El Paso NATURAL GAS COMPANY

P. O. BOX 990
FARMINGTON, NEW MEXICO 87401

PHONE: 505-325-2841

Multi-Point Surface Use Plan
Barker Creek Dome Gas Storage Project
O #33

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 Maps No. 1 and 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 El Paso Natural Gas Company's San Juan River Plant.

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 Forest Green.

11. Other Information - The immediate terrain is a shale ridge with cedar and pinon trees. Cattle and deer inhabit the area.

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.

June 10, 1977

L. A. Aimes
Sr. Drilling Engineer

LAA:pb

June 10, 1977

Operations Plan
Barker Creek Dome Gas Storage Project
O #33

I. Location: 389'N, 715'W, Section 27, T-32-N, R-14-W, San Juan County, NM

Field: Barker Creek Dakota Elevation: 6131'GL

II. Geology:

A. Formation Tops:

Mesa Verde	----	Greenhorn	2243'
Menefee	surface	Graneros	2303'
Point Lookout	128'	Dakota	2373'
Mancos	488'	Total Depth	2453'

B. Logging Program: ES-I, FDC, GNL, BHC Sonic at TD. GR-N after running casing.

C. Coring Program: none

III. Drilling:

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

IV. Materials:

A. Casing Program:

Hole Size	Depth	Csg.Size	Wt.&Grade
8 3/4"	528'	7"	20.0# K-55
6 1/4"	2453'	4 1/2"	10.5# K-55

B. Float Equipment: 7" surface casing - notched collar for guide shoe.

4 1/2" casing - cement guide shoe and self-fill insert float valve. Run float two joints above shoe.

C. Tubing: none

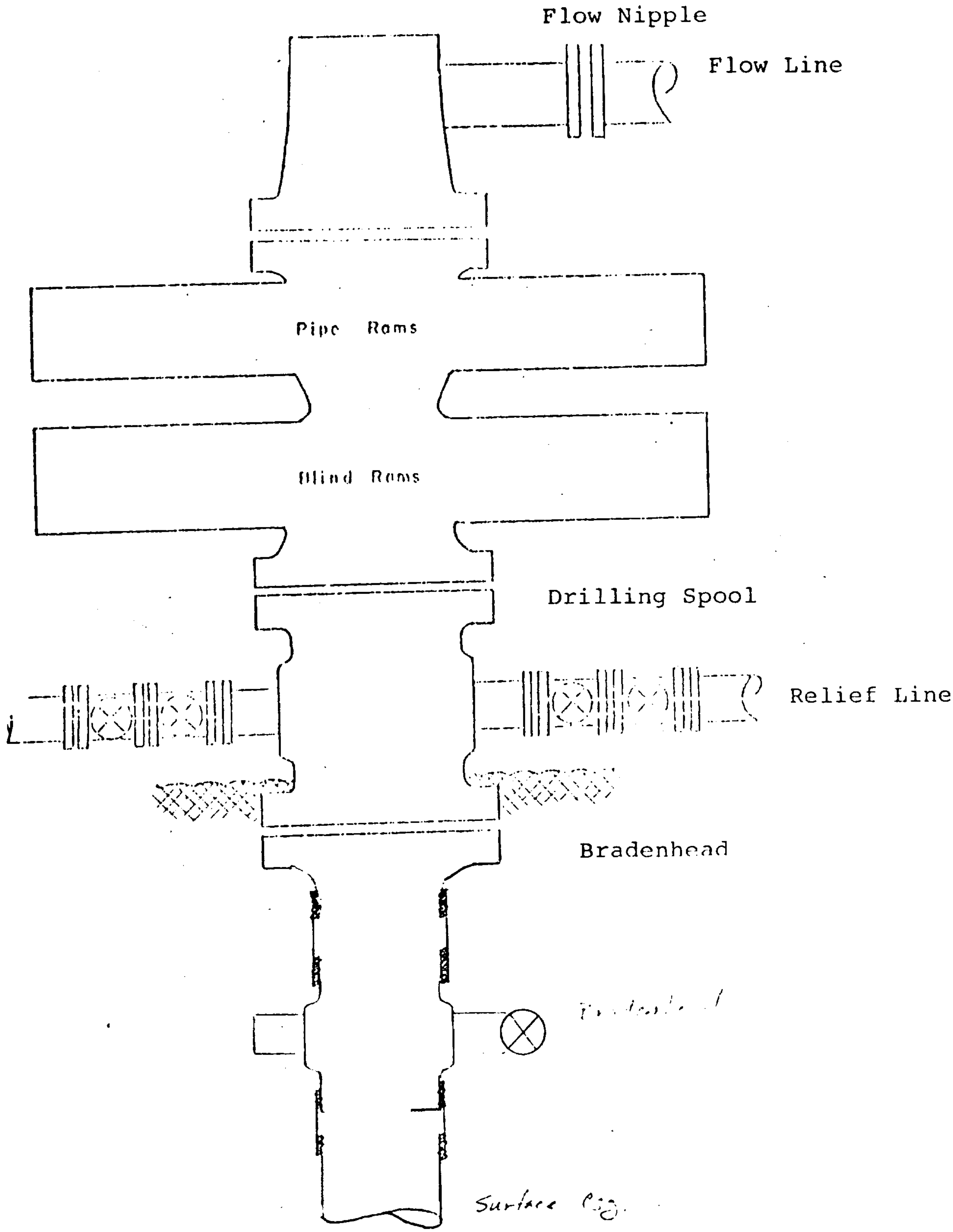
D. Wellhead Equipment: 6" NOM x 7" OD non-flanged, 8rd, 1500 psi WOG wellhead with 4 1/2" casing hanger.

