

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK  
DRILL ☒ DEEPEN ☐

b. TYPE OF WELL  
OIL WELL ☐ GAS WELL ☒ OTHER ☐ SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR  
POGO PRODUCING COMPANY (RICHARD WRIGHT) 915-688-8120

3. ADDRESS AND TELEPHONE NO.  
P.O. BOX 10340 MIDLAND, TEXAS 79702-7340 (915) 695-8100

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
At surface  
660' FNL & 2550' FWL SECTION 4 T20S-R27E EDDY CO. NM  
At proposed prod. zone SAME

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
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7. UNIT AGREEMENT NAME  
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8. FARM OR LEASE NAME WELL NO.  
Mc MILLAN "4" FED. COM. # 1

9. API WELL NO.  
30-015-32979

10. FIELD AND POOL OR WILDCAT  
McMILLAN MORROW-NORTH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
SECTION 4 T20S-R27E

12. COUNTY OR PARISH  
EDDY CO.

13. STATE  
NEW MEXICO

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE  
Approximately 12 miles North North East of Carlsbad New Mexico.

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  
640

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.  
2250'

19. PROPOSED DEPTH  
11,000'

20. ROTARY OR CABLE TOOLS  
ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
3417' GR.

22. APPROX. DATE WORK WILL START WHEN APPROVED  
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PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
25"	Conductor	NA	40'	Witness Cement to surface with Redi-mix.
17 1/2"	H-40 13 3/8"	48	250'	Witness 250 Sx. Circulate cement to surface.
12 1/4"	J-55 9 5/8"	40.5	3000'	Witness 1200 Sx. " " " "
* 8 1/2"	J-55 7"	26	9000'	750 Sx. Estimate TOC 2000' FS.
7 7/8"	L-80 5 1/2"	17	11,000'	1200 Sx " " " "
* 6 1/8"	L-80 5"	18	8800-11,000' (liner)	300 Sx. Top of cement liner hanger.

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

SEE ATTACHED SHEET FOR DRILLING & CEMENTING  
PROGRAM.

ROSWELL CONTROLLED WATER BASIN

POGO PRODUCING COMPANY accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land under this lease.  
Lease # NM-92756

NSL -4944

1. ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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.

SIGNED Joe T. Yarnia TITLE Agent DATE 07/30/03

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY /s/ Leslie A. Theiss TITLE FIELD MANAGER DATE 26 AUG 2003

\*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR

POGO PRODUCING COMPANY  
McMILLAN "4" FEDERAL COM. # 1  
LOT 3 UNIT "C" SECTION 4  
T20S-R27E EDDY CO. NM

1. Drill 25" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
2. Drill 17½" hole to 250'. Run and set 250' of 13 3/8" 48# H-40 ST&C casing. Cement with 250 Sx. of Class "C" cement + 2% CaCl, + ¼# Flocele/Sx. circulate cement to surface.
3. Drill 12¼" hole to 3000'. Run and set 3000' of 9 5/8" 40.5# J-55 ST&C casing. Cement with 1200 Sx. of Class "C" cement + 2% CaCl, + ¼# Flocele/Sx. circulate cement.
4. Drill 8½" hole to 9000'± (through the Cisco) if no lost circulation problems occur reduce the hole size to 7 7/8" and drill to total depth of 11,000'. Run and set 11,000' of 5½" 17# N-80 LT&C casing. Cement in 3 stages with DVtools set at 9100' & 6000' ±. Cement with 1200 Sx. of Class "H" cement + additives, estimate top of cement 2000' from surface.
5. If lost circulation presents a problem in the Cisco drill through the Cisco and set 7" 26# J-55 LT&C casing. Cement with 500 Sx. of Class "C" cement + additives, tail in with 250 Sx. of Class "H" cement + additives, estimate top of cement 2000' from surface. Drill out from under the 7" casing with a 6 1/8" bit to 11,000'. Run a 2200' 5" 18# ST&C L-80 liner from 11,000' back to 8800'. Cement with 300 Sx. of Class "H" Premium Plus cement + additives.

DISTRICT I  
1825 N. French Dr., Hobbs, NM 88240

DISTRICT II  
811 South First, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised March 17, 1999

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

2040 South Pacheco  
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 81280	Pool Name McMILLAN MORROW-NORTH
Property Code	Property Name McMILLAN "4" FEDERAL COM	Well Number 1
OGRID No. 17891	Operator Name POGO PRODUCING COMPANY	Elevation 3417'

