

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

SINGLE  
ZONE ☐MULTIPLE  
ZONE ☐

## 2. NAME OF OPERATOR

Union Oil Company of California

## 3. ADDRESS OF OPERATOR

P. O. Box 671 - Midland, Texas 79701

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

At surface

1980' FNL &amp; 660' FWL, Sec. 11

At proposed prod. zone

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

3 miles east of Carlsbad

O. C. C.

## 15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any)

660'

## 16. NO. OF ACRES IN LEASE\*

200 (Federal)

## 17. NO. OF ACRES ASSIGNED

TO THIS WELL

320

## 18. DISTANCE FROM PROPOSED LOCATION\*

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

-

## 19. PROPOSED DEPTH

11,950'

## 20. ROTARY OR CABLE TOOLS

Rotary

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

3101.8' GR

## 22. APPROX. DATE WORK WILL START\*

On approval

## 23.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48	400'	700 sxs - Circulate to surface
12-1/4"	9-5/8"	40	5,550'	2700 sxs - Circulate to surface
8-3/4"	5-1/2"	15.5 & 17	11,950'	1500 sxs

3000 psi WP Manual/Hydraulic B.O.P. from 400' to 5550'

5000 psi WP Manual/Hydraulic B.O.P. from 5550' to T.D.

5000 psi WP Hydril from 5550' to T.D.

3000 psi WP Rotating Head from 5550' to T.D.

5000 psi WP B.O.P. and Hydril, and 3000 psi WP Rotating Head to be tested  
to working pressure by independent service company before drilling into the  
Wolfcamp formation at approximately 8935'.

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ARTESIAN 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 preventer program, if any.

## 24.

SIGNED

*D. B. Bynum*

TITLE District Drilling Supt.

DATE February 4, 1974

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

TITLE

DATE

APPROVED BY  
CONDITIONS OF APPROVAL, IF ANY:SUBJECT TO ATTACHED DEEP WELL CONTROL  
REQUIREMENTS DATED JUL 22 1973DECLARED WATER BASIN  
133NOTIFY USGS IN SUFFICIENT TIME TO  
ALLOW USGS TO CONDUCT INVESTIGATION

THIS APPROVAL IS VOIDED IF OPERATIONS  
ARE NOT COMPLETED WITHIN 6 MONTHS.  
EXPIRES JUL 10 1974

\*See Instructions On Reverse Side

CIRCULATED

NEW MEXICO OIL CONSERVATION COMMISSION  
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.

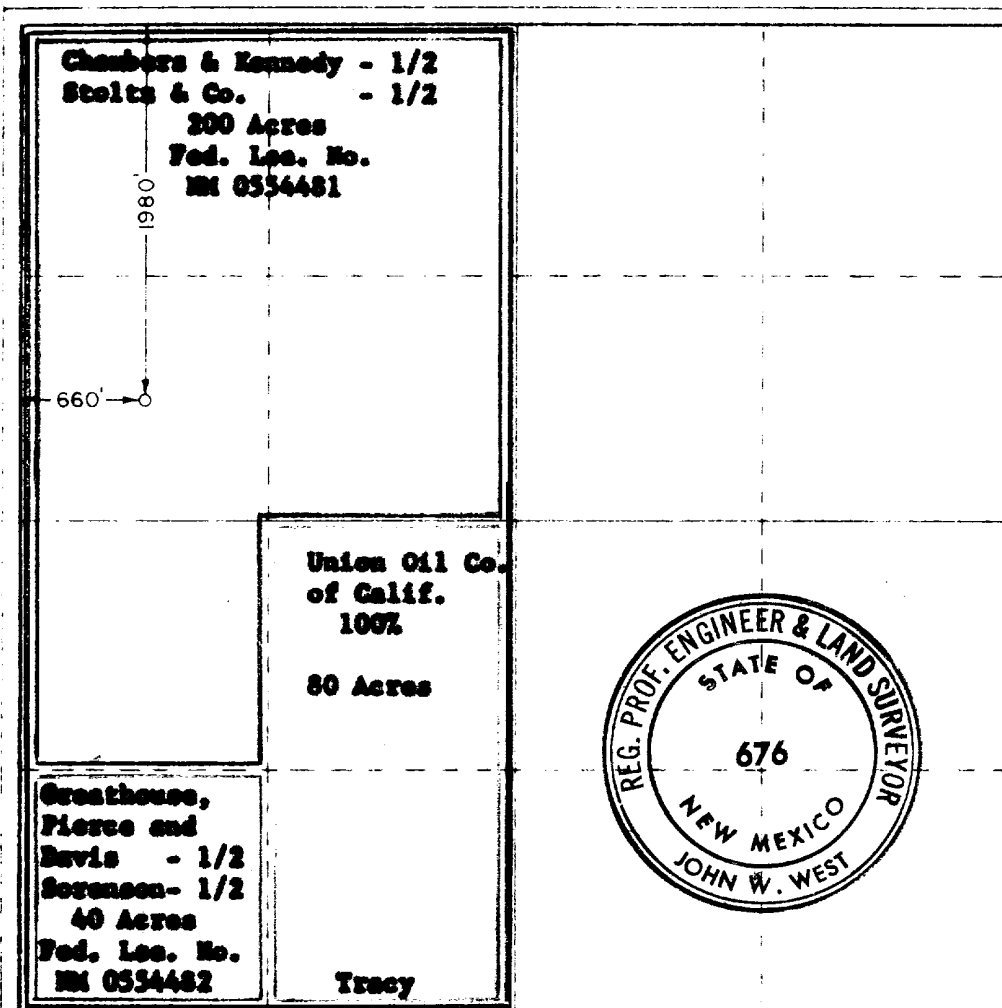
Operator <b>UNION OIL COMPANY OF CALIFORNIA</b>			Lease <b>TRACY FEDERAL</b>		Well No. <b>1</b>
Section <b>E</b>	Section <b>11</b>	Township <b>22 SOUTH</b>	Range <b>27 EAST</b>	County <b>EDDY</b>	
Actual Well Location of Well: <b>1980</b> feet from the <b>NORTH</b> line and <b>660</b> feet from the <b>WEST</b> line					
Ground Level Elev. <b>3101.8</b>	Producing Formation <b>Morrow</b>	Pool <b>Undesignated Morrow Gas</b>		Dedicated Acreage: <b>320</b>	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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.) **To be communitized**

