

NM OIL CONS. COMMISSION
Drawn D
Artesian 88210
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*
(Other instructions on
reverse side)

Form approved.
Budget Bureau No. 42-R1425.

CSF
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 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
 2150' FSL, 2150' FWL *amended location* FEB 23 1982

At proposed prod. zone
 Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 6 miles SW Whites City, New Mexico ARTESIAN ZONE

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
 7050' ±

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 3718 GR

22. APPROX. DATE WORK WILL START*
 February 1982

5. LEASE DESIGNATION AND SERIAL NO.
 NM22207

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
 Washington Ranch Storage Project

9. WELL NO.
 WI Federal 21

10. FIELD AND POOL, OR WILDCAT
 Washington Ranch

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 34, T-25-S, R-24-E

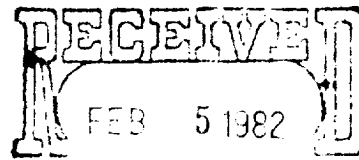
12. COUNTY OR PARISH
 Eddy

13. STATE
 NM

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	90'	30 cu.ft. Circulate
12 1/4"	9 5/8"	32.3 H-40	800'	630 cu.ft. Circulate
8 1/2"	7"	23.0 N-80	7050'	1341 cu.ft.

Project approved by NMOCD 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 with blind and
