

N.M. Oil Cons. Div-Dist 2
UNITED STATES 301 W. Grand Avenue
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Artesia, NM 88210FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

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 915-685-8140)

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' FSL & 660' FWL SECTION 8 T24S-R31E EDDY CO. NM

At proposed prod. zone SAME

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

Approximately 26 miles Southeast of Carlsbad New Mexico

15. DISTANCE FROM PROPOSED*

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

660'

16. NO. OF ACRES IN LEASE

320

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION*

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

1320'

19. PROPOSED DEPTH

8500'

20. ROTARY OR CABLE TOOLS

ROTARY

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

3533' GR. Carlsbad Controlled Water Basin

22. APPROX. DATE WORK WILL START*
WHEN APPROVED

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
25"	Conductor	NA	40'	Cement to surface with Redi-mix.
17½"	H-40 13 3/8"	48	600'	800 Sx. circulate cement to surface.
11"	J-55 8 5/8"	32	4150'	1200 Sx. " " " "
7 7/8"	J-55 5½"	17 & 15.5	8500'	1750 Sx. 3 stages TOC Surface.

1. Drill 25" hole to 40'. Set 40' of 20" conductor and cement to surface with Redi-mix.
2. Drill 17½" hole to 600'. Run and set 600' of 13 3/8" 48# H-40 ST&C casing. Cement with 600 Sx. of 65/35/6 Class "C" POZ/ GEL, tail in with 200 Sx. of Class "C" cement + 2% CaCl, + ½# Flocele/Sx. circulate cement to surface.
3. Drill 11" hole to 4150'. Run and set 4150' of 8 5/8" 32# J-55 ST&C casing. Cement with 1000 Sx. of 65/35/6 Class "C" POZ/GEL + 5% Salt, tail in with 200 Sx. of Class "C" cement + 2% CaCl, + ½# Flocele/Sx. Circulate cement to surface.
4. Drill 7 7/8" hole to 8500'. Run and set 8500' of 5½" casing as follows: 2500' of 5½" 17# J-55 LT&C, 5000' of 5½" 15.5# J-55 LT&C, 1000' of 5½" 17# J-55 LT&C. Cement in 3 stages with DV Tools at 5800' 7 3700'±. Cement 1st stage with 650 Sx. of Class "H" cement + additives, Cement 2nd stage with 600 Sx. of Class "C" cement + 8# of Gilsonite/ Sx. Cement 3rd stage with 400 Sx. of 65/35/6 Class "C" POZ/GEL, tail in with 100 Sx. of Class "C" cement + 1% CaCl. Circulate cement to surface.

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 open directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

SIGNED Joe T. Janice TITLE Agent

DATE 02/18/03

(This space for Federal or State office use)

PERMIT NO. _____

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

Application approval does not warrant or certify that the applicant holds legal or equitable title to the surface or subsurface. The applicant to conduct operations shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY 151 GARY L. JOHNSON TITLE ACTING STATE DIRECTOR

DATE APR 28 2003

*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR

18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the

DISTRICT I

P.O. Box 1880, Hobbs, NM 88241-1880

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised February 10, 1994

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II

P.O. Drawer DD, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

P.O. BOX 2088, SANTA FE, N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 53818	Pool Name SAND DUNES DELAWARE-SOUTH
Property Code	Property Name SUNDANCE "8" FED.	Well Number 3
OGRID No. 17891	Operator Name POGO PRODUCING COMPANY	Elevation 3533'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	8	24-S	31-E		660	SOUTH	660	WEST	EDDY

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 40	Joint or Infill	Consolidation Code	Order No.
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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>WGS 84 LAT. 32°13'35.12"N LONG. 103°48'22.57"W</p> <p>SEE DETAIL</p>	<p>DETAIL</p>	<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><i>Joe T. Janica</i> Signature</p> <p>Joe T. Janica Printed Name</p> <p>Agent Title</p> <p>02/18/03 Date</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>JANUARY 21, 2003</p> <p>Date Surveyed</p> <p>Signature & Seal of Professional Surveyor</p> <p><i>Ronald J. Eidson</i> 03.17.0098</p> <p>Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641</p>