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

*[Signature]*  
Position

**District Drilling Supt.**

Company

**Union Oil Co. of California**

Date

**February 4, 1974**

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

**JANUARY 29, 1974**

Registered Professional Engineer and Land Surveyor

*[Signature]*  
Certificate No.

**676**

330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600

N. O. C. C. COPY

Union Oil and Gas Division: Central Region

Union Oil Company of California

500 North Marienfeld, Midland, Texas 79701

Telephone (915) 682-9731



Midland District

January 31, 1974

U. S. Geological Survey  
P. O. Drawer U  
Artesia, New Mexico 88210

Gentlemen:

TRACY FEDERAL WELL NO. 1  
Eddy County, New Mexico  
Twelve-point Surface Use Plan

Attached herewith the "Application for Permit to Drill" on Federal lands is Union's Twelve-point Surface Use Plan.

- Item 1. Existing roads including location of the exit from main highway - EXHIBIT A.
2. Planned access roads - EXHIBITS A, B, & C. Approximately 1000' of 12' wide caliche road will need be constructed.
3. Location of existing wells - EXHIBIT A.
4. Lateral roads to well locations - EXHIBIT A.
5. Location of tank batteries and flow lines - There are no flow lines nor tank batteries within a 1/2 mile radius of the proposed location. See EXHIBIT B for proposed location of tank battery and sales gas line.
6. Location and type of water supply - Water needed for drilling will be trucked from supply wells near Carlsbad.
7. Method for handling waste disposal - All incendiary material will be burned on location. Other items will be hauled away.
8. Location of camps - Trailer house will be located on drill site for supervisory personnel. No other camps are anticipated.

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ARTEZIA, NEW MEXICO

January 31, 1974

Item 9. Location of airstrips - None.

10. Location of layout to include position of the rig, mud tanks, reserve pits, burn pits, pipe racks, etc. - EXHIBIT C.
11. Plans for restoration of the surface - Upon completion or P&A of well, location pits will be filled and leveled and location cleaned up.
12. Any other information - Location is on rolling caliche hills sparsely covered with scrub mesquite. There are no steep hillsides or gullies. The location will be brought to grade by blasting and ripping caliche hillside.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA



D. M. Johnson

Acting District Drilling Superintendent

DMJ:lb

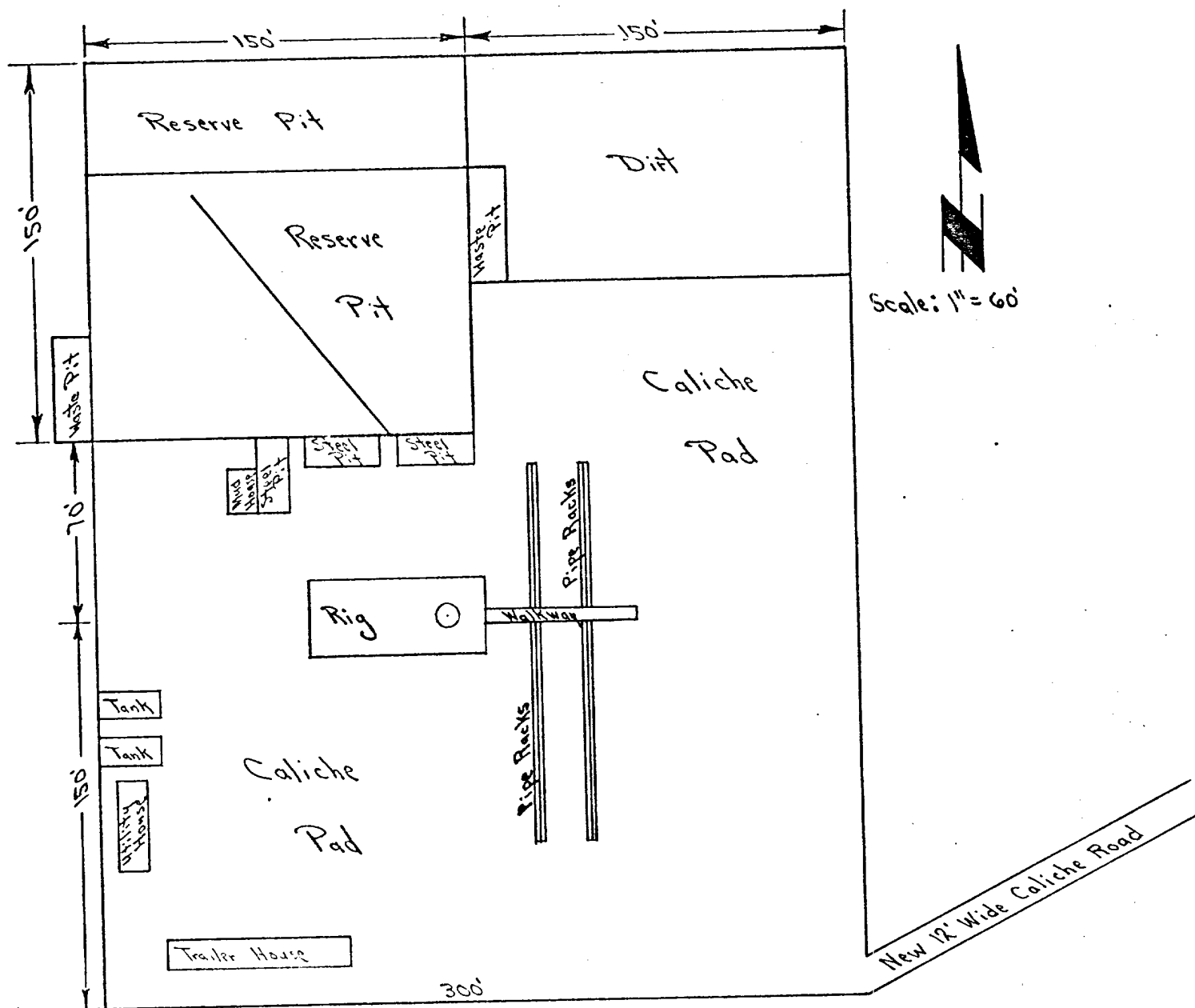
Attachments

1-23-74

Union Oil Company of California  
TRACY FEDERAL WELL NO. 1

Location: 1980' FNL & 660' FNL of Section 11, T-22-S, R-27-E,  
Eddy County, New Mexico

EXHIBIT C



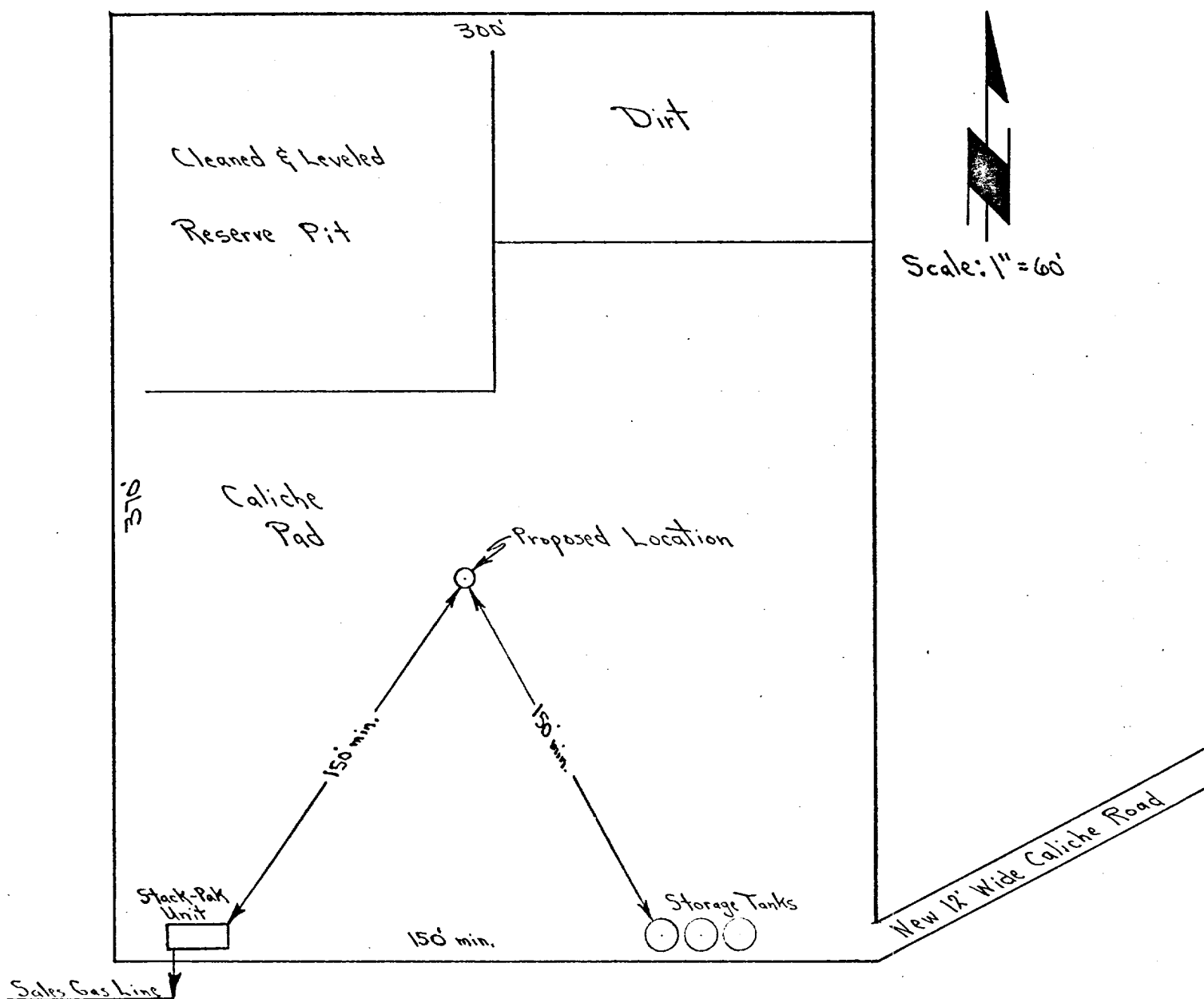
Rolling caliche hills with scrub mesquite