 pipe rams will be used for blowout prevention.



OIL & GAS
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

*Posted ID-1
* Mc Book
Amended Location
3-5-82*

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.L. Mitchell* TITLE Area Drilling Eng. DATE 2-4-82

(This space for Federal or State office use)

PERMIT NO. APPROVED

APPROVED BY *JAG* TITLE GENERAL SUPERVISOR

CONDITIONS OF APPROVAL IF ANY:
 FEB 28 1982
 JAMES A. GILLHAM
 DISTRICT SUPERVISOR

APPROVAL DATE _____

TITLE APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED DATE _____

*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

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

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

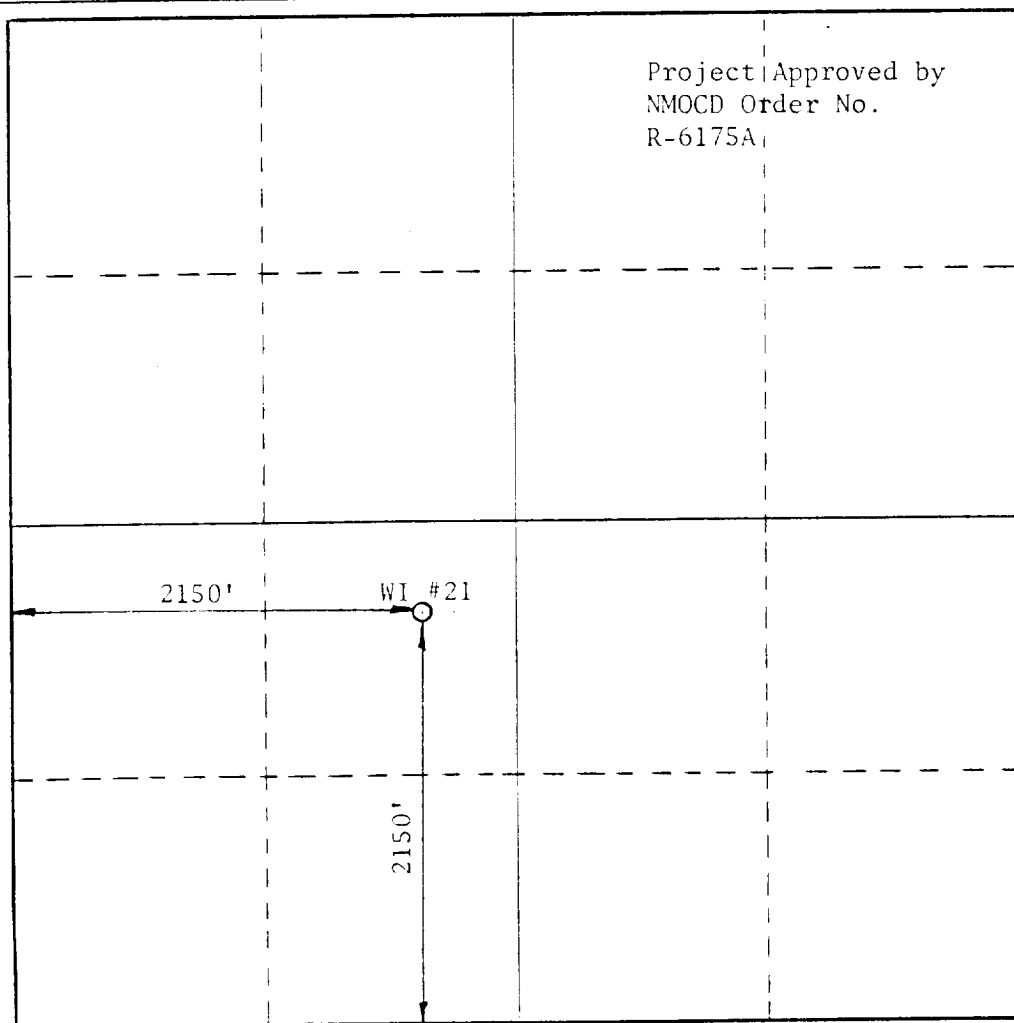
Operator El Paso Natural Gas Company			Lease Washington Ranch Storage Project			Well No. WI #21		
Unit Letter K	Section 34	Township 25-S	Range 24-E	County Eddy County, New Mexico				
Actual Footage Location of Well: 2150 feet from the South line and 2150 feet from the West line								
Ground Level Elev. 3718'	Producing Formation Morrow		Pool Washington Ranch			Dedicated Acreage: N/A 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.