EXHIBIT "A"

APPLICATION TO DRILL

POGO PRODUCING COMPANY
SUNDANCE "8" FEDERAL # 3
UNIT "M" SECTION 8
T24S-R31E 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: 660' FSL & 660' FWL SECTION 8 T24S-R31E EDDY CO. NM

2. Elevation above Sea Level: 3533' GR.

3. Geologic name of surface formation: Quaternary Aeolian Deposits.

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

5. Proposed drilling depth: 8500'

6. Estimated tops of geological markers:

Rustler Anhydrite	550'	Cherry Canyon	5220'
Basal Anhydrite	4030'	Manzanita	5400'
Delaware Lime	4250'	Brushy Canyon	6480'
Bell Canyon	4280'	Bone Spring	8170'

7. Possible mineral bearing formations:

Brushy Canyon	Oil
Bone Spring	Oil

8. Casing program:

Hole size	Interval	OD of casing	Weight	Thread	Collar	Grade
25"	0-40'	20"	NA	NA	NA	Conductor
17½"	0-600'	13 3/8"	48	8-R	ST&C	H-40
11"	0-4150'	8 5/8"	32	8-R	ST&C	J-55
7 7/8"	0-8500'	5½"	17# & 15.5	8-R	LT&C	J-55

APPLICATION TO DRILL

POGO PRODUCING COMPANY
SUNDANCE "8" FEDERAL # 3
UNIT "M" SECTION 8
T24S-R31E EDDY CO. NM

9. CASING CEMENTING & SETTING DEPT.

20"	Conductor	Set 40' of 20" conductor and cement to surface with Redi-mix.
13 3/8"	Surface	Set 600' of 13 3/8" 48# H-40 ST&C casing. Cement with 600 Sx. of 65/35/6 Class "C" POZ/GEL, tail in with 200 Sx. of Class "C" cement + 2% CaCl, circulate cement.
8 5/8"	Intermediate	Set 4150' of 8 5/8" 32# J-55 ST&C casing. Cement with 1000 Sx. of 65/35/6 Class "C" POZ/GEL, + 5% NaCl, tail in with 200 Sx. of Class "C" cement + 2% CaCl + 1/4# Flocele/Sx. circulate cement to surface.
5 1/2"	Production	Set 8500' of 5 1/2" casing as follows: 2500' of 5 1/2 17# J-55 LT&C, 5000' of 5 1/2 15.5# J-55 LT&C, 1000' of 5 1/2 17# J-55 LT&C. Cement in 3 stages with DV Tools at 5800' & 3700'±. Cement 1st stage with 650 Sx. of Class "H" + additives, 2nd stage cement with 600 Sx. of Class "C" cement + 8# of Gilsonite/Sx. 3rd stage cement with 400 Sx. of Class "C" 65/35/6 POZ/GEL, tail in with 100 Sx. of Class "C" cement + 1% CaCl, circulate cement to surface.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 Series 3000 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 2" 3000 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
40-600'	8.4-8.7	29-34	NC	Fresh water add paper to control seepage.
600-4150'	10.0-10.2	29-38	NC	Brine water add paper to control seepage and use high viscosity sweeps to clean hole.
4150'-8500'	8.4-8.7	29-40	NC*	Fresh water use fresh water Gel to control viscosity and use high viscosity sweeps to clean hole.

* If water loss control is required in order to run DST's, open hole logs and running casing go to a Polymer system.