Surface Location

UL or lot No. LOT 3	Section 4	Township 20 S	Range 27 E	Lot Idn	Feet from the 660	North/South line NORTH	Feet from the 2550	East/West line WEST	County EDDY
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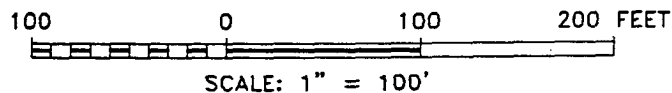
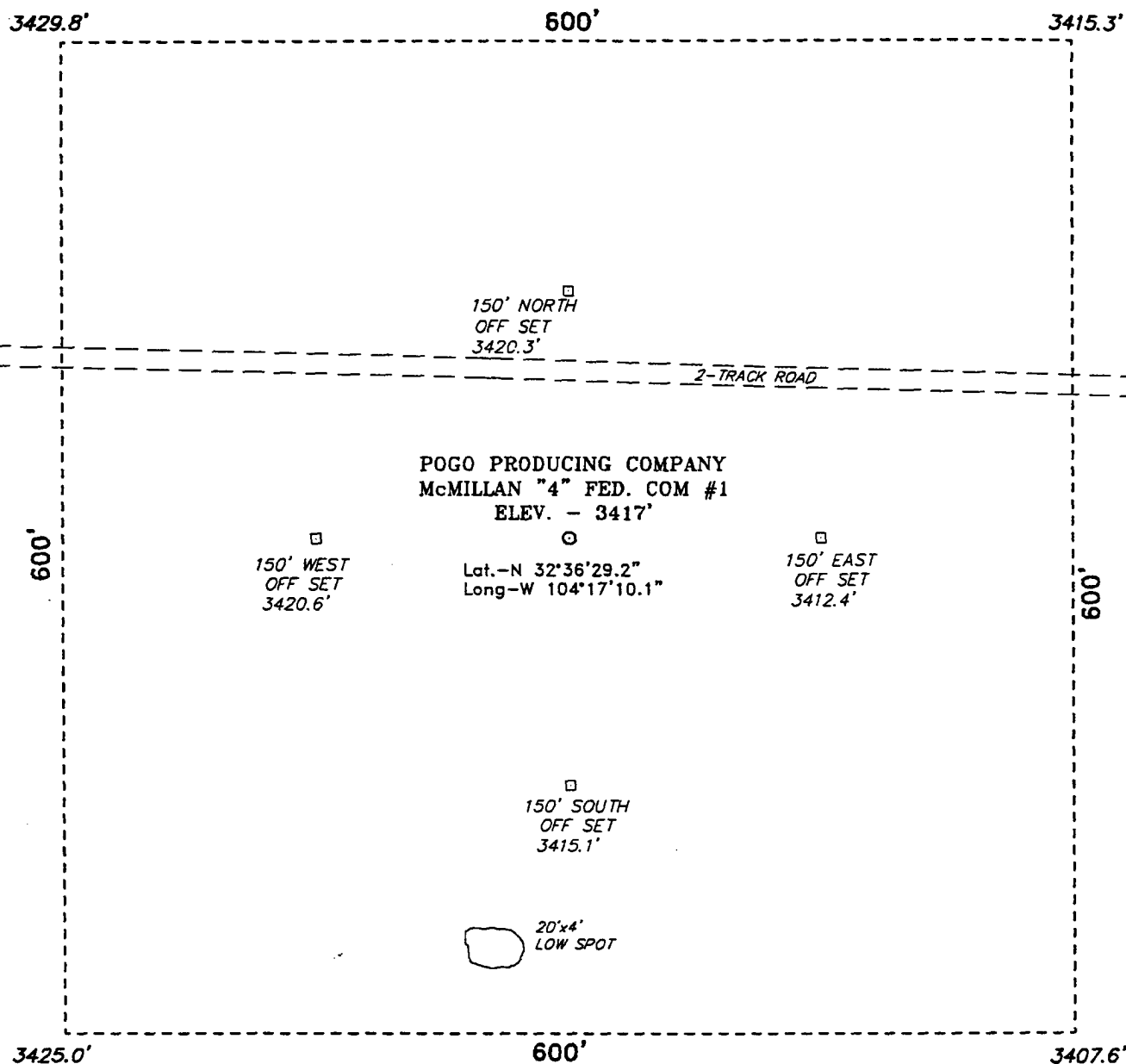
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

				<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p></p> <p>Signature</p> <p>Joe T. Janica</p> <p>Printed Name</p> <p>Agent</p> <p>Title</p> <p>07/30/03</p> <p>Date</p>	
<p>EXHIBIT "A"</p>				<p>SURVEYOR CERTIFICATION</p> <p>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 belief.</p> <p>JULY 14 2003</p> <p>Date Surveyed</p> <p>L. JONES</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p>W.D. No. 3453</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>	

**SECTION 4, TOWNSHIP 20 SOUTH, RANGE 27 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.**



**Directions to Location:**

FROM THE JUNCTION OF CO. RD. 236 AND CO. RD. 206, GO WEST AND SOUTHWEST ON CO. RD. 206 FOR APPROX. 6.5 MILES TO A LEASE ROAD; THENCE EAST ON LEASE ROAD FOR APPROX. 0.9 MILE TO A POINT ON THE PROPOSED WELL PAD.

**BASIN SURVEYS** P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 3433 Drawn By: K. GOAD

Date: 07-15-2003 Disk: KJG CD#4 - 3433A.DWG

**POGO PRODUCING CO.**

REF: McMILLAN "4" FED. COM #1 / Well Pad Topo

THE McMILLAN "4" FED. COM No. 1 LOCATED 660' FROM THE NORTH LINE AND 2550' FROM THE WEST LINE OF SECTION 4, TOWNSHIP 20 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 07-14-2003 Sheet 1 of 1 Sheets

# APPLICATION TO DRILL

POGO PRODUCING COMPANY  
McMILLAN "4" FEDERAL COM. # 1  
UNIT "C" SECTION 4  
T20S-R27E EDDY CO. NM

In response to questions asked under Section II of Bulletin NTL-6 the following information on the above well is provided for your consideration.

