

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

RECEIVED

SEP 03 '87

O. C. D.  
ARTESIA, OFFICE

30-015-25804  
Form C-101  
Revised 10-1-78

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OPERATOR	<input checked="" type="checkbox"/>

5A. Indicate Type of Lease  
STATE ☒ FEE ☐  
5. State Oil & Gas Lease No.  
NM-4681

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work b. Type of Well OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> 2. Name of Operator ARCO Oil & Gas Company 3. Address of Operator Box 1610, Midland, TX 79702 4. Location of Well UNIT LETTER <u>C</u> LOCATED <u>400</u> FEET FROM THE <u>North</u> LINE AND <u>2250</u> FEET FROM THE <u>West</u> LINE OF SEC. <u>2</u> TWP. <u>19S</u> RGE. <u>30E</u> NMPM 11. Elevations (Show whether DF, KI, etc.) 3523.7 GR 21A. Kind & Status Plug. Bond GCA #8 21B. Drilling Contractor Not Selected 22. Approx. Date Work will start 9-15-87		7. Unit Agreement Name 8. Farm or Lease Name State "2" 9. Well No. 2 10. Field and Pool, or Wildcat Shugart-Yts, 7Rvrs, Q, GB 12. County Eddy 19. Proposed Depth 3900 19A. Formation Queen 20. Rotary or C.T. Rotary	
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23.

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12-1/4	8-5/8	24	600	450	Surf
7-7/8	5-1/2	15.5	3900	875	Surf

See attached:

1. Drlg Prognosis
2. BOP Program

Post ID 1  
9-11-87  
API & NEW LOC.

APPROVAL VALID FOR 180 DAYS  
PERMIT EXPIRES 3/9/88  
UNLESS DRILLING UNDERWAY

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. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

Signed Ken W. Gosnell Title Engr. Tech. 915/688-5672 Date 8-31-87

(This space for State Use)

APPROVED BY Danell Moore TITLE Geologist DATE 9/9/87

CONDITIONS OF APPROVAL, IF ANY:

**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

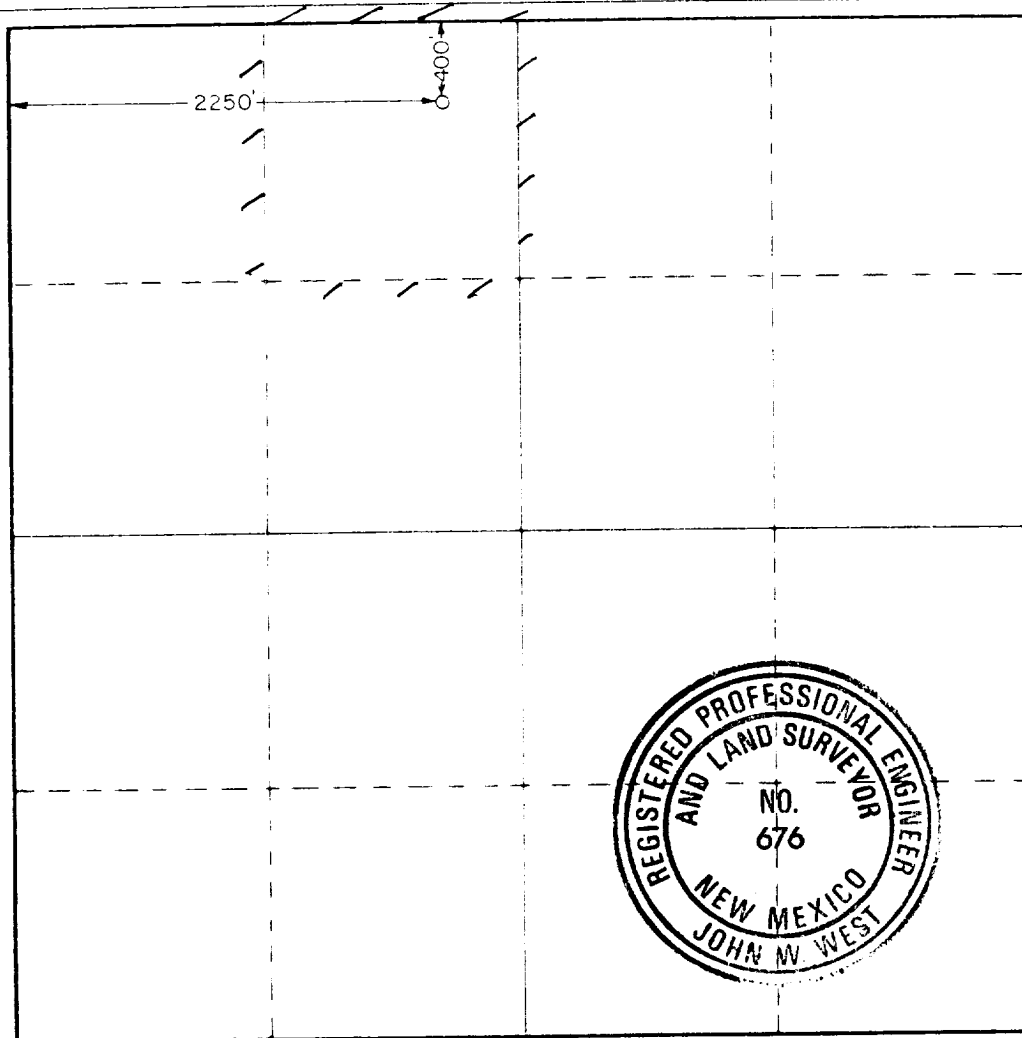
Lessor <b>ARCO OIL &amp; GAS CO.</b>			Lease <b>STATE 2</b>		Well No. <b>2</b>
Tract Letter <b>C</b>	Section <b>2</b>	Township <b>19 SOUTH</b>	Range <b>30 EAST</b>	County <b>EDDY</b>	
Actual Location of Well: <b>400</b> feet from the <b>NORTH</b> line and <b>2250</b> feet from the <b>WEST</b> line					
Ground Level Elev. <b>5523.7</b>	Producing Formation <b>Queen</b>	Pool <b>Shugart</b>	Dedicated Acreage: <b>40</b> 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.