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
SUNDANCE "8" FEDERAL # 3
UNIT "M" SECTION 8
T24S-R31E EDDY CO. NM

12. LOGGING, TESTING, & COREING PROGRAM:

- A. Open hole logs: Dual Induction, SNP, LDT, Gamma Ray, Caliper from TD back to 8 5/8" casing shoe at 4150'±.
- B. Cased hole logs: Run Gamma Ray, Neutron from 4150'± back to surface. Run Collar logs after casing for tie in to producing zone.
- C. Mud logger will be placed on hole after Intermediate casing is run,
- D. No cores or DST's are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. Hydrogen Sulfide gas may be encountered, H₂S detectors will be in place to detect any presence of unsafe levels of H₂S. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operations of all equipment that will be used. Estimated BHP 4200 PSI & estimated BHT 160°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Roads and location construction will begin after the BLM approves the APD. Anticipated spud date will be as soon as pad & road construction has been completed. Drilling time for the well is estimated to take 36 days. If production casing is run an additional 30 days will be required to complete well and construct surface facilities.

15. OTHER FACETS OF OPERATION:

After running production casing, cased hole Gamma-Neutron & Collar logs will be run over all possible pay intervals. If commercial production from the Bone Spring pay is indicated it will be perforated and stimulated. Then if necessary the pay will be swab tested and completed as an oil well.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
2. H₂S Detection and Alarm Systems
 - A. H₂S detectors and audio alarm system to be located at bell nipple, end of bloop 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, H₂S 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.

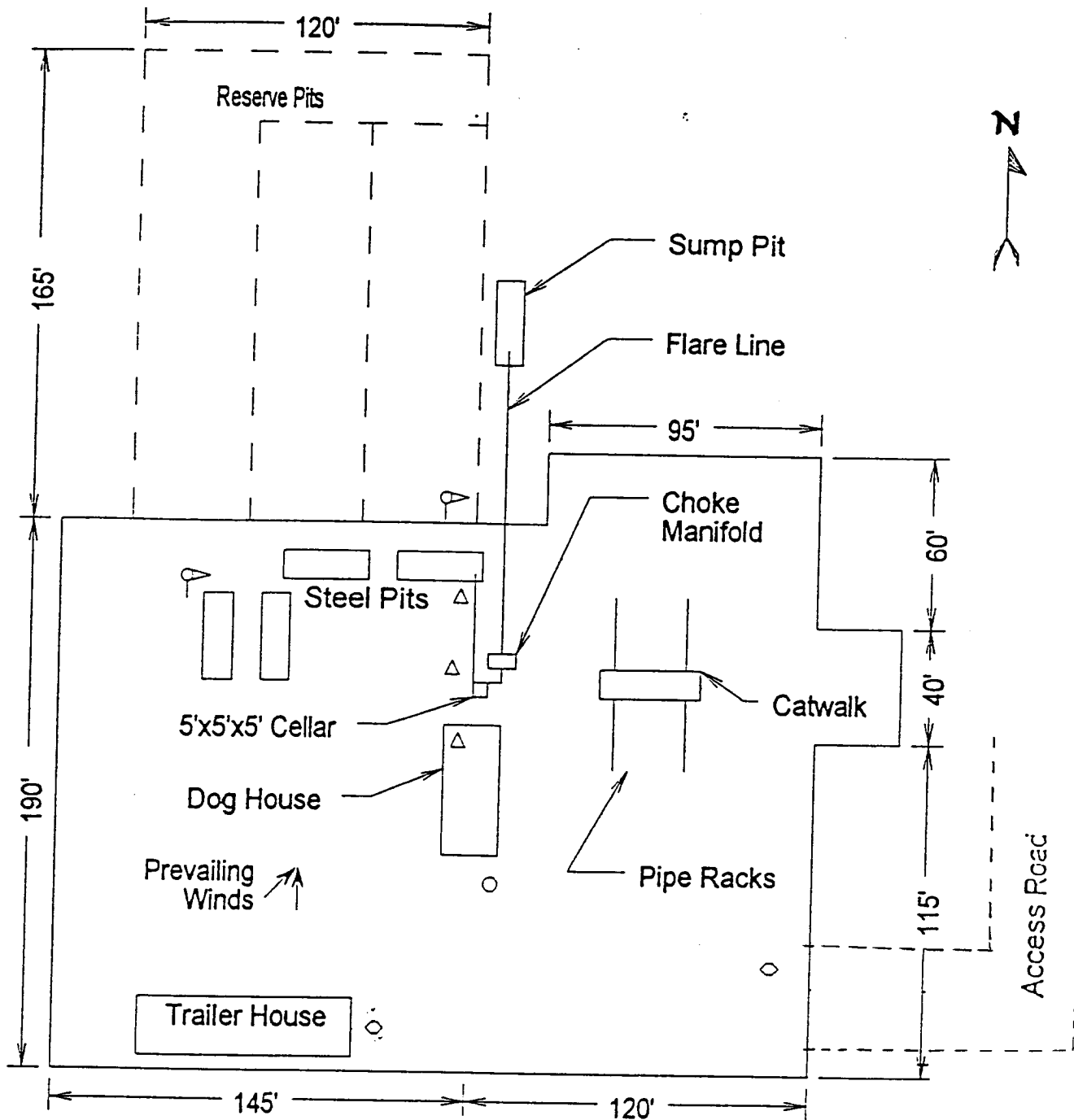
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects H₂S has on tubular goods and other mechanical equipment.
9. If H₂S 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 H₂S scavengers if necessary.