Wing  
1-23-74

Union Oil Company of California  
TRACY FEDERAL WELL NO. 1

Location: 1980' FNL & 660' FWL of Section 11, T-22-S, R-27-E,  
Eddy County, New Mexico

EXHIBIT B



DISTRICT OFFICE - MIDLAND, TEXAS

## DRILLING PROGRAM

**Field:** Undesignated Morrow Gas

**Location:** 1980' FNL & 660' FWL of  
Section 11, T-22-S, R-27-E, Eddy County,  
New Mexico.

Well Name: TRACY FEDERAL WELL NO. 1

Estimated Total Depth: 11,950'

<u>Drilling Data:</u>	Geolograph from surface to total depth.
	Ten-foot drilling time from 2000' to total depth.
<u>Samples:</u>	At ten-foot intervals from 2000' to total depth.

Samples: At ten-foot intervals from 2000' to total depth.

<u>Estimated Formation Tops:</u>	Delaware Sand	2,155'
	Bone Spring	5,455'
	Wolfcamp	8,935'
	Strawn	10,375'
	Lusk	10,535'
	Atoka	10,700'
	Morrow	11,180'
	Middle Morrow	11,480'
	Lower Morrow	11,770'
	Chester	11,930'

**Logs:** Gamma Ray/Compensated Neutron Formation Density and Dual Laterolog with Caliper from total depth to surface.

**DSTs:** One in Middle Morrow and one in Lower Morrow.

Cores: None

Deviation: Five degrees maximum from surface to total depth with rate of change not to exceed one degree per 100' of interval.

### Casing & Mud Program:

Depth	Size Hole	Casing	Cement	W.O.C.	Mud		
					Wt.	Vis.	W.L.
0' to 400'	17-1/2"	13-3/8"	*700	18 hours	As needed to spud.		
400' to 5,550'	12-1/4"	9-5/8"	**2700	18 hours	10.0 Brine.		
5,550' to 9,500'	8-3/4"	-	-	-	8.4 Fresh Water.		
9,500' to 11,300'	8-3/4"	-	-	-	10.0-11.0	30	NC
11,300' to T.D.	8-3/4"	5-1/2"	***1500	6 hours	10.0-11.0	35-45	15
Rig to be released after nipping up 5-1/2" casing.							

Rig to be released after nippleing up 5-1/2" casing.

\*Surface casing to be cemented with 700 sacks Class "C" cement with 2% calcium chloride added. Cement calculated to circulate.

\*\*Intermediate casing to be cemented with 2200 sacks HOWCO "LITE", or equivalent, followed by 500 sacks Class "H" neat cement. Cement calculated to circulate.

\*\*\*Production casing to be cemented with 1500 sacks Class "H" cement with 0.75% CFR-2, 1/4# Flocele and 8# salt per sack of cement. Precede cement with 1000 gallons mud flush.

NOTE: Changes in the above program will be at the direction of a qualified Union Oil Company of California representative and should be clearly indicated on the program posted at the rig.

RL Brown

T. G. Byrom  
District Drilling Superintendent

## CASING AND TUBING DESIGN

12

FIELD Undersaturated Natural Gas

CASING STRING Surface & Intermediate COUNTY

STATS No. Mexico

1-22-74

DESIGN BY D. M. Johnson

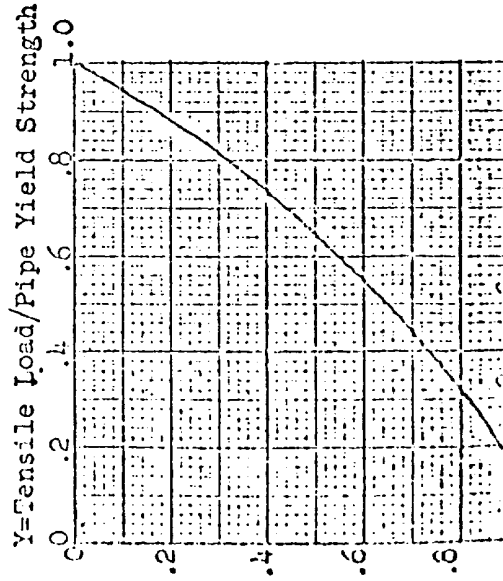
CASING STRING Surface & Intermediate COUNTRY Eddy STATE New Mexico DATE 1-23-74 DESIGN BY D.M. Johnson

CASING SIZE 13 7/8" x 5 5/8" HOLE SIZE 11 3/4" & 11 1/2" MUD WT. I 10.0 #/g. HYD GR. I 0.59 psi/ft. MUD WT. II #/g. HYD. GR. II psi/ft. M.S.P.

