

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 ☐ StorageSINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

El Paso Natural Gas Co.

3. ADDRESS OF OPERATOR

1800 Wilco Bldg, Midland, Texas 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

1154' FSL, 572' FWL

At proposed prod. zone

Same

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

6 miles SW Whites City, New Mex.

15. DISTANCE FROM PROPOSED*

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

NA

16. NO. OF ACRES IN LEASE

NA

17. NO. OF ACRES ASSIGNED
TO THIS WELL

NA

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

NA

19. PROPOSED DEPTH

± 7,050

20. ROTARY OR CABLE TOOLS

Rotary

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

3731' GR

22. APPROX. DATE WORK WILL START*

Dec. 15, 1981

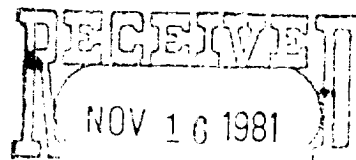
23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
16"	13 3/8" Cond	29.3 H-40	40'	30 cu ft
12 1/4"	9 5/8"	32.3 H-40	800'	630 cu ft to circ.
8 1/2"	7"	23.0 H-80	7,050'	1341 cu ft

Project approved by MNGCD Order No. R-6175-A.

Selectively perforate and treat the Morrow formation for gas storage.

A 3000 psi W.P. and 6000 psi test double gate BOP w/blind and pipe rams will
be used for blowout prevention.OIL & GAS
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

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 prevention program, if any.

24.

SIGNED

Harry Mitchell

TITLE

Drilg. Engr.

DATE 11-11-81

(This space for Federal or State office use)

PERMIT NO.

APPROVED

APPROVAL DATE

APPROVED BY
CONDITIONS

IF APPROVAL, IF ANY:

DEC 7 1981

JAMES A. GORDON
DISTRICT SUPERVISOR

TITLE

DATE

*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION AT

Supersedes C-128
Effective 1-1-67

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

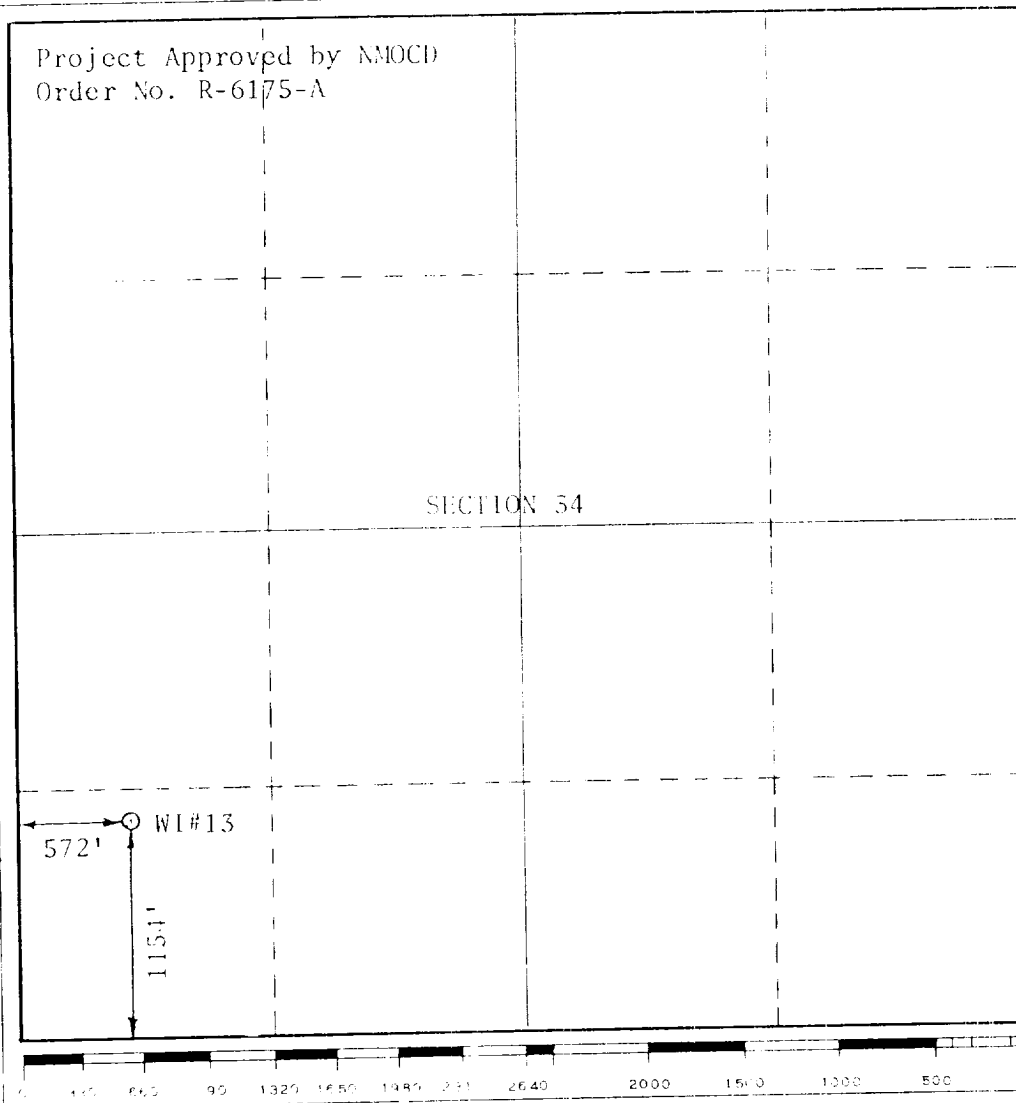
Owner El Paso Natural Gas Co.			Lease Washington Ranch Storage Project			Well No. WI#13
Section M	Section 34	Range 25-S	Range 24-E	County Eddy County, New Mexico		
Section 34						
1154		South		572		West
3731		Morrow		Washington Ranch		N/A