*Ken W. Gosnell*  
Name

*Ken W. Gosnell*  
Position

*Engr. Tech.*  
Company

*ARCO Oil & Gas Co.*

Date  
*8-31-87*

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.

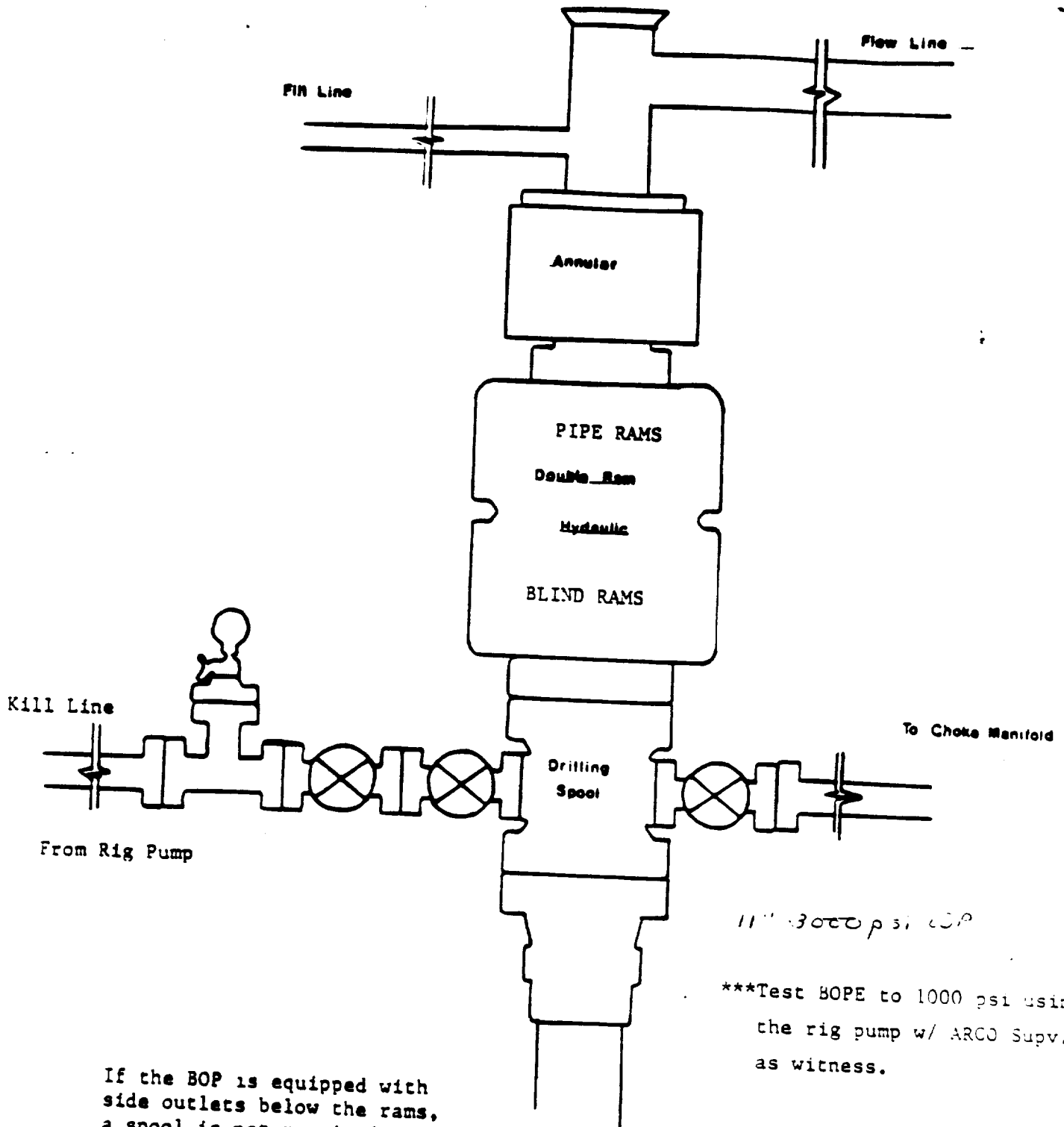
Date Surveyed  