Project Approved by
NMOCD Order No.
R-6175A

CERTIFICATION

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

H. L. Mitchell

Name

H. L. Mitchell

Position

Area Drilling Eng.

Company

El Paso Natural Gas Co.

Date

2-4-82

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

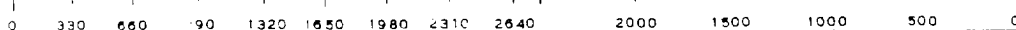
1/26/82

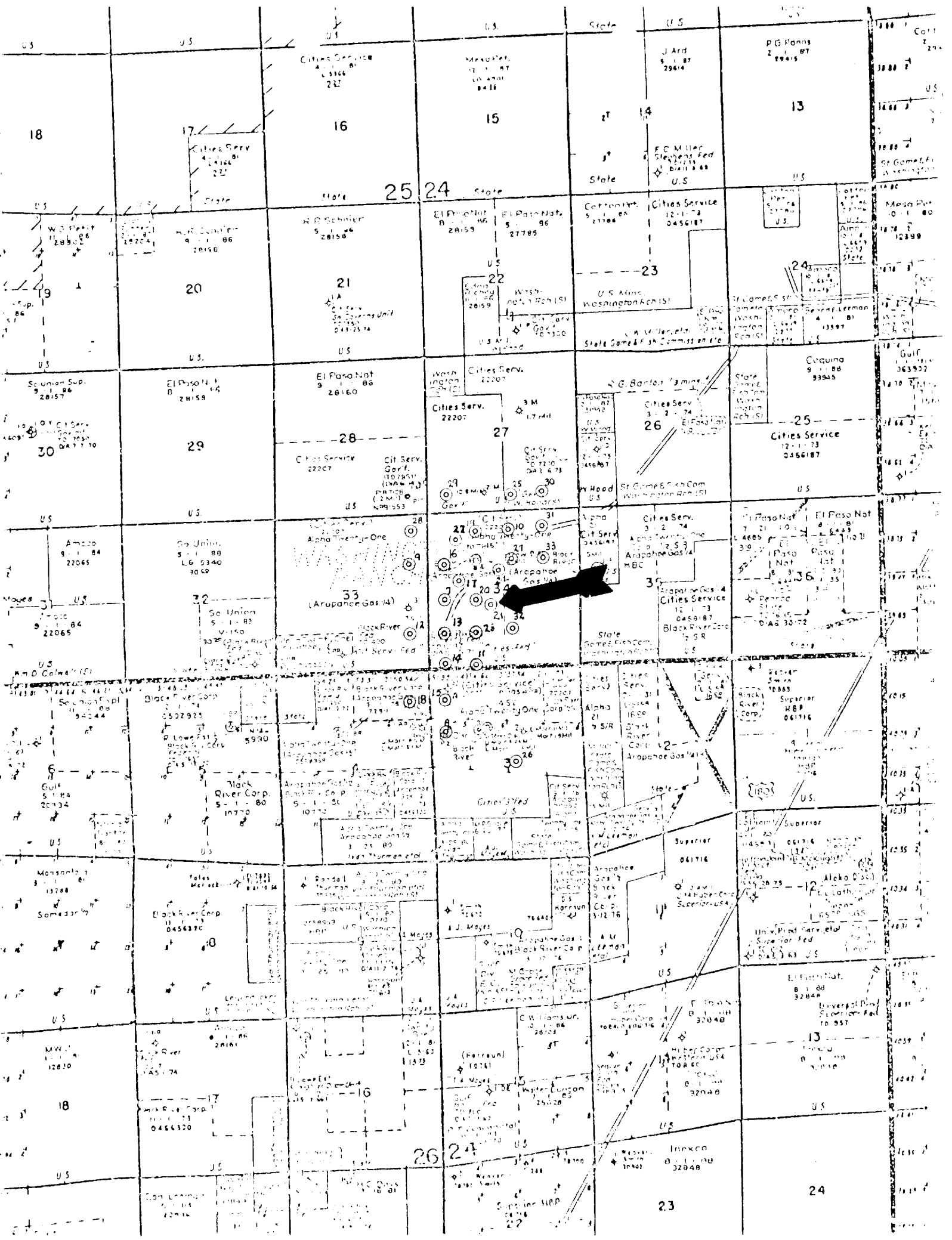
Registered Professional Engineer
and/or Land Surveyor

Earl W. Mitchell

Certificate No.

LS #1317





Cities Service
4,366
227

Maxwell
12,107
8418

J Ard
5,187
29614

PG Potts
2,187
19415

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Cities Serv
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State

25 24

F.C. Miller
St. James Fed
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U.S.

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H.R. Schuler
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El Paso Nat
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El Paso Nat
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Cartwright
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Cities Service
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0456187

U.S.