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below. NA
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). NA
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? NA

☐ 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.

E. L. Mitchell

Name
E. L. Mitchell

Position
Drilg. Engr.

Company
El Paso Natural Gas Co.

Date
11-11-81

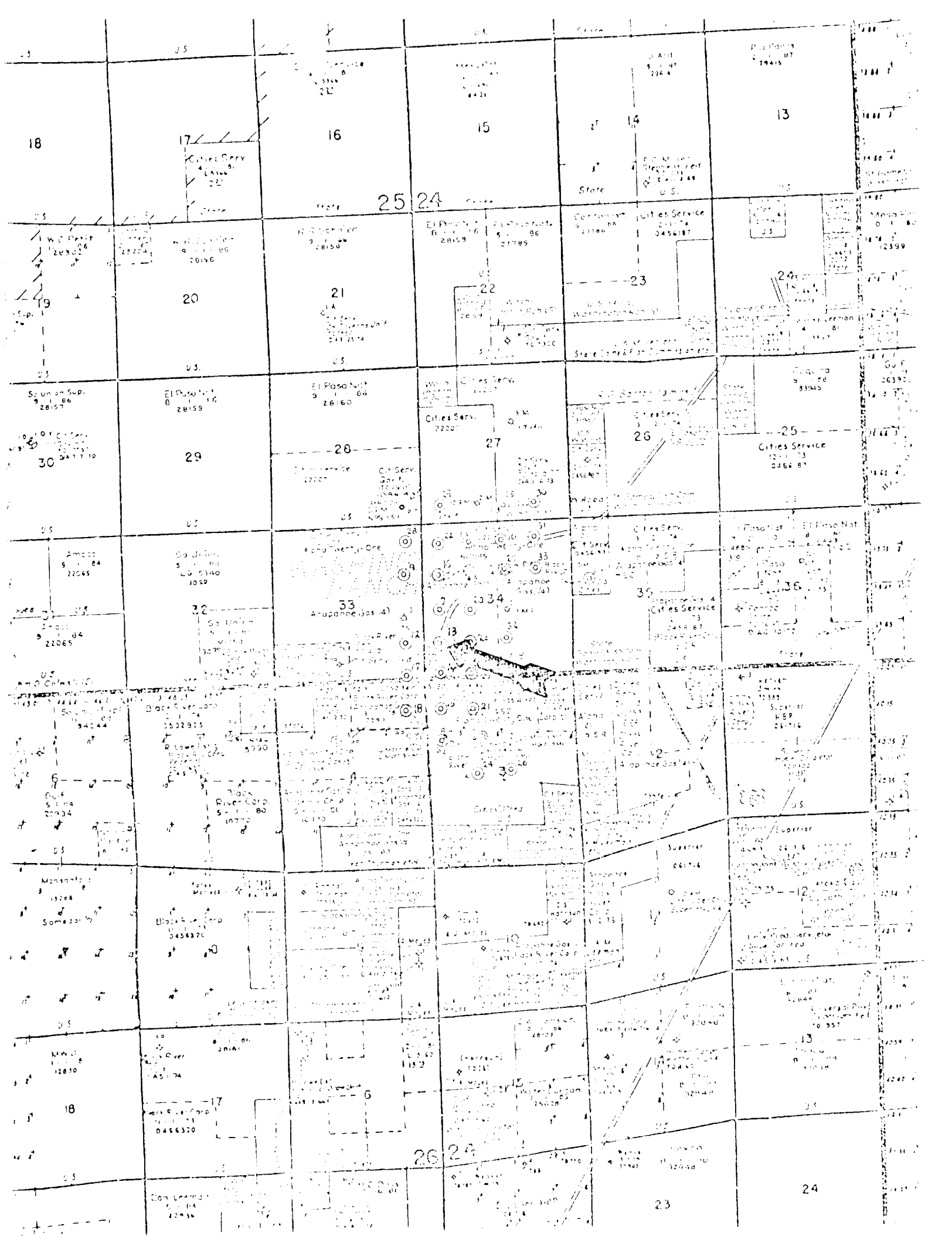
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
4-20-81