1000  
5000

[illegible]

INTERVAL		LENGTH	DESCRIPTION		WEIGHT		TENSION	MINIMUM	TDF	COLLAPSE	CDF	BURST	INTERNAL	BDF	PRICE	COST
Bottom	Top		Wt.	Grade	Thread	W/ BF	-top of section	STRENGTH		PRESS. @	RESIST.	psi	psi	MINIMUM	PER	
						W/O BF	lbs	1000 lbs		bottom	tension			YIELD	FT.	
400	0	400	48	4-40	8th STC	19200	19200	322	16.8	208	770	1000	1730	1.13	\$ 9.5	\$ 3860
13 3/8" Surface																
5550	0	5550	40	4-80	8th STC	222000	222000	737	3.32	2880	3090	5000	5750	1.15	\$ 9.02	\$ 50061
9 5/8" Intermediate																



Collapse Resist. w/Tension

Formulae:

Collapse resistance in tension =  
X (Collapse pressure rating)

Burst Pressure =  
MSP + Depth ( Hyd. Gr. II --.5)

$$\text{BF (Bouyancy Factor)} = 1.00 - (0.0153 \times \text{Mud Wt. I})$$

**For Sale**

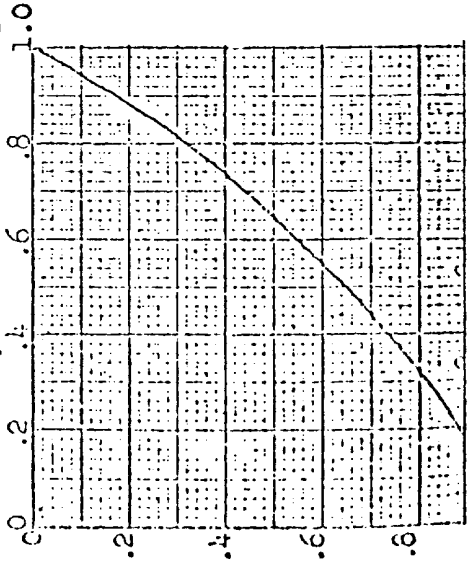


CASING AND TUBING DESIGN

WELL Trans Federal No. 1 FIELD Undersaturated Mexican Gas COUNTY Edgar STATE New Mexico DATE 1-23-74 DESIGN BY D.M. Johnson  
CASING STRING Production MUD WT. I 11.0 #/g. HYD GR. I 10.571 psi/ft. MUD WT. II #/g. HYD. GR. II psi/ft. M.S.P. 5000 psi.  
CASING SIZE 5 1/8 HOLE SIZE 3 1/4

INTERVAL	LENGTH	DESCRIPTION		WEIGHT	TENSION	MINIMUM	TDF	COLLAPSE	COLLAPSE	CDF	BURST	INTERNAL	BDF	PRICE	COST
Bottom	Top	Wt.	Grade	Thread	W/O BF	-top of	section	bottom	RESIST.	psi	psi	psi	psi	PER	FT.
					lbs	lbs	lbs	psi	tension						
700	0	17	N-80	8 x 17 1/2	11900	203150	397	195	400	11.9	5000	7740	155	\$ 3.60	\$ 2500
2500	700	17	N-80	8 x 17 1/2	42500	91250	348	182	1827	28.7	5000	7740	155	\$ 3.99	\$ 9975
3200	2500	17	N-80	8 x 17 1/2	10200	148750	272	183	2110	16.7	5000	5320	106	\$ 3.38	\$ 2038
3800	2500	17	N-80	8 x 17 1/2	42500	138550	252	182	3597	11.6	5000	5320	106	\$ 3.23	\$ 8075
6300	3800	17	N-80	8 x 17 1/2	51000	96050	348	3.62	5310	11.4	5000	7740	155	\$ 3.99	\$ 11970
9300	6300	17	500-95	8 x 17 1/2	45050	45050	392	870	6823	12.2	5000	9190	184	\$ 4.62	\$ 12243

Y=Tensile Load/Pipe Yield Strength



Collapse Resist. W/o Tension

Collapse Resist. W/o Tension

Formulae:

Collapse resistance in tension =  
X (Collapse pressure rating)

Burst Pressure =  
MSP + Depth ( Hyd. Gr. II -.5)

BF (Bouyancy Factor) =  
1.00 - (0.0153 X Mud Wt. I)