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El Paso Nat
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El Paso Nat
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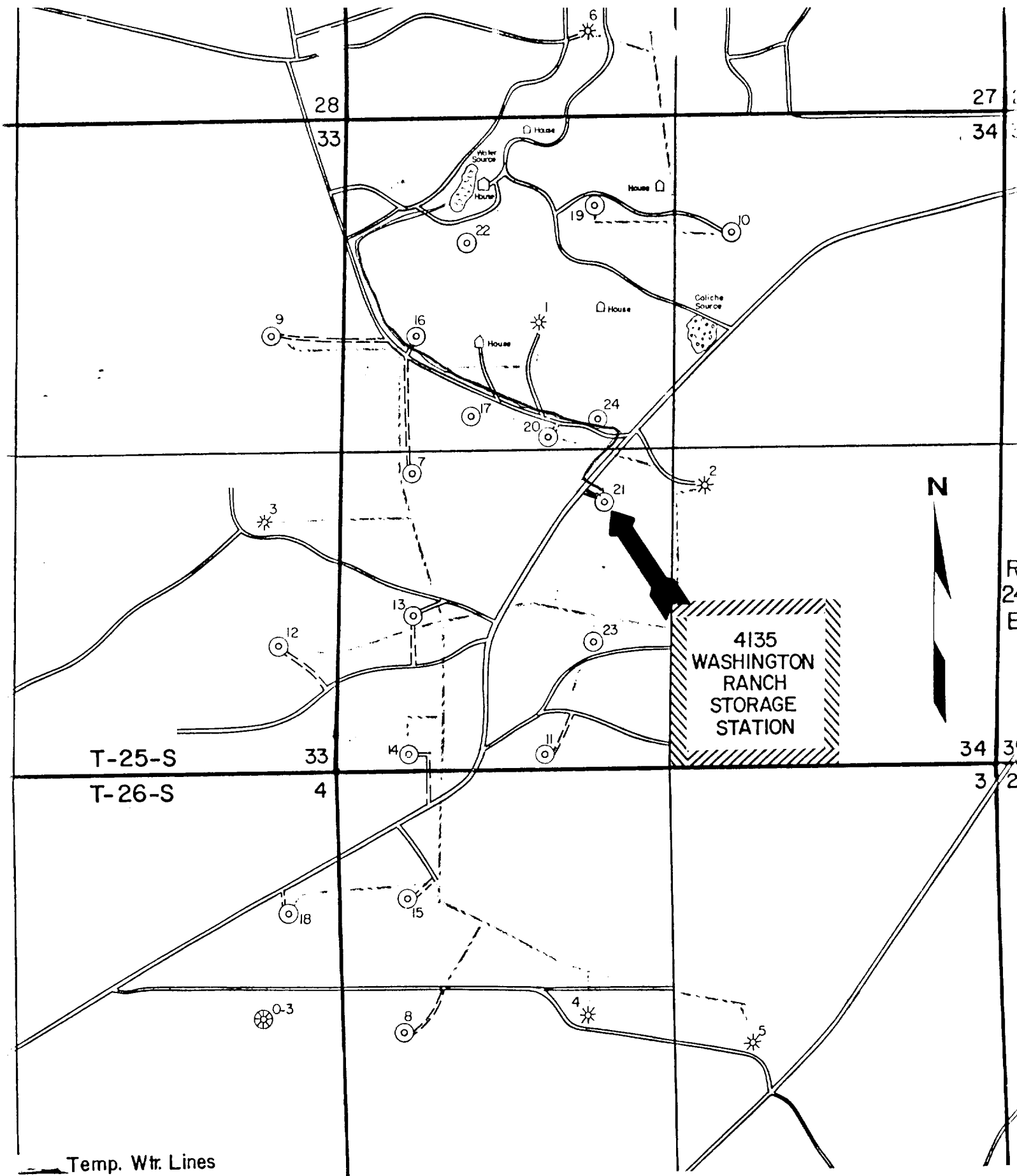
Cities Service
22207







Cities Serv.
22207

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0456187

Cities Serv.
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0456187

Cities Service
12,117
0456187



-  Temp. Wtr. Lines
-  Existing Roads
-  Proposed Roads
-  Proposed Pipeline
-  Existing Wells
-  Proposed Wells

OPERATIONS PLAN

Washington Ranch Storage Project W.I. 21

I. Location:

Section 34, T-25-S, R-24-E
Eddy County, New Mexico

Field:

Washington Ranch

Elevation: 3718 GR

II. Geology:

A. Formation Tops:	Surface	Quaternary
	Castile	180
	Lamar	500
	Dela. Ss	575
	Cherry Ch	1,475
	Bone Spring	2,550
	Wolfcamp	5,550
	Strawn	5,685
	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:	<u>HOLE SIZE</u>	<u>DEPTH</u>	<u>CSG SIZE</u>	<u>WT & GRADE</u>
	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" CD hanger			
	Tbg Spool 11" 3000# W.P. X 7 1/16" 5000# W.P. with 6" X 2 7/8" CD 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.