Registered Professional Engineer
and/or Licensed Surveyor

Earl H. Houtch

License No.
LS #1517



OPERATIONS PLAN

Washington Ranch Storage Project W.T. Federal #13

I. Location: 1154' FSL & 572' FWL
Section 34, T-25-S, R-24-E
Eddy County, New Mexico

Field: Washington Ranch Elevation: 3731' GR

II. Geology:

A. Formation Tops:

Surface	Quaternary
Castile	130
Lamar	500
Dela. Ss	575
Cherry Cr	1,475
Bone Spring	3,500
Wolfcamp	5,350
Strawn	5,635
Atoka	6,950
Morrow Ls	6,500
Morrow Clastics	6,620
T.D.	+ 7,050

B. Logging Program: FDC-CNL
Dual Induction - SPL & SP & GR curves
BHC-Sonic

C. Coring: None

III. Drilling:

A. Mud Program: Fresh water non-dispersed mud from surface
to coring point.
Use low fluid loss non-dispersed mud from
coring point to T.D.

IV. Materials:

A. Casing Program:

HOLE SIZE	DEPTH	CSG SIZE	WT. & GRAIN
16"	40'	13 3/8"	29.3# H-40
12 1/4"	800'	9 5/8"	32.3# H-40
8 1/2"	7,050'	7"	23.0# N-80

B. Float Equipment:

13 3/8" conductor - None
 9 5/8" surface - Cement guide shoe, orifice fill insert float two jts off bottom, centralizers on jts 1, 3, 5, 7, 9, 11
 7" production - Cement guide shoe, float collar at top of first jt, one centralizer and four turbolizers per jt for first 16 jts, one centralizer every 3rd jt for 21 jts thereafter. Rough coat bottom 1,500' of casing.

C. Tubing:

7,000 ft. 2 7/8" 6.5# J-55

D. Wellhead Equipment:

Bradenhead, 9 5/8" OD slip-on X 11" 3000# W.P.
 @ 10" X 7" OD hanger
 Tbg Spool 11" 3000# W.P. X 7 1/16" 5000# W.P.
 with 6" X 2 7/8" OD hanger
 Upper Run: 3 1/8" 5000# W.P. master valve
 and production valves.

V. Cementing:

A. Conductor Casing (15" X 13 3/8"):

Cement in place with redi-mix aggregate cement (approx. 2 yds), WOC 12 hrs.