**AUGUST 25, 1987**

Registered Professional Engineer and/or Land Surveyor

*John W. West*

Certificate No. **JOHN W. WEST, 676**  
**RONALD J. EIDSON, 3239**

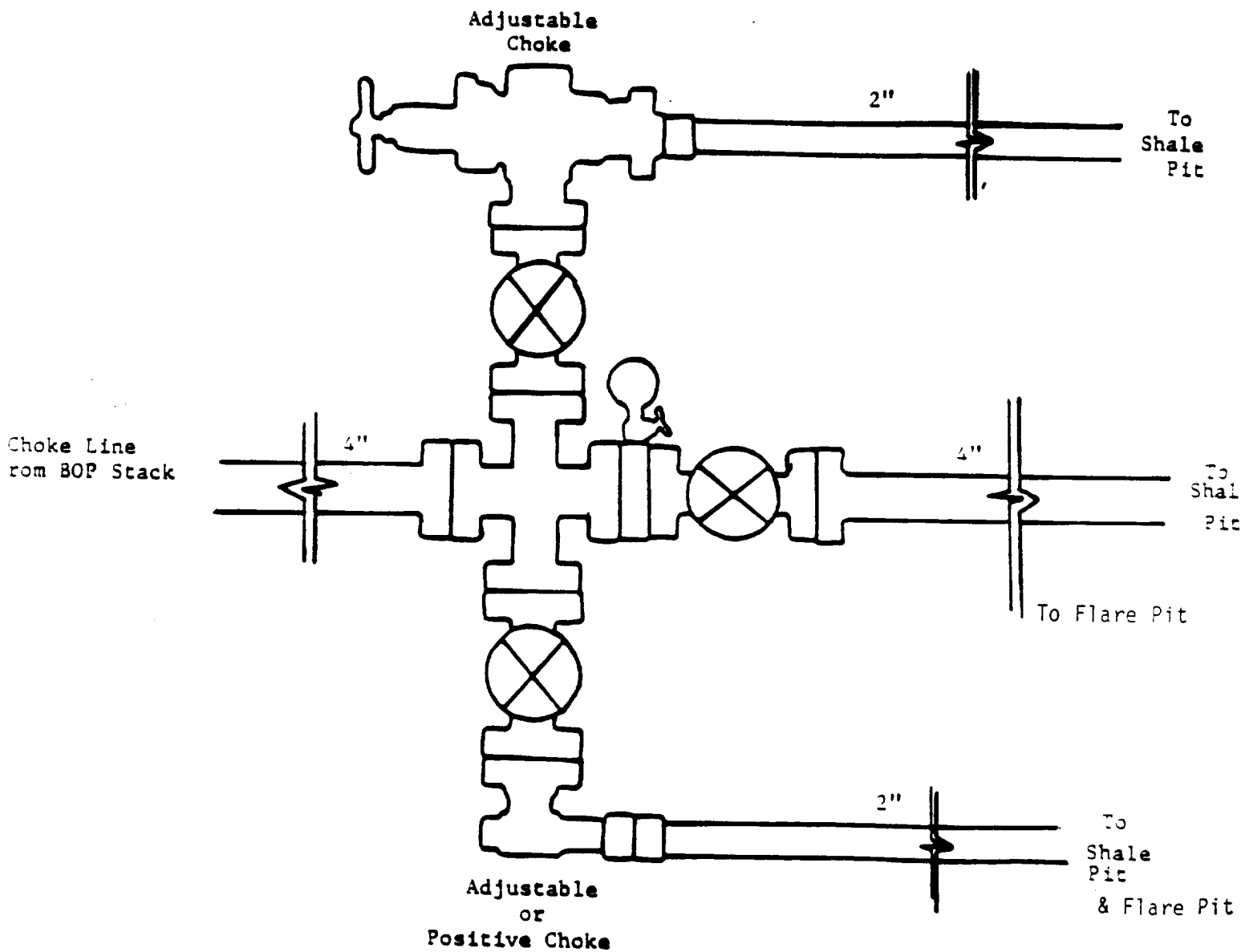
ARCO Oil & Gas  
3000 psi WP BOP Stack  
SR<sub>2</sub>A