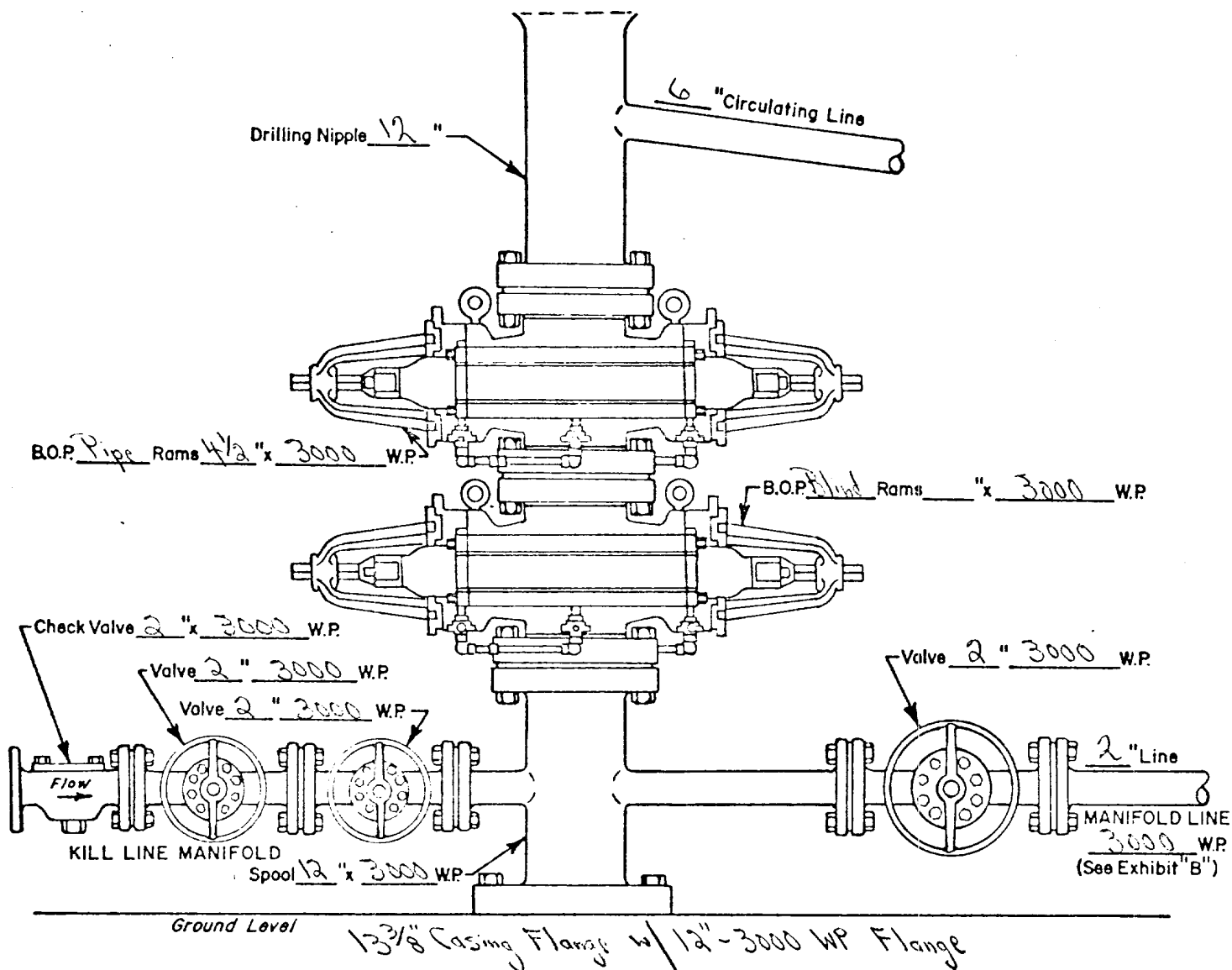
Calculations:

X = 0.113      0.352      0.375      0.482  
Y = 0.964      0.849      0.739      0.834

Total Cost 46811

UNION OIL COMPANY OF CALIFORNIA  
**EXHIBIT A-1**

WELL NAME: Tracy Federal No. 1  
LOCATION: 1980 FNL & 660 FNL of Section 11,  
T-22-S, R-27-E, Eddy County, New Mexico