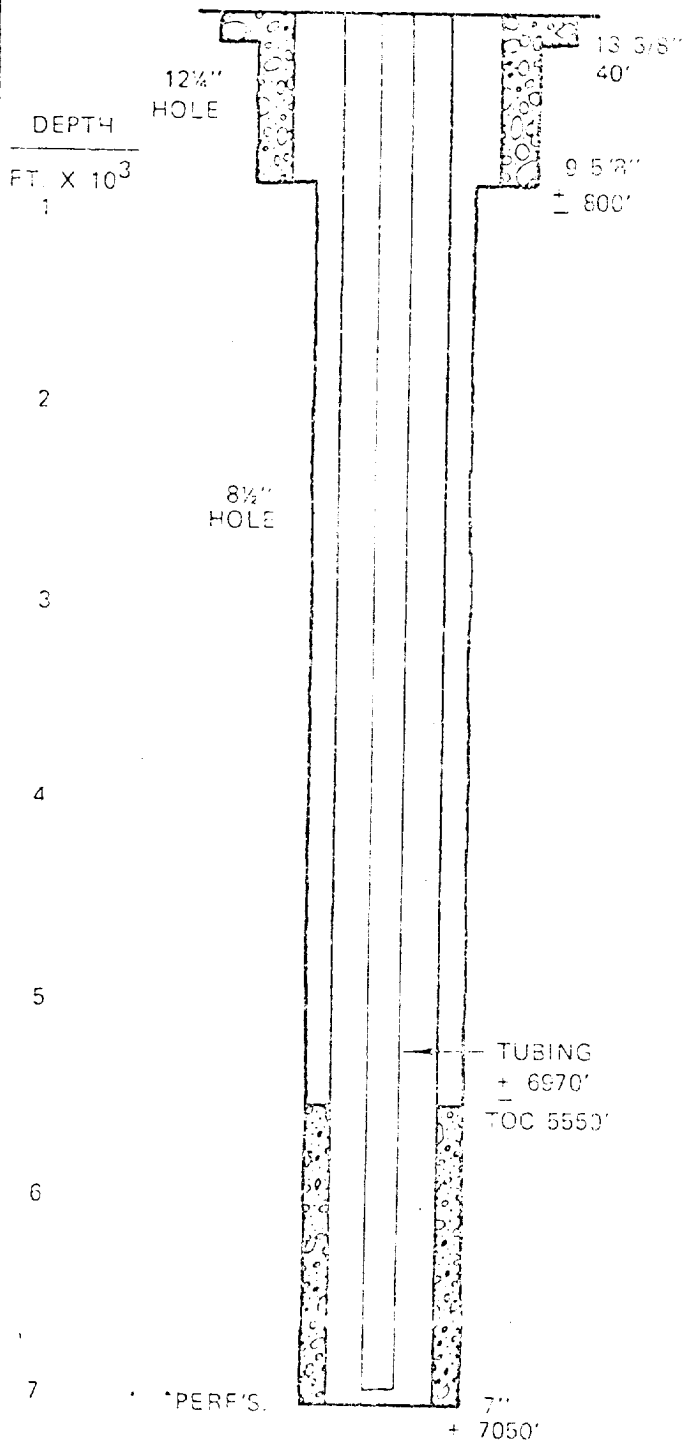
B. Surface Casing (12 1/4" X 9 5/8"):

Use 480 sx Class "C", 2% CaCl₂ and 5 lbs Kolite and 1/4# Celloflute per sack. (630 cu. ft., 150% excess to circulate to surface). WOC 8 hrs. Test csg to 800 psi for 30 min. before drilling plug.