1. Location of well: 660' FNL & 2550' FWL SECTION 4 T20S-R27E EDDY CO. NM

2. Ground Elevation above Sea Level: 3417' GR.

3. Geological age of surface formation: Quaternary Deposits:

4. Drilling tools and associated equipment: Conventional rotary drilling rig using drilling mud as a circulating medium to remove solids from hole.

5. Proposed drilling depth: 11,000'

6. Estimated tops of geological markers:

Yates	421'	Strawn	9330'
Bone Spring Lime	2600'	Atoka	9730'
Wolfcamp	7860'	Morrow Clastics	10180'
Cisco	8300'	Mississippian	10600'

7. Possible mineral bearing formations:

Bone Spring	Oil	Strawn	Gas
Wolfcamp	Oil	Atoka	Gas
Cisco	Gas	Morrow	Gas

8. Casing Program:

Hole Size	Interval	OD of Casing	Weight	Thread	Collar	Grade
25"	0-40'	20"	NA	NA	NA	Conductor
17½"	0-250'	13 3/8"	48#	8-R	ST&C	H-40
12¼"	0-3000'	9 5/8"	40.5#	8-R	ST&C	J-55
* 8½"	0-9200'	7"	26#	8-R	LT&C	J-55
7 7/8"	9200-11000'	5½"	17#	8-R	LT&C	L-80
6 1/8"	9200-11000'	5"	18#	8-R	LT&C	N-80

\* If lost circulation in the Cisco is a problem run this string. Then drill out with a 6 1/8" bit to TD and run a 5" liner. If no lost circulation is encountered in the Cisco reduce hole from 8½" bit to 7 7/8" and drill to TD and run 5½" casing.

## APPLICATION TO DRILL

POGO PRODUCING COMPANY  
 McMILLAN "4" FEDERAL COM. # 1  
 UNIT "C" SECTION 4  
 T20S-R27E EDDY CO. NM

9. CEMENTING AND CASING SETTING DEPTH:

- 20" Conductor Set 40' of 20" conductor and cement to surface with Redi-mix.
- 13 3/8" Surface Set <sup>425'</sup>250' of 13 3/8" 48# H-40 ST&C casing. Cement with 250 Sx. of Class "C" cement + 1/2# Flocele/Sx, + 2% CaCl circulate cement to surface.
- 9 5/8" Intermediate Set 3000' of 9 5/8" 40.5# J-55 ST&C casing. Cement with 1200 Sx. of Class "C" cement + 2% CaCl, + 1/2# Flocele/Sx. Circulate cement to surface.
- \* 7" 2nd Intermediate If circulation is lost in the Cisco, set 9000' of 7" 26# J-55 LT&C, cement with 500 Sx. of Class "C" cement + additives, tail in with 250 Sx. of Class "H" cement. + additives, estimate top of cement 2000' from surface:
- \* 5" Production liner. Set a 2200' 5" 18# N-80 LT&C liner cement with 300 Sx. of Class "H" Premium Plus cement + additives.
- 5 1/2" Production If no lost circulation problems occur in the Cisco drill through the Cisco and reduce hole to 7 7/8" and drill to 11000' Run 11,000' of 5 1/2" 17# L-80 LT&C casing. Set DV Tools at 9100' & 6000'. Cement 1st stage with 300 Sx. of Class "H" Premium Plus + additives, 2nd stage cement with 950 Sx. of Class "C" cement + additives estimate top of cement 2000' from surface
- \* If lost circulation occurs in the Cisco.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 1500 Series 5000 PSI working pressure B.O.P., consisting of an annular bag type preventor, middle blind rams and bottom pipe rams. The B.O.P. will be nipped up on the 13 3/8" casing and tested to API specifications. The B.O.P. will be operated at least once in each 24 hour period and the blind rams will be operated when drill pipe is out of hole on trips. Full opening stabbing valve and upper kelly cock will be utilized. Exhibit "E-1" shows a hydraulically operated closing unit and a 3" 5000 PSI choke manifold with dual adjustable chokes. No abnormal pressures or temperatures are expected.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40- <del>250</del> <sup>425'</sup>	8.4-8.6	29-32	NC	Fresh water use paper to control seepage.
<sup>425'</sup> 250-3000'	10.0-10.3	29-36	NC	<sup>Fresh</sup> Brine water use paper to control seepage and high viscosity sweeps to clean hole.
3000-9500'	8.4-8.7	29-40	NC	Fresh water mud system use high viscosity sweeps to clean hole.
9500-11,000'	8.4-8.7	32-42	10 cc or less	Fresh water use Gel for viscosity and Drispac to control water loss.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, and casing viscosity and/or water loss may have to be adjusted to meet these needs.