V. Cementing:

7" surface casing - use 135 sks. of Class "B" cement with 3% calcium chloride (159 cu.ft. of slurry, 100% excess to circulate to surface). WOC 12 hours. Test casing to 600#/30 minutes.

4 1/2" casing - use 53 sks. of Class "B" cement with 2% calcium chloride (62 cu.ft. of slurry, 50% excess to fill 400' above the casing shoe). Run temperature survey at 8 hours. WOC 18 hours.

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



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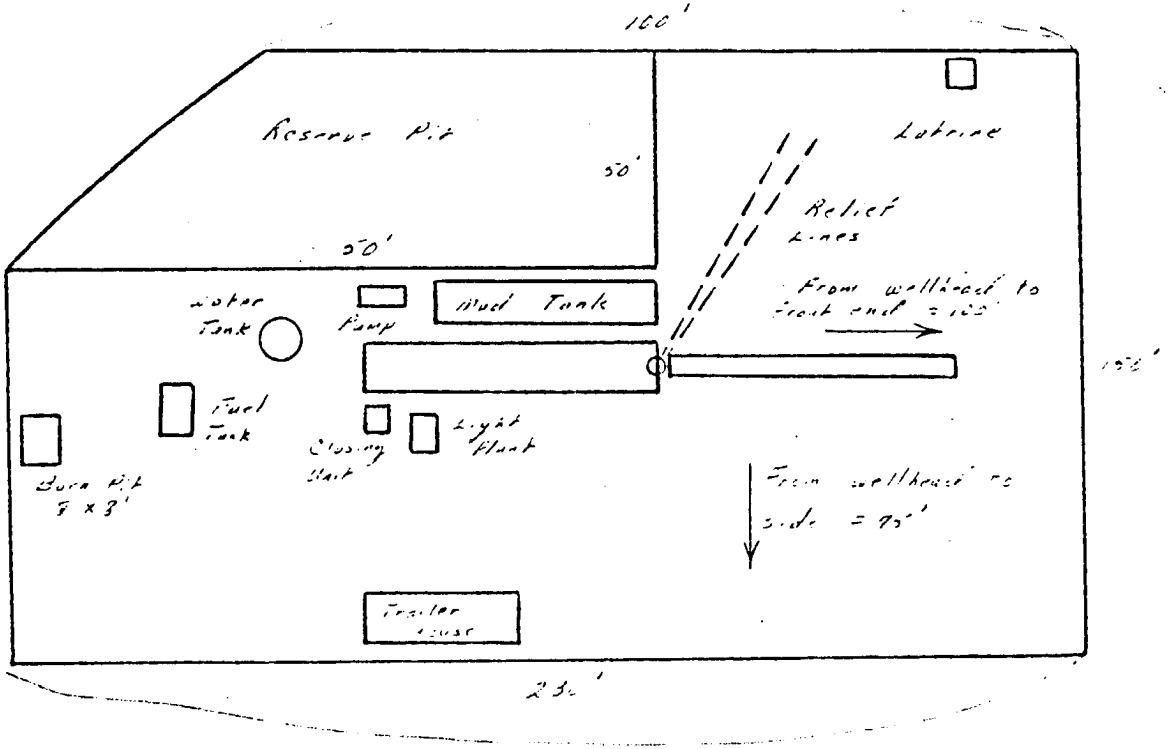
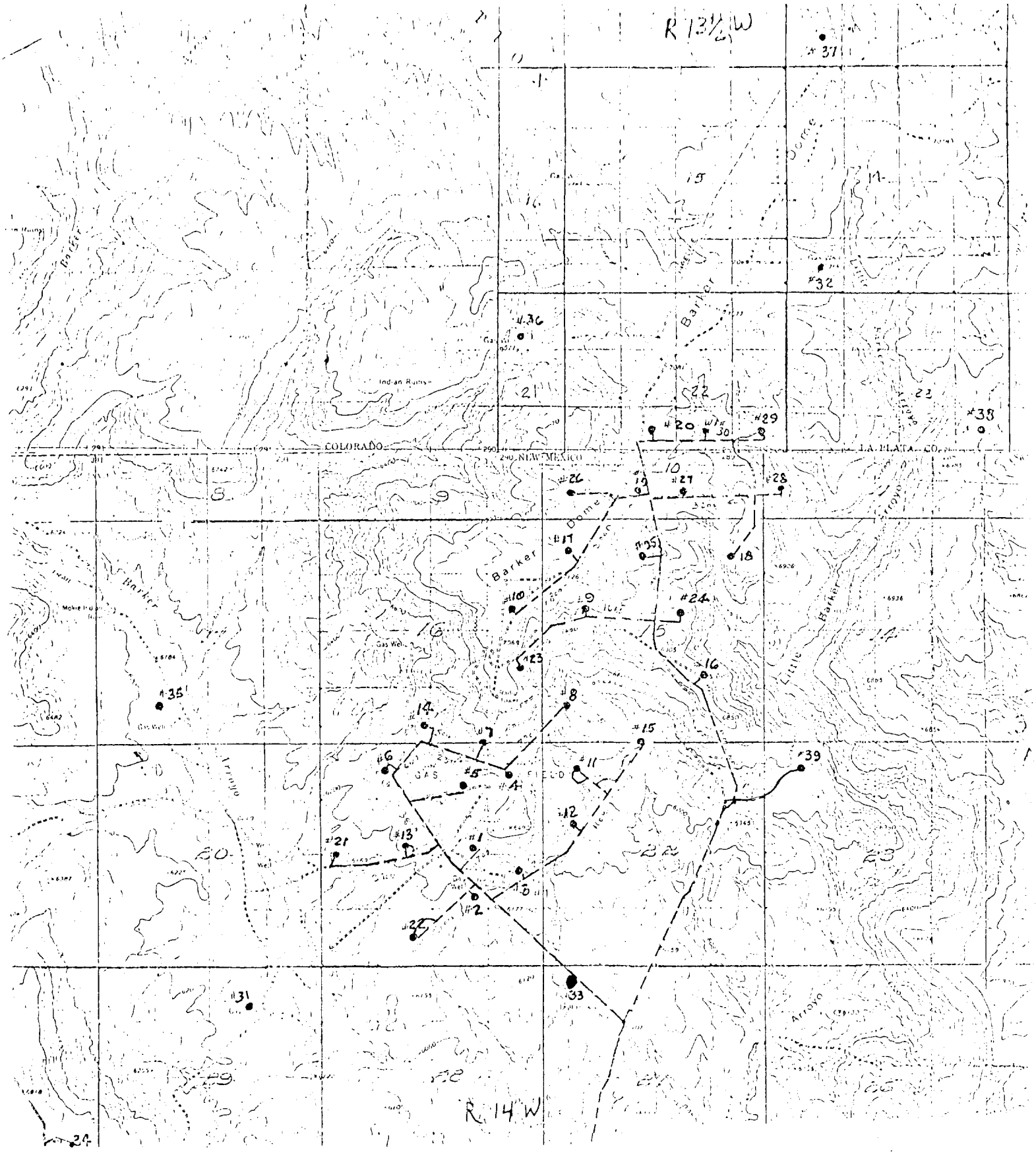
El Paso Natural Gas Company
Typical Location Plat for Pictured Cliffs Well