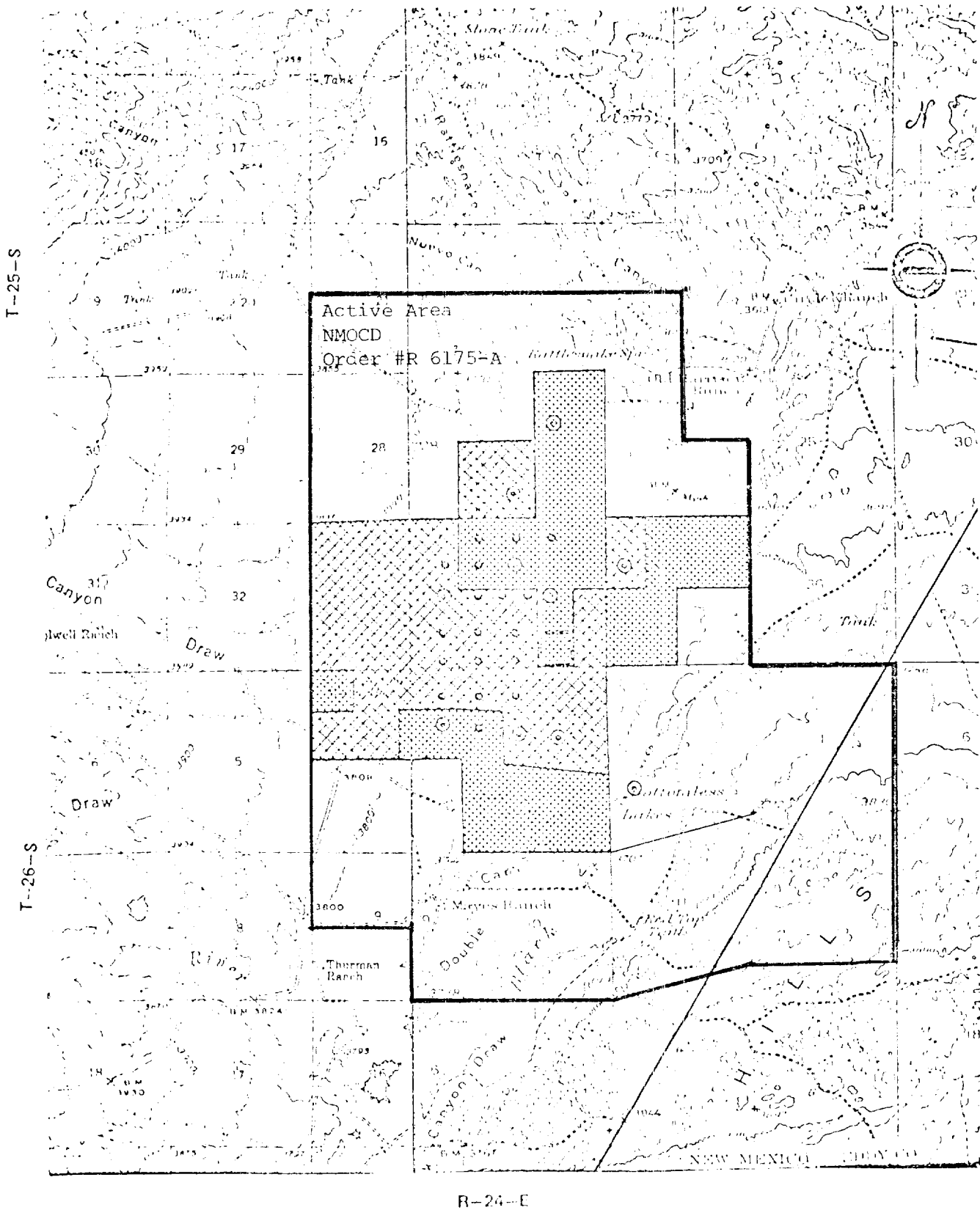
C. Production Casing (8 1/2" X 7"):

Use caliper volume plus 20% to fill to approx. 5,550'. Cement with approx. 250 sx Class "H" plus 4% gel and 10% salt, 0.5% D65 and 10 lbs Kolite. WOC 18 hrs. Run temperature survey after 8 hrs.

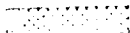
WASHINGTON RANCH PROPOSED NEW I-W WELL



SIZE	GRADE	WT	BURST	COLLAPSE	DRIFT ID
13 3/8"	USED				
9 5/8"	H-40	32.3	2270	1400	8.845
7"	K-55	23	4360	3270	6.241
2 7/8"	J-55	6.5	7260	7680	2.441
*N-80					