APPLICATION TO DRILL

POGO PRODUCING COMPANY  
McMILLAN "4" FEDERAL COM. # 1  
UNIT "C" SECTION 4  
T20S-R27E EDDY CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs: Dual Induction, LDT, CNL, Gamma Ray, Caliper from TD back to 9 5/8" casing shoe.
- B. Cased hole logs: Gamma Ray, Neutron from 9 5/8" casing shoe to surface.
- C. Mud logger on hole at 3000' to TD.
- D. Cores and DST's will be taken as shows dictate.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H<sup>2</sup>S in this area. If H<sup>2</sup>S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 5000 PSI, and Estimated BHT 175°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 40 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Morrow formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialized as a gas well.

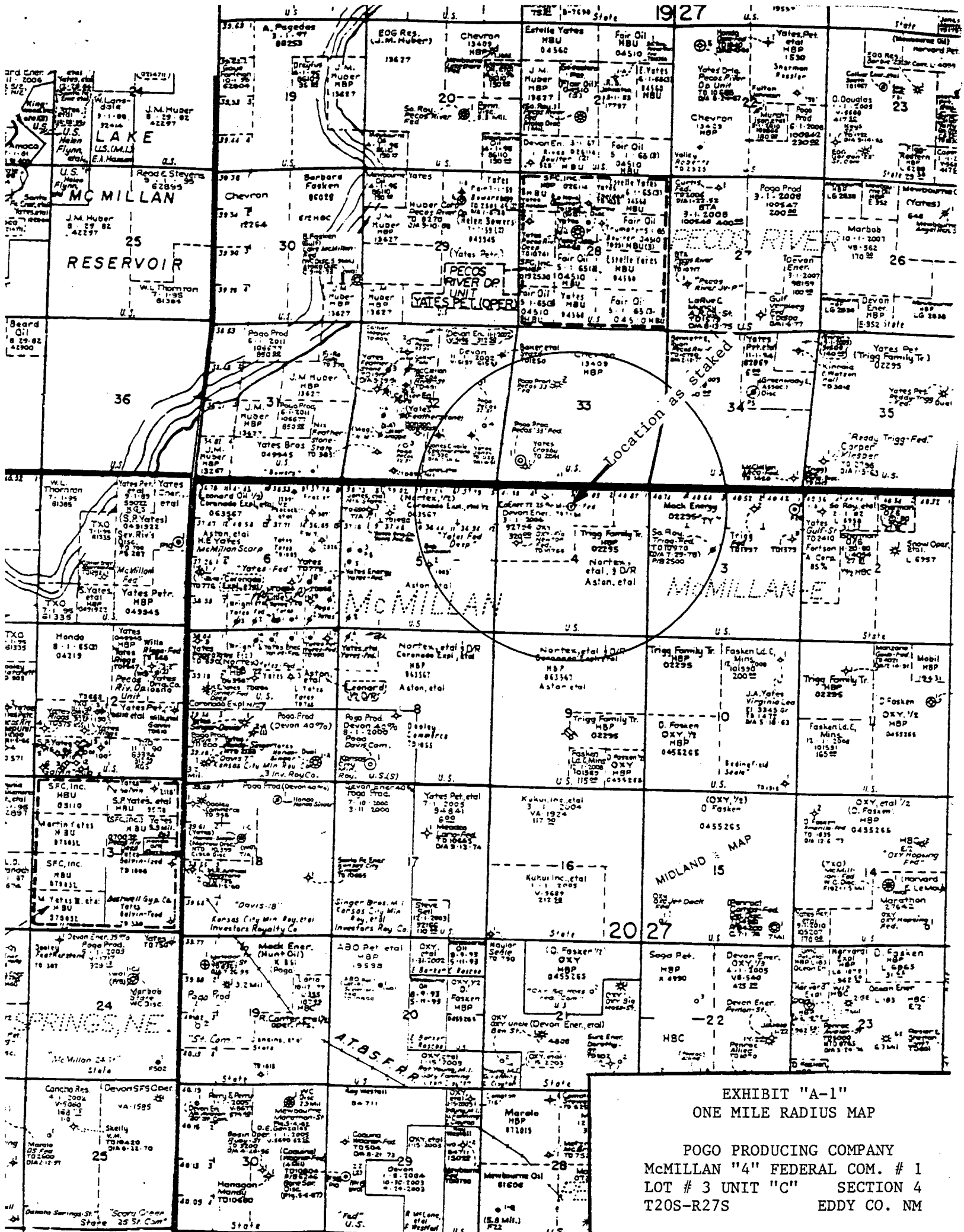
## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazards
  - C. Proper use of safety equipment and life support systems.
  - D. Principle and operation of H<sub>2</sub>S detectors, warning system and briefing areas.
  - E. Evacuation procedure, routes and first aid.
  - F. Proper use of 30 minute pressure demand air pack.
2. H<sub>2</sub>S Detection and Alarm Systems
  - A. H<sub>2</sub>S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
3. Windsock and/or wind streamers
  - A. Windsock at mudpit area should be high enough to be visible.
  - B. Windsock at briefing area should be high enough to be visible.
  - C. There should be a windsock at entrance to location.
4. Condition Flags and Signs
  - A. Warning sign on access road to location.
  - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H<sub>2</sub>S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well control equipment
  - A. See exhibit "E" & "E-1"
6. Communication
  - A. While working under masks chalkboards will be used for communication.
  - B. Hand signals will be used where chalk board is inappropriate.
  - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.
7. Drillstem Testing
  - A. Exhausts will be watered.
  - B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
  - C. If the location is near to a dwelling a closed DST will be performed.



## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects H<sub>2</sub>S has on tubular goods and other mechanical equipment.
9. If H<sub>2</sub>S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H<sub>2</sub>S scavengers if necessary.



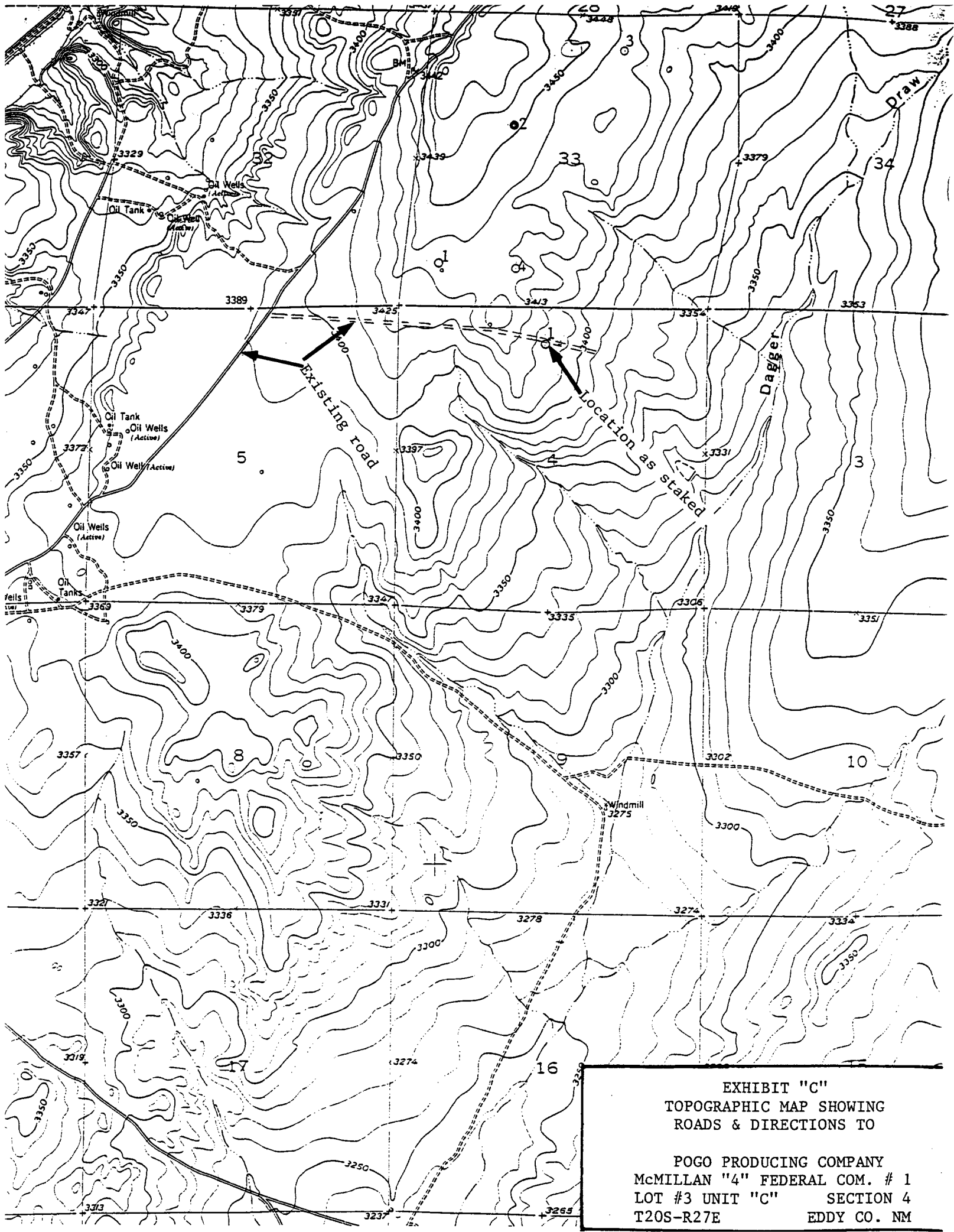
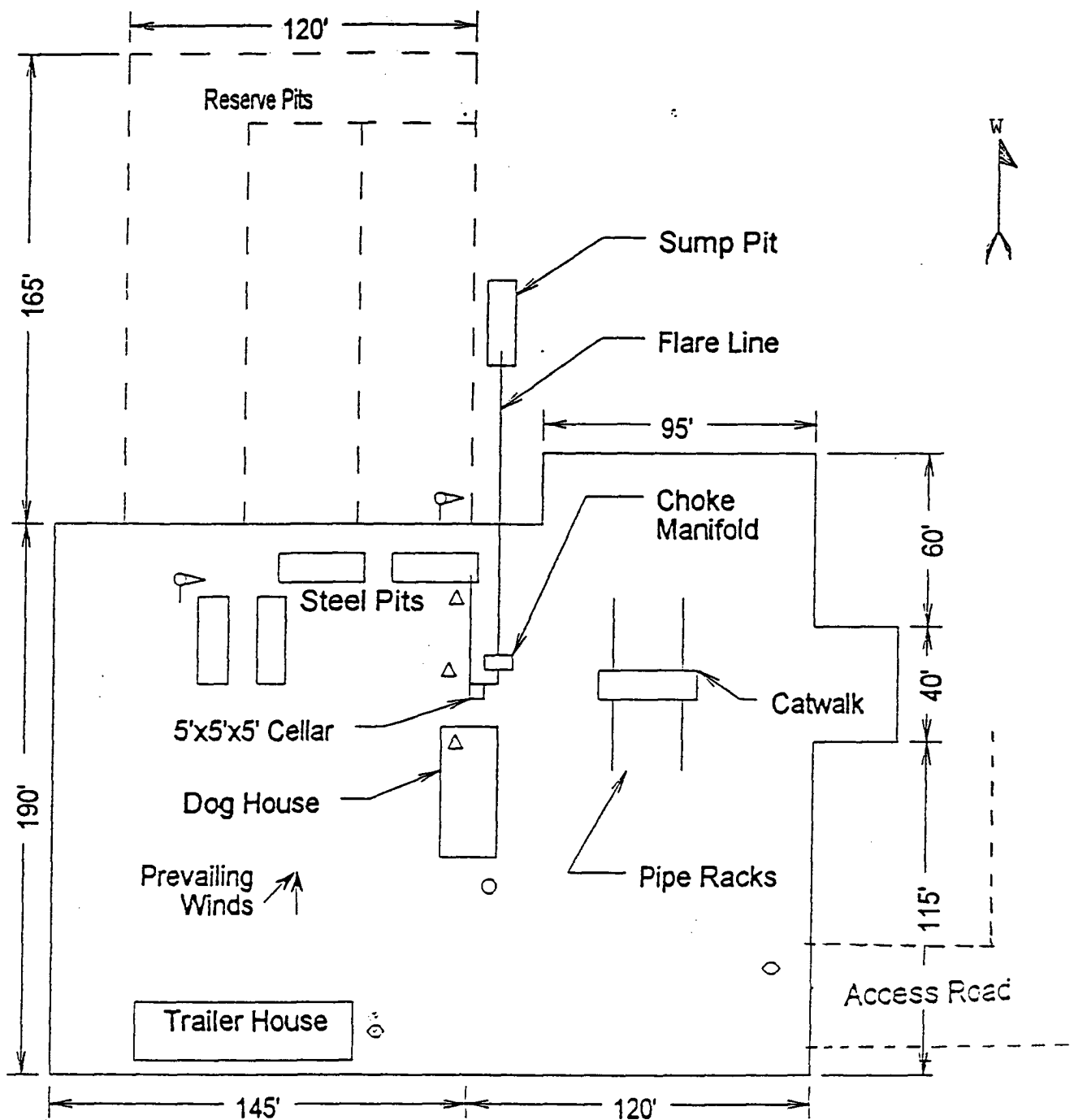


