C. Coring: none
- D. Testing: none
- III. Drilling:
- A. Anticipated Starting Date and Duration of the Project:
- 1979 Drilling Program - approximately 4 days to complete.
- B. Circulating Medium: Treated water and a low solids gel base mud will be used from surface to TD.
- IV. Materials:
- A. Casing Program:
- | <u>Hole Size</u> | <u>Depth</u> | <u>Csg. Size</u> | <u>Wt. & Grade</u> |
|------------------|--------------|------------------|------------------------|
| 12 1/4" | 120' | 8 5/8" | 24.0# J-55 |
| 6 3/4" | 2675' | 2 7/8" | 6.4# J-55 |
- B. Float Equipment: 8 5/8" surface casing - cement guide shoe.
- 2 7/8" production casing - 10' shoe joint with notched collar for guide shoe and 2 7/8" latch down baffle on top. Two 3 1/16" balls and one 2 7/8" latch down plug.
- C. Tubing: none
- D. Wellhead Equipment: Larkin wellhead (fig. 75)
- V. Cementing:
- 8 5/8" surface casing - 90 sks. of Class "B" cement with 1/4# gel-flake per sack and 3% calcium chloride (106 cu.ft. of slurry, 100% excess to circulate to surface). WOC 12 hrs. Test casing wellhead and BOP to 600#/30 minutes.
- 2 7/8" production - 300 sks. 65/35 Class "B" Poz with 6% gel, 2% CaCl₂, and 8.3 gallons water per sack followed by 70 sks. Class "B" neat cement (569 cu.ft. slurry, 50% excess to cover Ojo Alamo). Run temperature survey after 12 hrs.

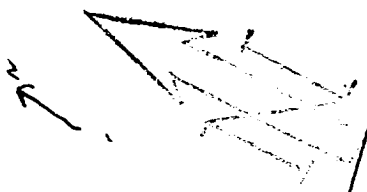
El Paso Natural Gas Company
 Typical Location Plat for Pictured Units Well