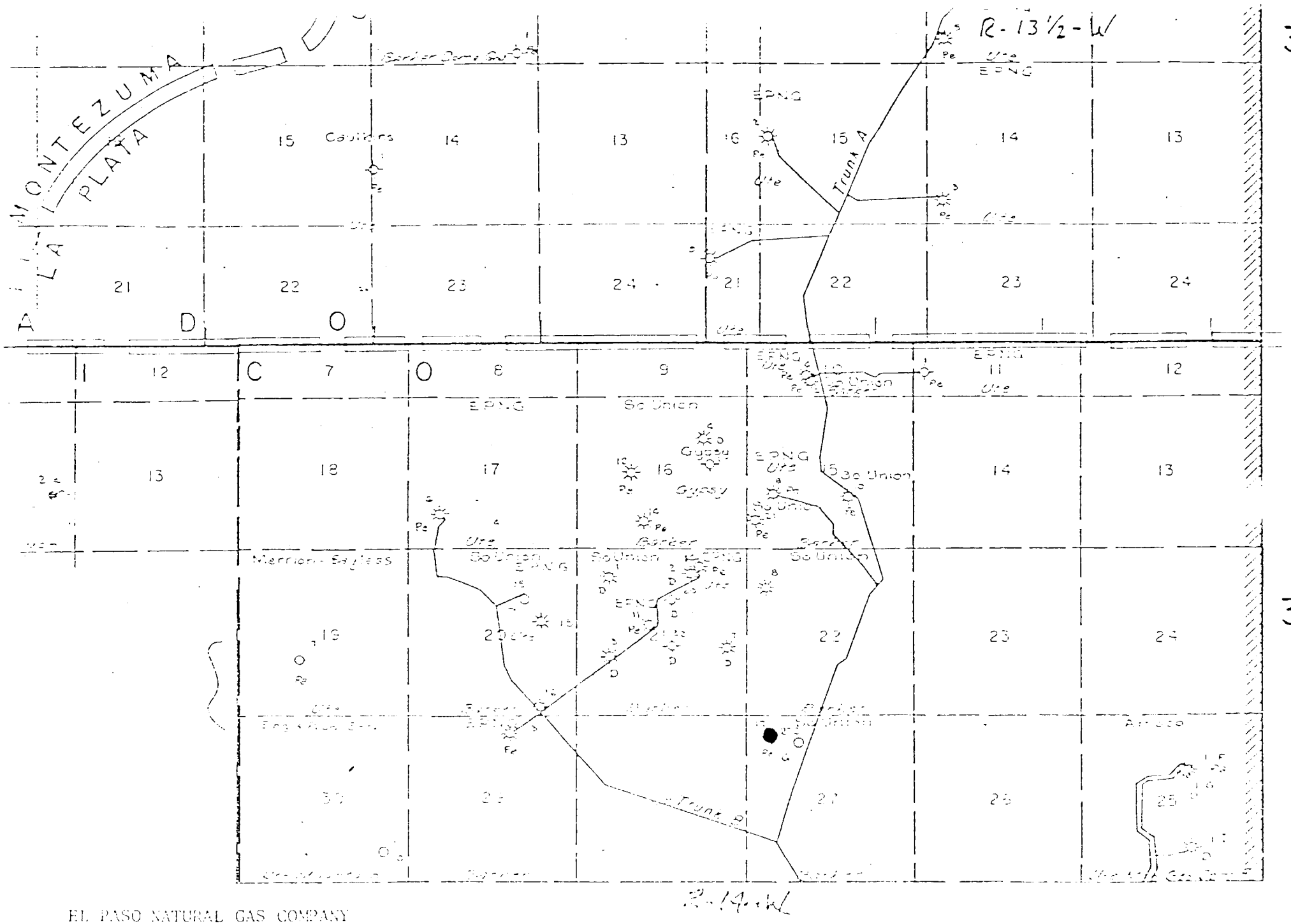
Scale 1" = 50'



El Paso Natural Gas Company
Well Name: O #33
Location: 389'N, 715'W, Section 27,
T-32-N, R-14-W, San Juan County, NM

Map #1

Well Location
No new roads or pipelines to well



EL PASO NATURAL GAS COMPANY
Well Name O #33
Location 389'N, 715'W, Section 27,
T-32-N, R-14-W, San Juan County, NM

MAP #2
PROPOSED LOCATION ●
No pipeline to well