EXHIBIT "C"  
TOPOGRAPHIC MAP SHOWING  
ROADS & DIRECTIONS TO

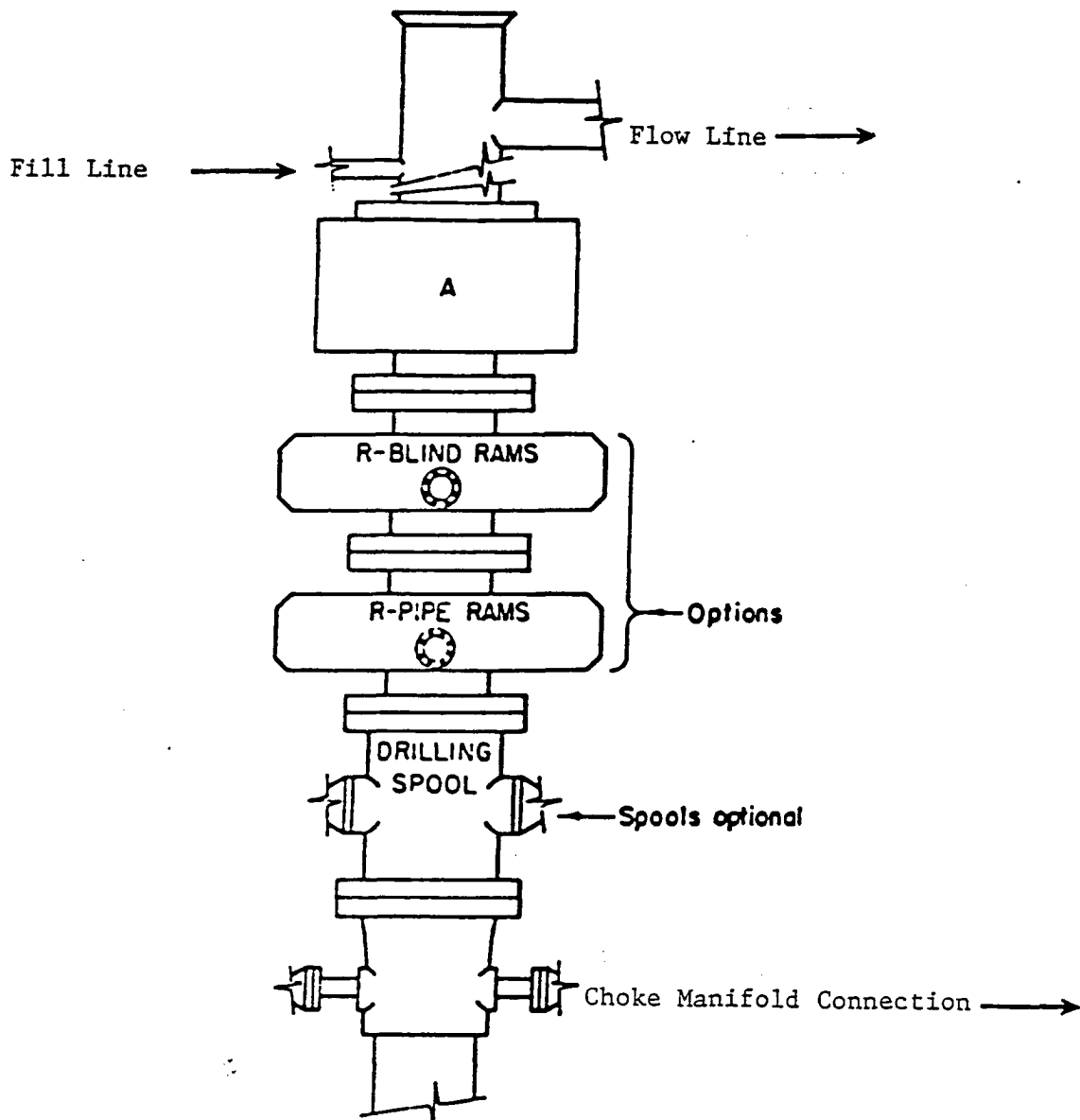
POGO PRODUCING COMPANY  
McMILLAN "4" FEDERAL COM. # 1  
LOT #3 UNIT "C" SECTION 4  
T20S-R27E EDDY CO. NM



- ☙ Wind Direction Indicators  
(wind sock or streamers)
- △ H2S Monitors  
(alarms at bell nipple and shale shaker)
- Briefing Areas
- Remote BOP Closing Unit
- Sign and Condition Flags