11' F, 9

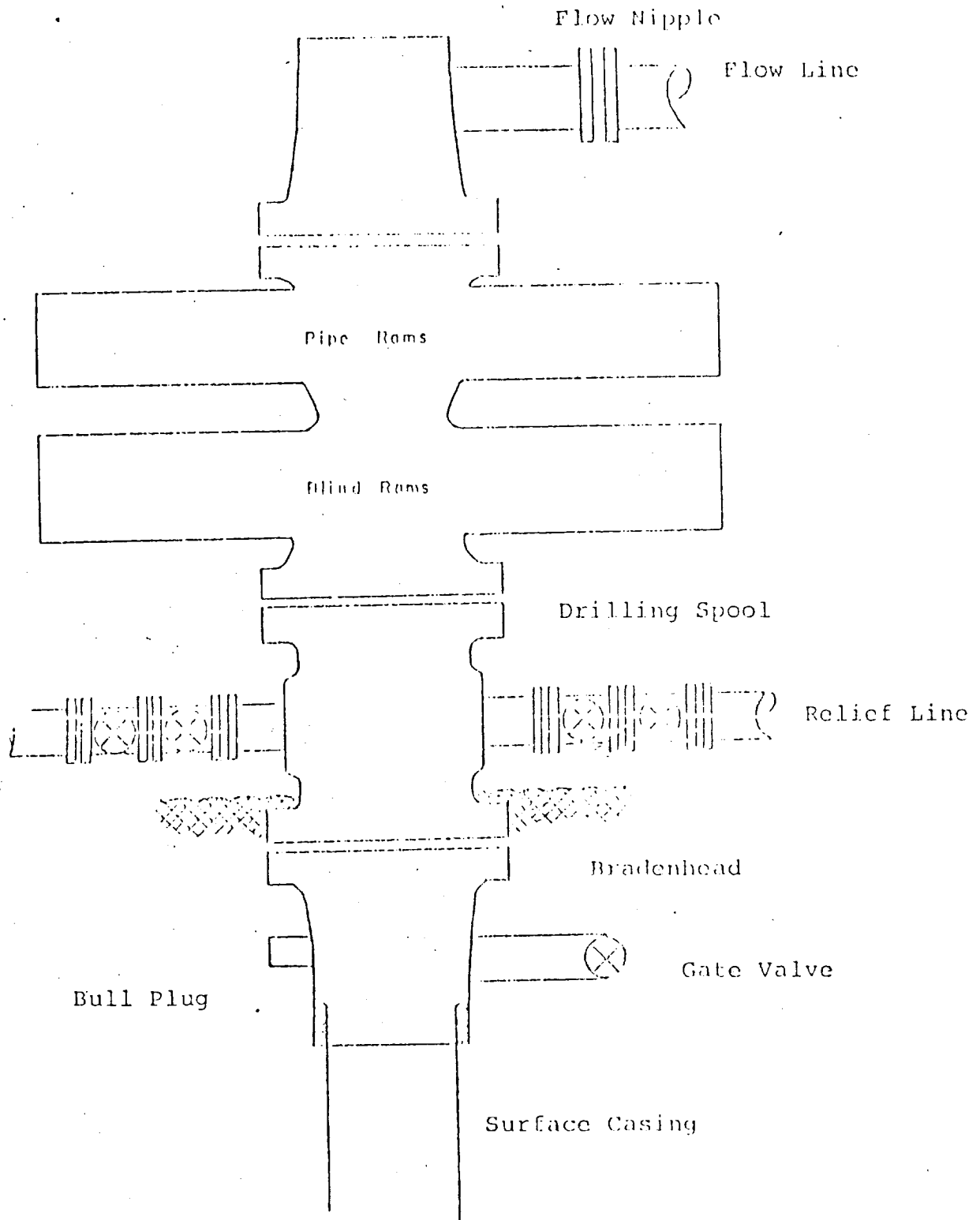


4' x 7' 9

Scale: 1/2" = 20'