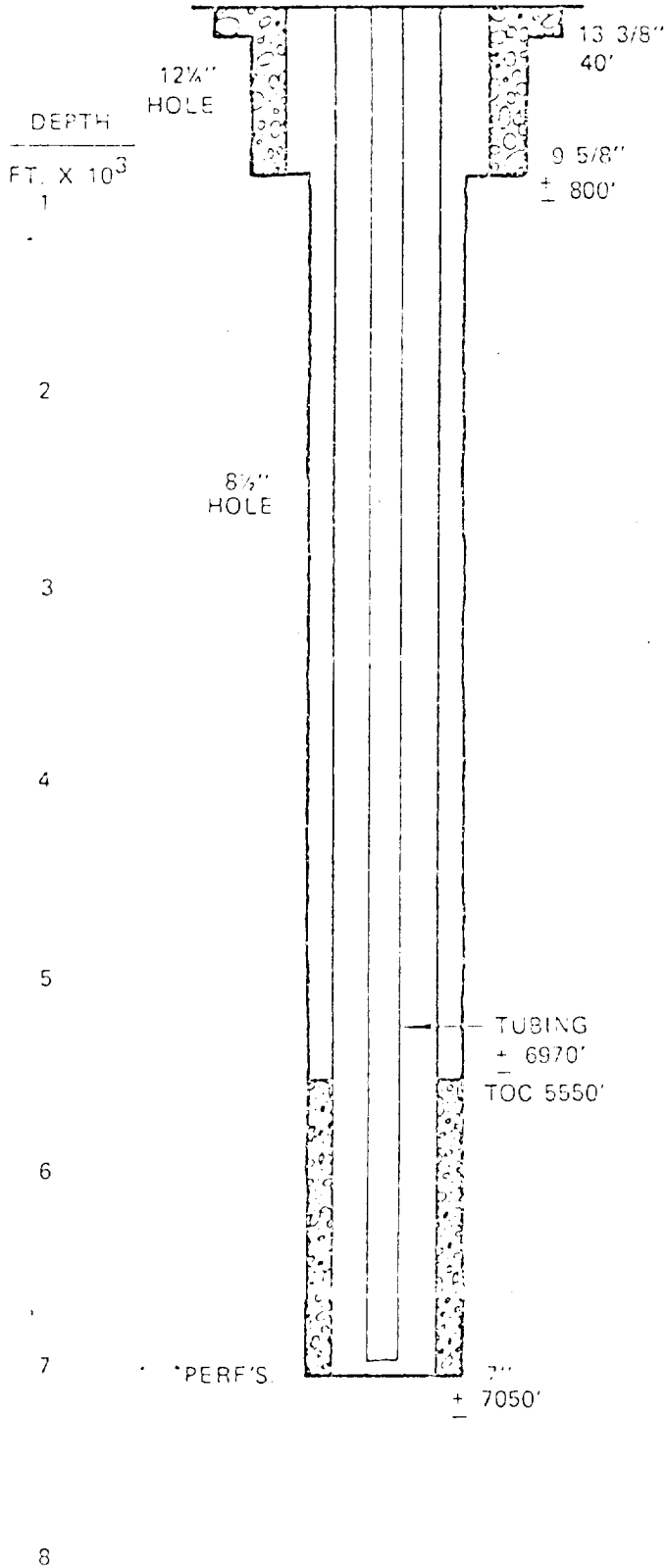
B. Surface Casing (12 1/4" X 9 5/8"):

Use 480 sx Class "C", 2% CaCl₂ and 5 lbs Kolite and 1/4# Celloflote 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"):