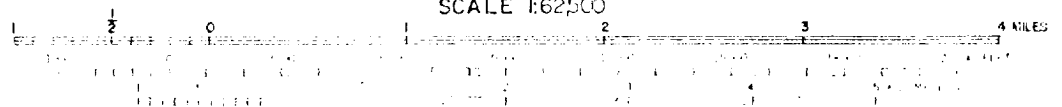


LEGEND

-  U.S. LAND
-  FEE LAND
-  EXISTING WELL
-  PROPOSED WELL
-  PROPOSED PLANT SITE

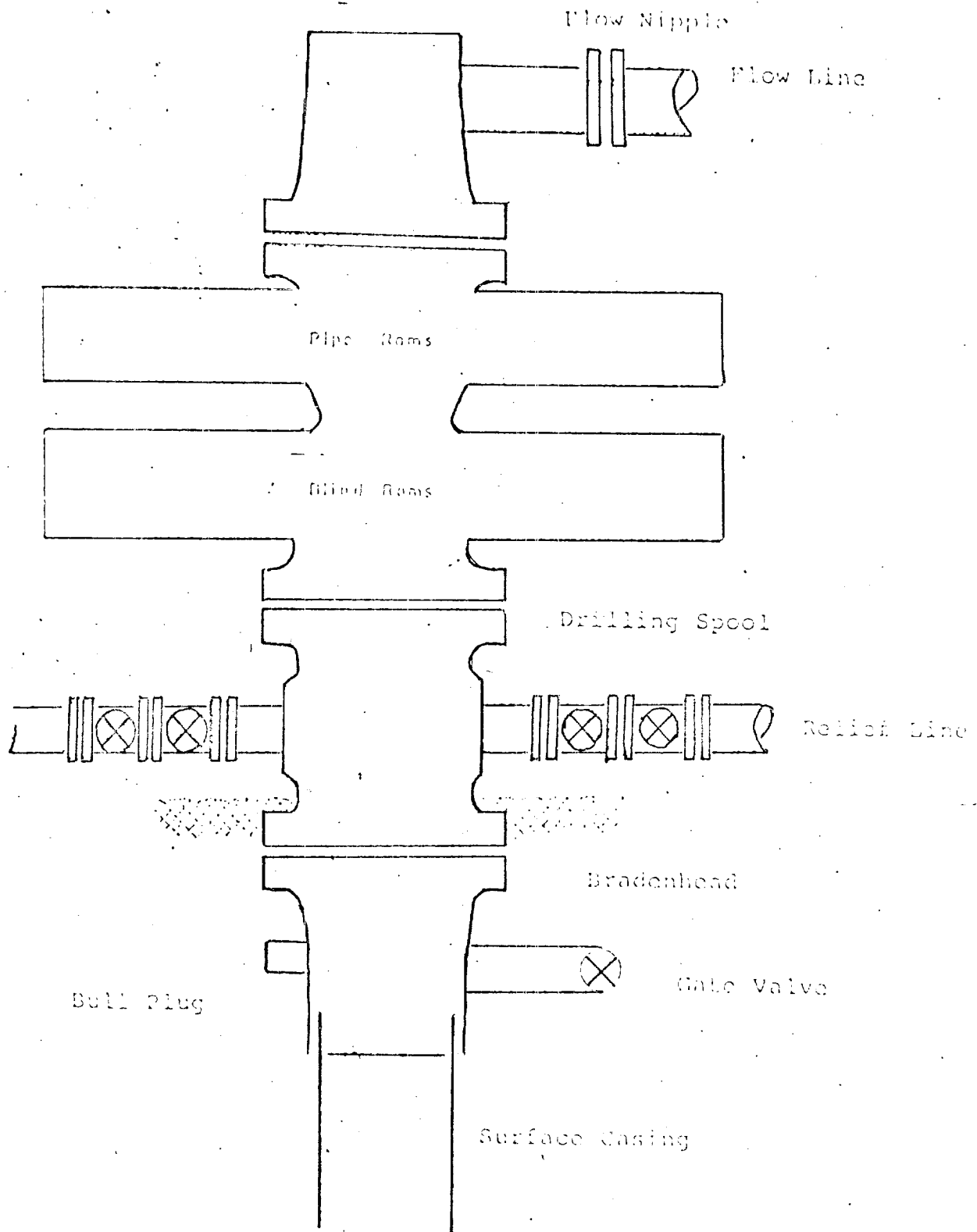
WASHINGTON RANCH STORAGE PROJECT

SCALE 1:62500



CONTOUR INTERVAL 20 FEET
ELEVATION IN FEET

Typical B.O.P. Installation



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

9 5/8-815-500 sx
7-7099-500 sx
2 7/8-6955

[illegible]

IP (Morrow) Perfs 6772-6928 F 399 MCFGPD. Pot based on 24
hr test thru 1/2 chk. GOR Dry; gty (Gas) (NR); CP 170; TE 51

PLC: El Paso Natural Gas Co.
CONTR Young #5 CUSTID 3731 GL, 3743 KB sub-s 11

F.R. 11-30-81
PD 7050 RT (Morrow)
8-14-82 AMEND WELL NUMBER & ADD LEASE DESIGNATION:
Formerly W1-13
1-26-82 TD 3311; SDR
2-2-82 Drlg 5516
2-10-82 TD 7100; Prep Log
2-16-82 TD 7100; WOGL
No Cores or ESTs
3-9-82 TD 7100; FBO 7000; SI
Perf (Morrow) 5772-76, 6792-98, 6830-37, 6902-28
w/4 SPB
Natural
8-9-82 TD 7100; FBO 7000; Complete
LOG TOPS & LOGS RUN (NA)
Will be used as Gas Storage Well
8-14-82 COMPLETION ISSUED

8-2-44 NM

LC 30-015-70547-81