If the BOP is equipped with side outlets below the rams, a spool is not required.

\*\*\*Test BOPE to 1000 psi using the rig pump w/ ARCO Supv. as witness.

ARCO Oil & Gas  
3000psi WP Choke Manifold



# Drilling Prognosis

Well name		Date
State "2" Well No. 2		3-9-87
Authorization numbers		
District or province		
Central District/North Area		
Location		
660' FNL and 1980' FWL, Section 2, T19S-R30E		
Eddy Co., New Mexico		
Objectives		
Queen @ 2960'		
Total vertical depth	Total measured depth	
3850'	3850'	
Elevation		
±3525' GL (estimated)		
Estimated formation tops		
Yates	2200'	San Andres 3650'
Seven Rivers	2325'	
Queen	2960'	
Grayburg	3320'	
Well design		
Conductor		
None		
Surface casing		
0-600' 8-5/8", 24#, K-55, STC csg in 12-1/4" hole cmt'd w/450 sx Class 'H' cmt + 2% CaCl <sub>2</sub> (0-600') @ 100% excess.		
Protective casings and liners		
None		
Production casing		
0-3850' 5-1/2", 15.5#, K-55, LTC csg in 7-7/8" hole cmt'd w/475 sx Lite cmt, followed by 400 sx Cl "H" + add. (0-3850') 100% excess overgauge.		
Production liner		
None		
Casinghead		
8-5/8" x 11" 3000 psi WP SOW csghd 11", 3000 psi x 7-1/16" psi tubinghead 3000 psi		
Mud program		
0-600' FW Spud Mud 600-3850' LSW, MW 10.0 ppg, 29 vis Reduce WL to 10 cc for logs. 4/2100-TD.		
Logging program		
Open Hole		Cased Hole
FDC/CNL/GR-Cal	TD - Above Yates	GR/CCL TD - ±2500'
(Run CNL/GR/Cal to 600')		
DLI/MSFL/GR	TD - Above Yates	

Coring program

None

Drill stem tests

None

Samples

2200' - TD 10' Samples

Fluid samples

Circulated mud Sample at TD prior to OH logs.

Mud logging

None

Evaluation

One (1) zone evaluation: Perforate Queen w/±40 shots; acidize w/4000 gals 15% NEFE; frac w/50,000 gal gelled wtr + 60,000# sand. (Through tbg frac at 8 BPM)

Upper limit assumes testing of two (2) Queen formation intervals.  
This would involve an additional 40 holes and a second 4000 gal acid job.

Completion

Single zone pumping oil well w/2-7/8", 6.5#, J-55, 8rd EUE tubing

CU will include a TAC, SN, perf sub, and mud anchor.