Typical Mud Drilled B.O.P. Installation
for Pictured Cliffs Well



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

EL PASO NATURAL GAS COMPANY

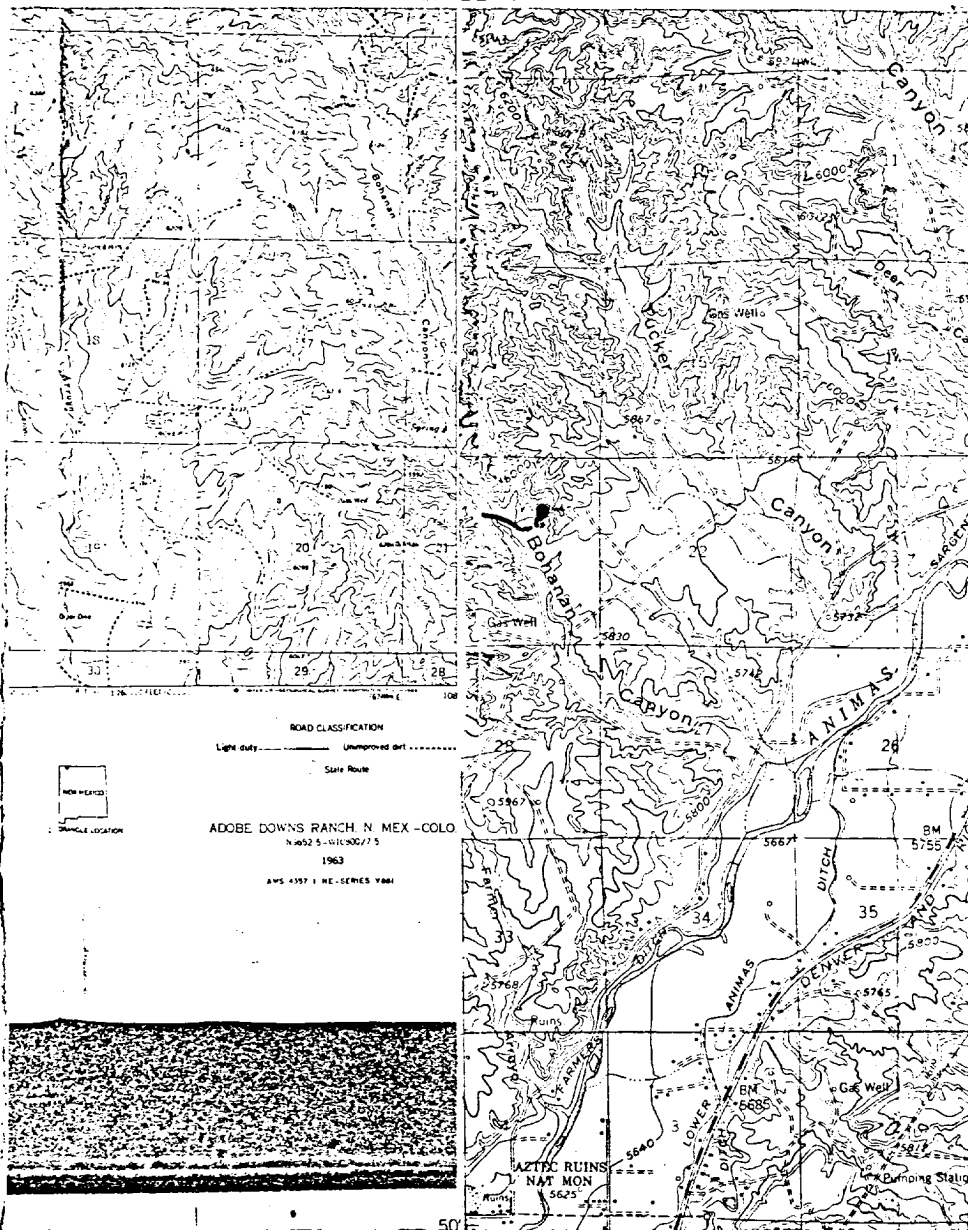
Mudge #52

NE 21-31-11

R-11-W

T
31
N

T
30
N



MAP #1

LEGEND OF RIGHT-OF-WAYS

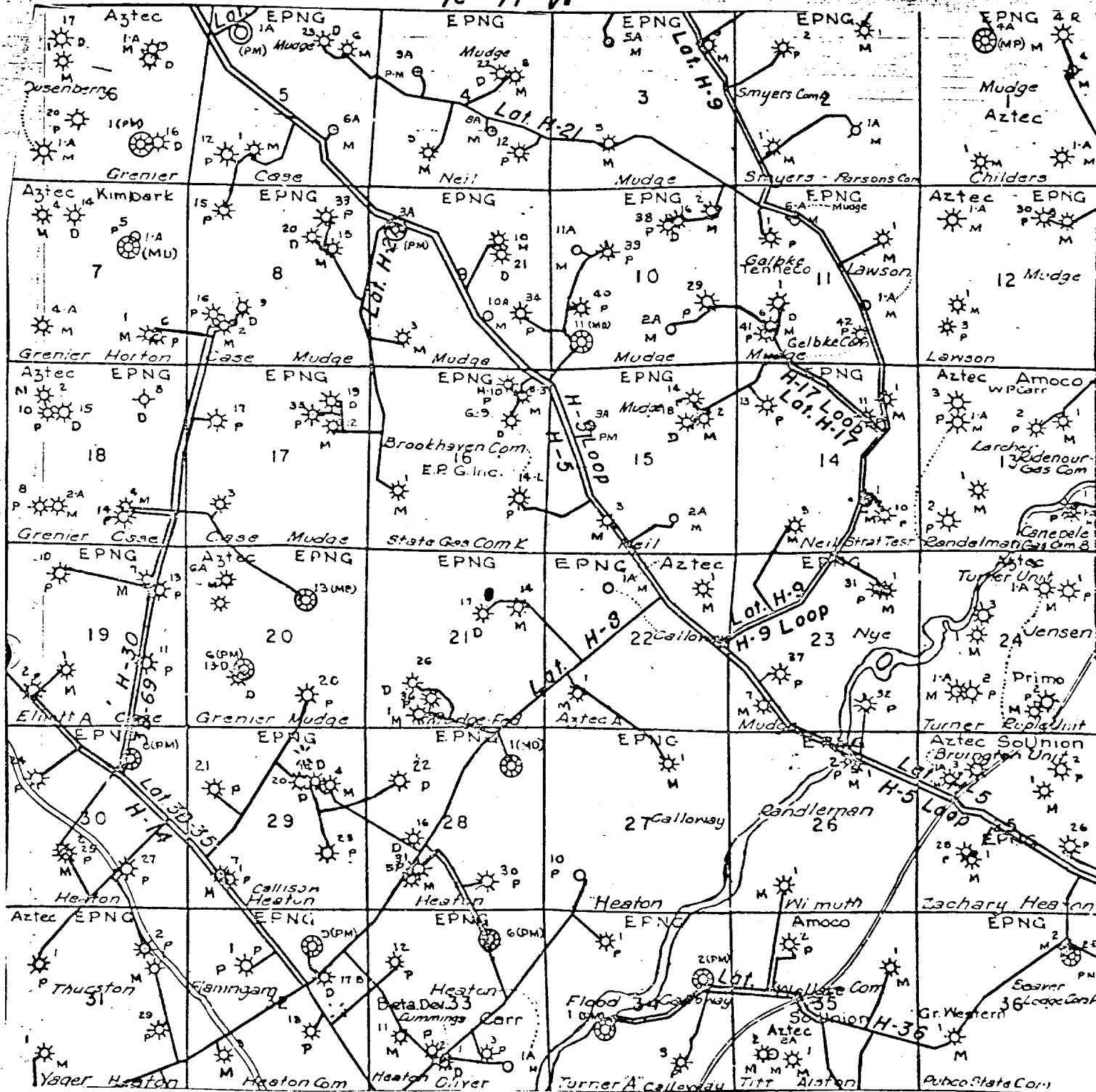
EXISTING ROADS	—————
EXISTING PIPELINES	+++
EXISTING ROAD & PIPELINE	+++
PROPOSED ROADS	—————
PROPOSED PIPELINES	+++
PROPOSED ROAD & PIPELINE	+++

EL PASO NATURAL GAS COMPANY

Mudge #52

NE 21-31-11

R-11-W



MAP #2

Proposed Location