EXHIBIT "D"  
RIG LAYOUT PLAT

POGO PRODUCING COMPANY  
McMILLAN "4" FEDERAL COM. # 1  
LOT #3 UNIT "C" SECTION 4  
T20S-R27E EDDY CO. NM



### ARRANGEMENT SRRA

1500 Series  
5000 PSI WP

EXHIBIT "E"  
SKETCH OF B.O.P. TO BE USED ON

POGO PRODUCING COMPANY  
McMILLAN "4" FEDERAL COM. # 1  
LOT # 3 UNIT "C" SECTION 4  
T20S-R27E EDDY CO. NM

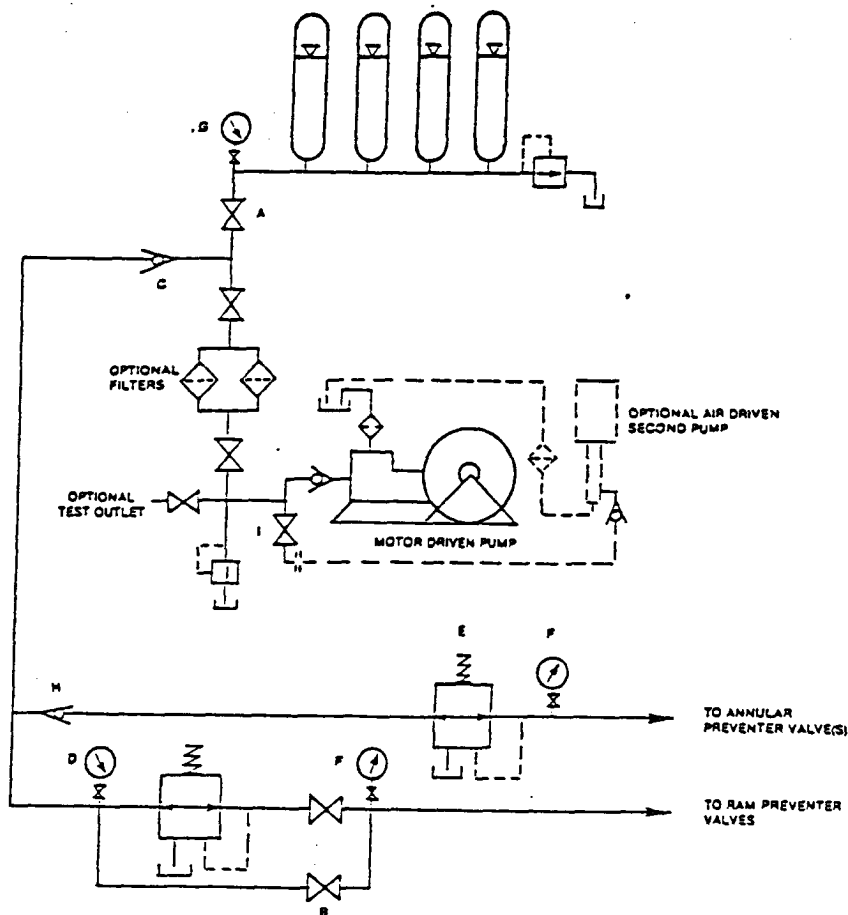


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

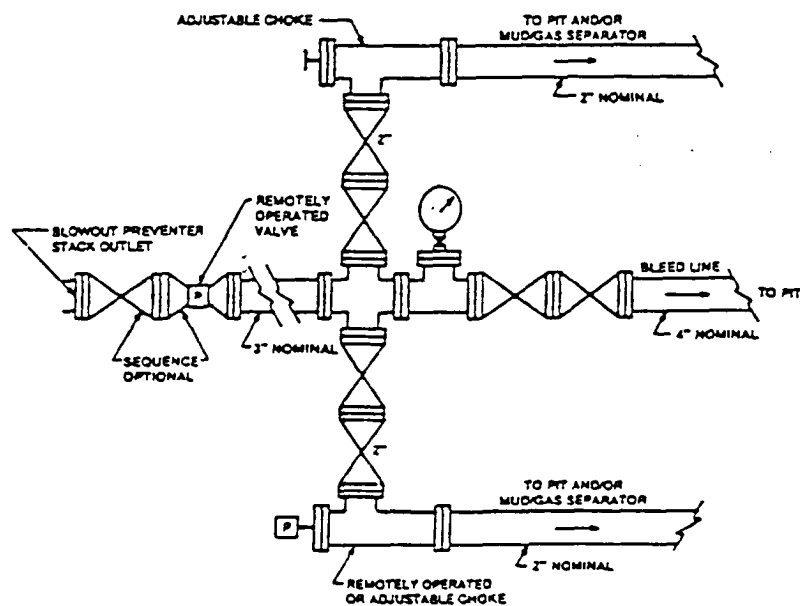


FIGURE K4-2. Typical choke manifold assembly for 5M rated working pressure service — surface installation.

EXHIBIT E-1"  
CHOKE MANIFOLD & CLOSING UNIT

POGO PRODUCING COMPANY  
McMILLAN "4" FEDERAL COM. # 1  
LOT #3 UNIT "C" SECTION 4  
T20S-R27E EDDY CO. NM

September 2, 2003

Pogo Producing Company  
c/o James Bruce  
P. O. Box 1056  
Santa Fe, New Mexico 87504

*Administrative Order NSL-4944*

Dear Mr. Bruce:

Reference is made to the following: (i) your application on behalf of the operator, Pogo Producing Company ("Pogo"), submitted to the New Mexico Oil Conservation Division ("Division") on August 26, 2003 (*administrative application reference No. pMES0-323935568*); and (iii) the Division's records in Santa Fe: all concerning Pogo's request for an exception to the well location provisions of Division Rule 104.C (2) (a), revised by Division Order No. R-11231, issued by the New Mexico Oil Conservation Commission in Case No. 12119 on August 12, 1999, limited to only those formations within the Pennsylvanian system, for its proposed McMillan "4" Federal Com. Well No. 1 to be drilled at an unorthodox deep gas well location 660 feet from the North line and 2550 feet from the West line (Lot 3/Unit C) of Section 4, Township 20 South, Range 27 East, NMPM, Eddy County, New Mexico.

Pursuant to Division Rule 104.C (2), this well is to be dedicated to Lots 1 through 4 and the S/2 N/2 (N/2 equivalent) of Section 4, being a standard 324.40-acre lay-down gas spacing unit for any and all formations and/or pools from the base of the Wolfcamp formation to the base of the Morrow formation, which presently include but are not necessarily limited to the Undesignated Angell-Atoka/Morrow Gas Pool (**70310**) and Undesignated North McMillan-Morrow Gas Pool (**81280**).

This application has been duly filed under the provisions of Division Rule 104.F, as revised.

The geological interpretation submitted with this application indicates that a well drilled at the proposed unorthodox gas well location will be at a more favorable geologic position within the Cisco dolomite, which is the primary zone of interest, than a well drilled at a location considered to be standard within the N/2 equivalent of Section 4.

By the authority granted me under the provisions of Division Rule 104.F (2), as revised, the above-described unorthodox deep gas well location, limited to the above-described vertical extent, within this 324.40-acre unit comprising the N/2 equivalent of Section 4 is hereby approved.

Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

Sincerely,

Lori Wrotenbery  
Director

LW/mes

cc: New Mexico Oil Conservation Division – Artesia  
U. S. Bureau of Land Management – Carlsbad