SURFACE USE PLAN

POGO PRODUCING COMPANY
SUNDANCE "8" FEDERAL # 3
UNIT "M" SECTION 8
T24S-R31E EDDY CO. NM

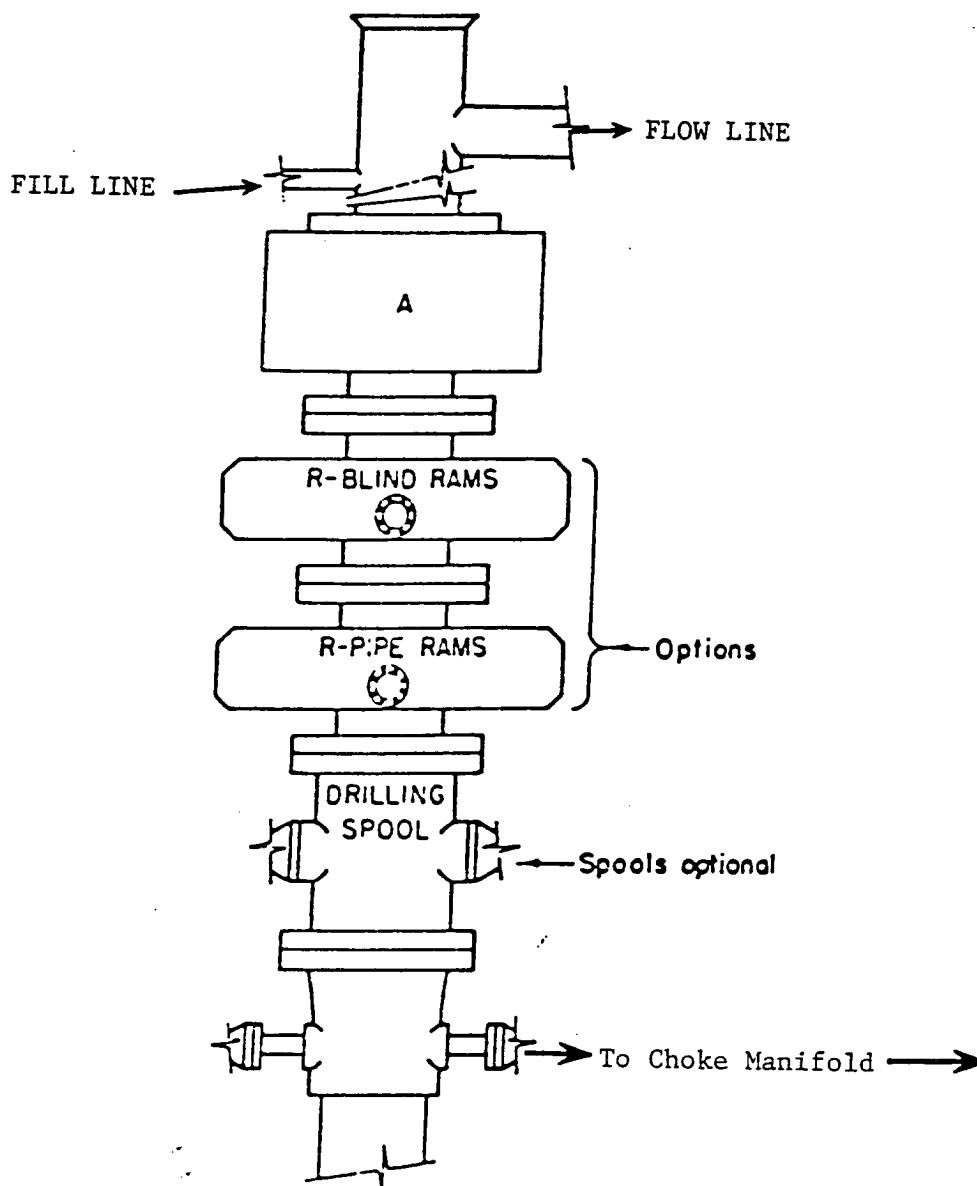
1. EXISTING ROADS & PROPOSED ROADS: Area maps; Exhibit "B" is a reproduction of a County General Hi-way Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.
 - A. Exhibit "A" shows the proposed well site as staked.
 - B. From Hobbs New Mexico take U.S. Hi-way 62-180 West toward Carlsbad New Mexico go approximately 40 miles to the WIPP road. Turn South go 13 miles to CR-802 turn Right follow Cr-802 to State Hi-way 128, turn Left go 2.4 miles to Twin Wells Road (CR-787) turn Right go 4.5 ± mile turn Left (East go past well # 1 continue East go .5 miles turn Right and follow lease road .9 miles to location.
2. PLANNED ACCESS ROADS: Approximately 1400' of new road will be constructed.
 - A. The access roads will be crowned and ditched to a 12' wide travel surface with a 40' Right-of-Way.
 - B. Gradient of all roads will be less than 5.00%.
 - C. If turn-outs are necessary they will be constructed.
 - D. If needed roads will be surfaced with a minimum of 4" of caliche. This material will be obtained from a local source.
 - E. Center-line for new roads will be flagged. Earth-work will be will be done as field conditions require.
 - F. Culverts will be placed in the access road if they are necessary. The roads will be constructed to utilize low water crossings for drainage as required by topography.
3. LOCATIONS OF EXISTING WELLS IN A ONE MILE RADIUS. EXHIBIT "A-1"
 - A. Water wells One approximately 1000' South of location
 - B. Disposal wells None known
 - C. Drilling wells None known
 - D. Producing wells As shown on Exhibit "A-1"
 - E. Abandoned wells As shown on Exhibit "A-1"