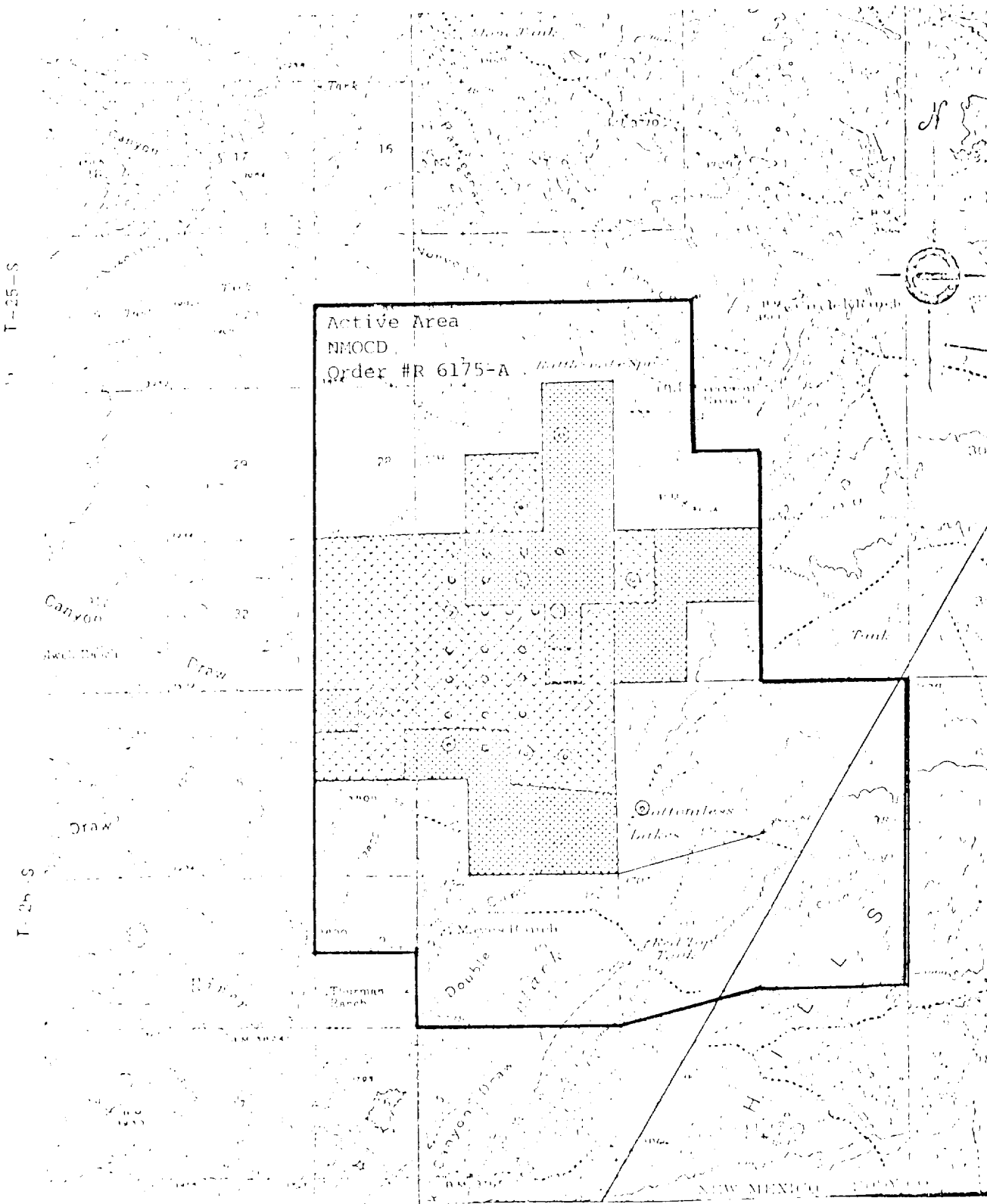
Use caliper volume plus 20% to fill to approx. 5,550'. Cement with approx. 250 sx Class "H" plus 4% gel and 10% salt, 0.5% D65 and 10 lbs Kolite. WOC 18 hrs. Run temperature survey after 8 hrs.

WASHINGTON RANCH
PROPOSED NEW I-W WELL



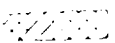




SIZE	GRADE	WT	BURST	COLLAPSE	DRIFT ID
13 3/8"	USED				
9 5/8"	H-40	32.3	2270	1400	8.845
7"	K-55 *	23	4360	3270	6.241
2 7/8"	J-55	6.5	7260	7680	2.441
	*N-80				

*AVG. MID. PERF. 6970'