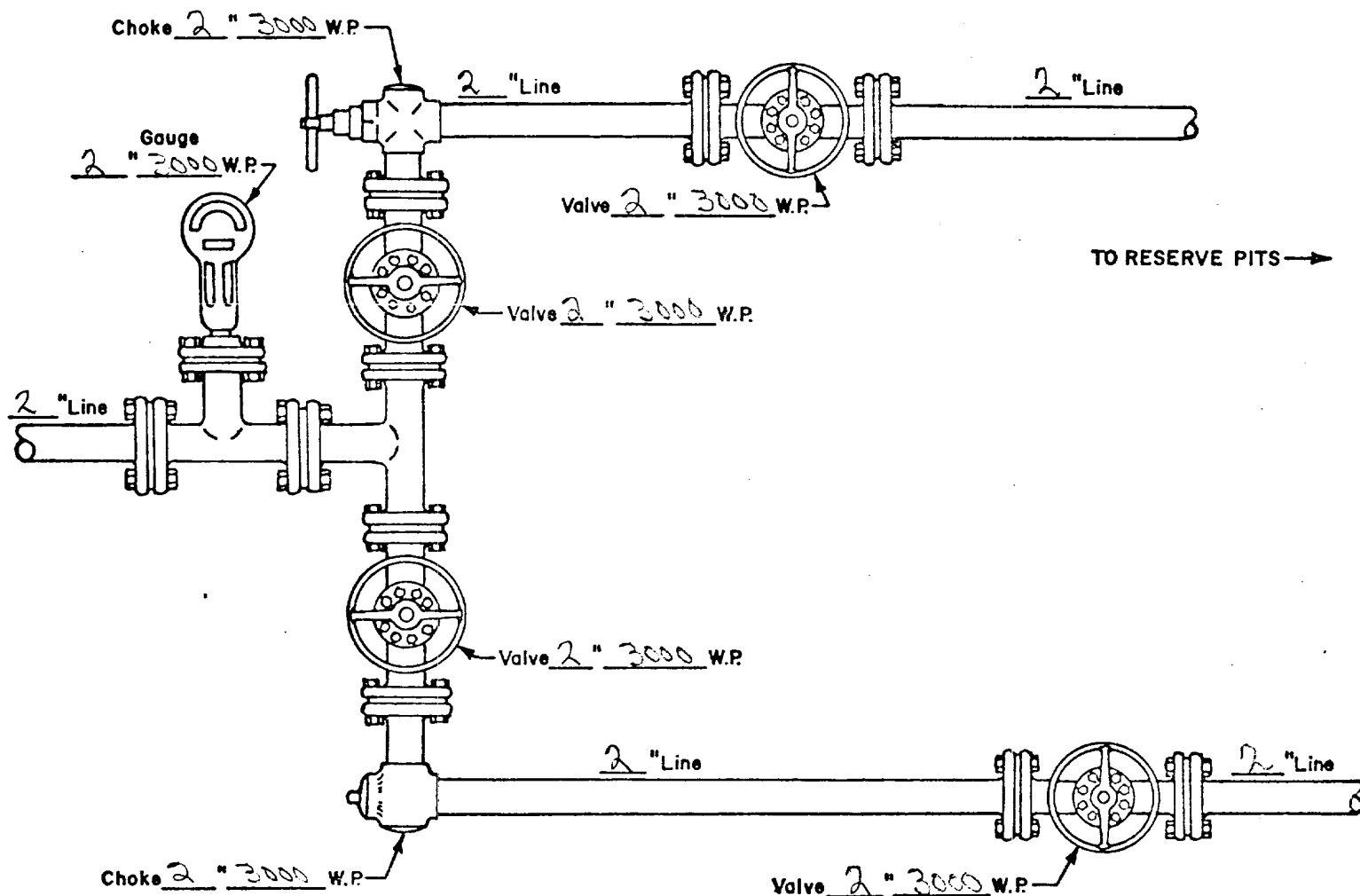


WELL HEAD B.O.P.  
3000 #W.P.

☒ Manual  
☐ Hydraulic

UNION OIL COMPANY OF CALIFORNIA  
EXHIBIT B-1

WELL NAME: Tracy Federal No. 1  
LOCATION: 1990' FWL & 660' FWL of Section 11,  
T-22-S, R-27-E, Eddy County, New Mexico



MANIFOLD  
3000 #W.P.