- 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 LAY OUT PLAT

POGO PRODUCING COMPANY
SUNDANCE "8" FEDERAL # 3
UNIT "M" SECTION 8
T24S-R31E EDDY CO. NM



ARRANGEMENT SRRA

900 Series
3000 PSI WP

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

POGO PRODUCING COMPANY
SUNDANCE "8" FEDERAL # 3
UNIT "M" SECTION 8
T24S-R31E EDDY CO. NM

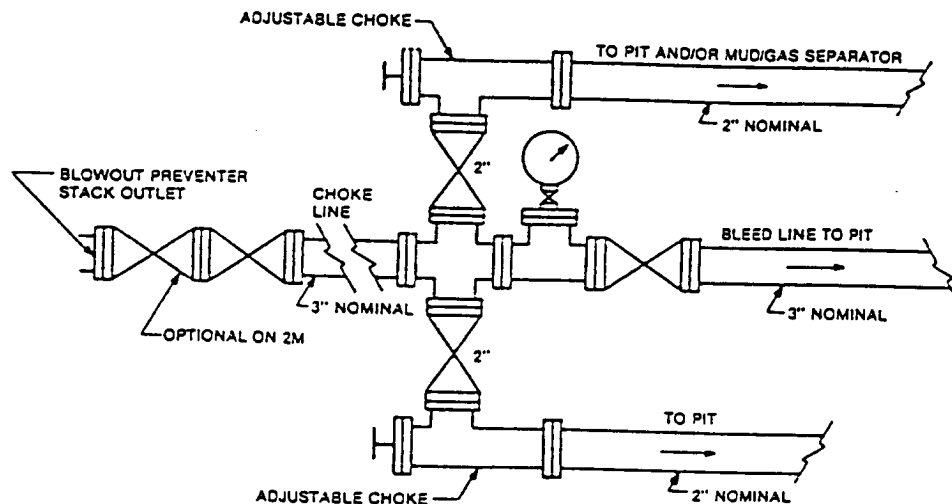


FIGURE K4-1. Typical choke manifold assembly for 2M and 3M rated working pressure service — surface installation.

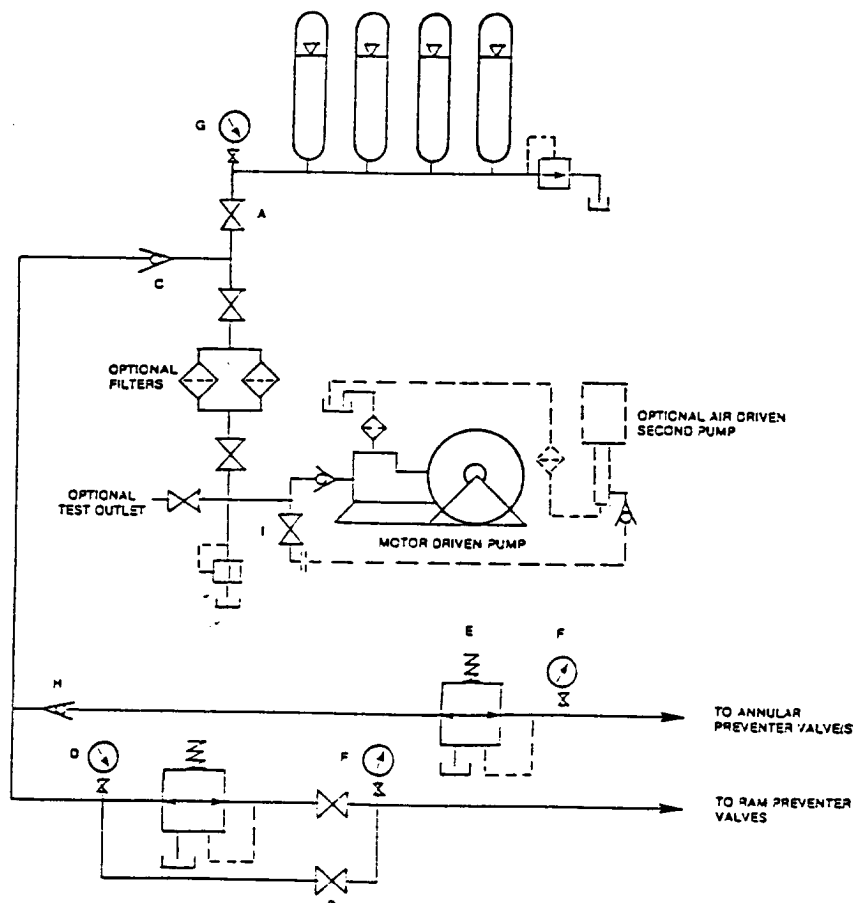


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

POGO PRODUCING COMPANY
SUNDANCE "8" FEDERAL # 3
UNIT "M" SECTION 08
T24S-R31E EDDY CO. NM