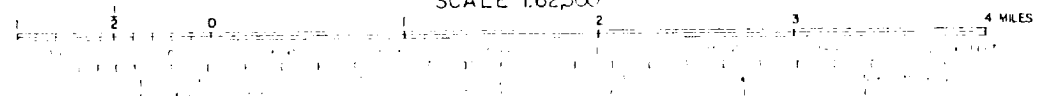
R-24-E

LEGEND

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

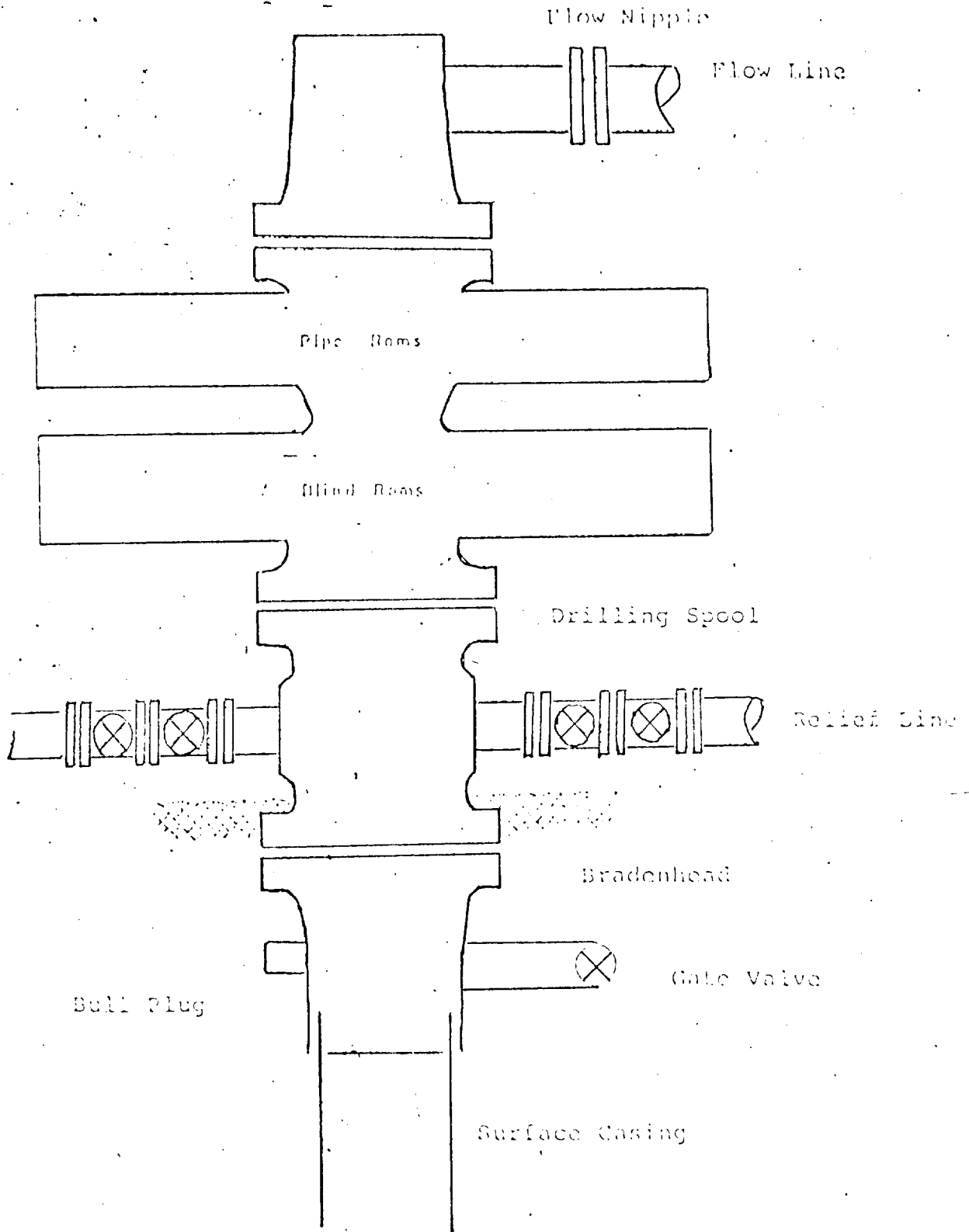
WASHINGTON RANCH STORAGE PROJECT

SCALE 1:62500



C contour interval 20 FEET
 datum is MEAN SEA LEVEL

Typical B.G.P. Installation



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