☒ Manual  
☐ Hydraulic

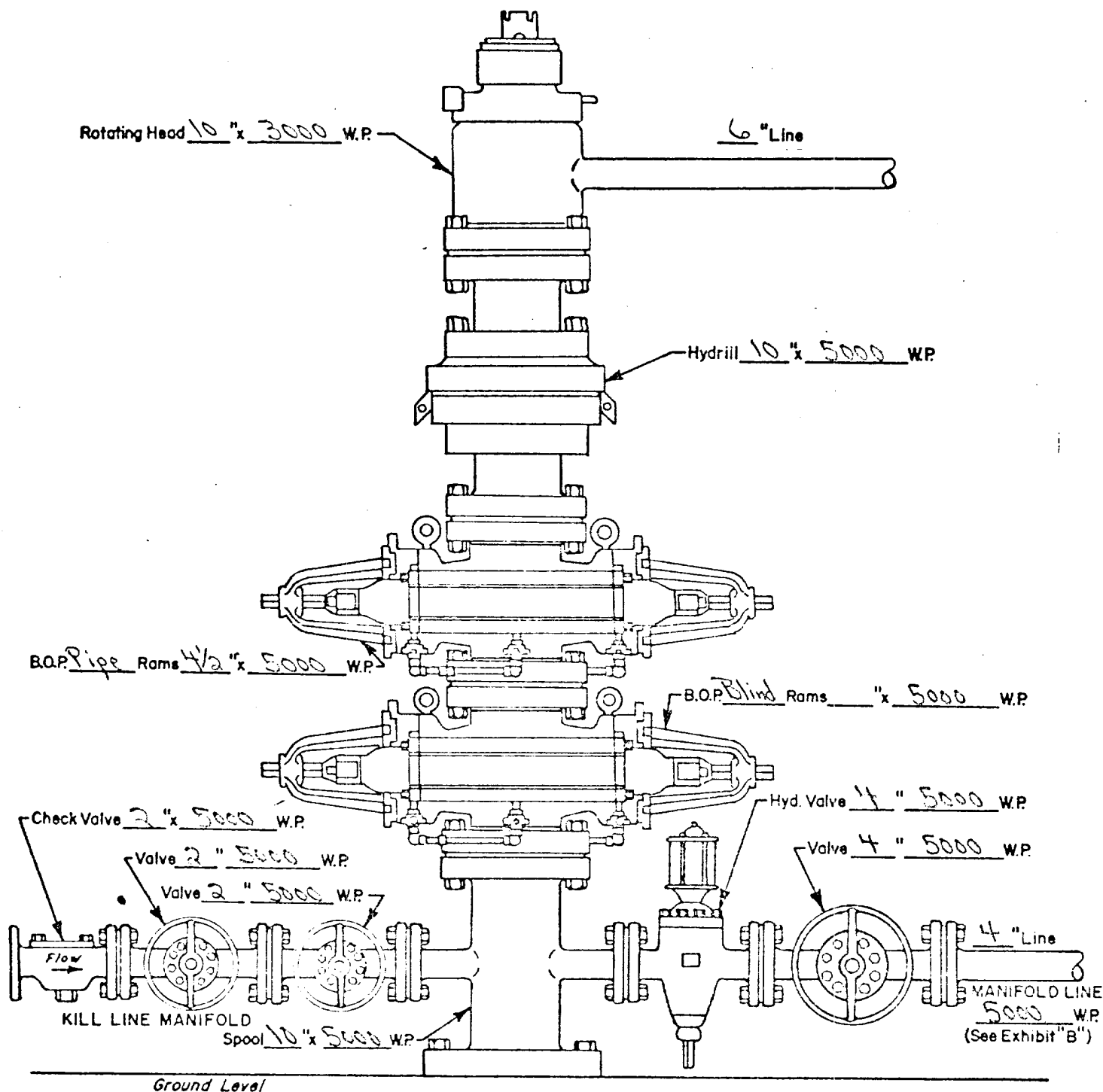
UNION OIL COMPANY OF CALIFORNIA

EXHIBIT A-2

WELL NAME: Tracy Federal No. 1

LOCATION: 1900 FNL & 600 FNL of Section 11,

T-22-S, R-27-E, Eddy County, New Mexico

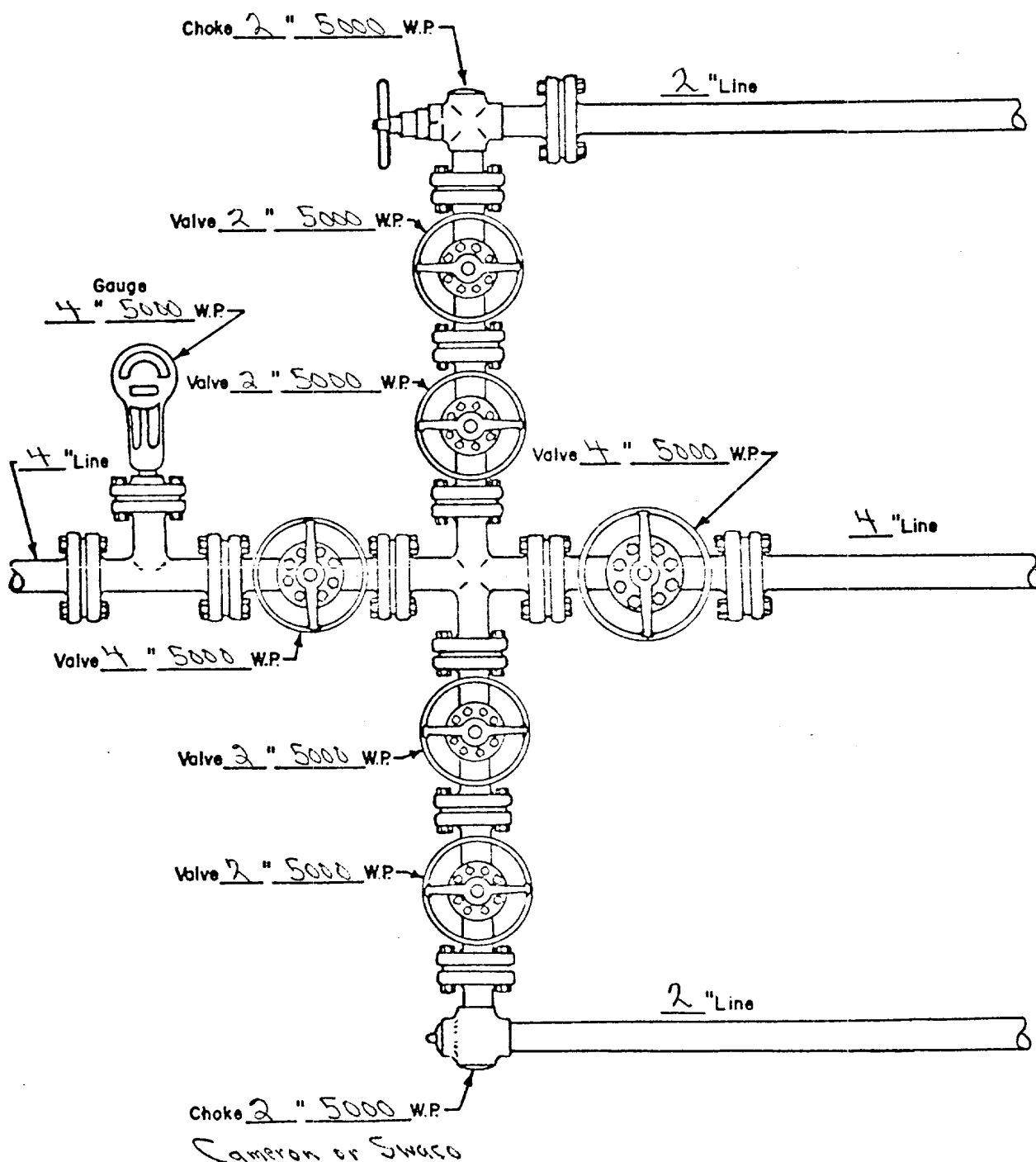


WELL HEAD B.O.P.  
5000 #W.P.

☐ Manual  
☒ Hydraulic

UNION OIL COMPANY OF CALIFORNIA  
**EXHIBIT B-2**

WELL NAME: Tracy Federal No. 1  
LOCATION: 1980' FNL. & 660' FNL of Section 11,  
T-22-S, R-27-E, Eddy County, New Mexico



MANIFOLD  
5000 #W.P.

☒ Manual  
☐ Hydraulic

1-23-74

Location: 1980' FNL & 660' FWL of Section 11,  
T-22-S, R-27-E, Eddy County, New Mexico

T-21-5

T-22-5

