

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE
(Other Inst. on Reverse)

FORM 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 ☐

17891

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 (915-695-8140)

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

660' FNL & 330' FWL SEC. 34 T22S-R26E EDDY CO. NM
At proposed prod. zone SAME

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

Approximately 2 miles West of Carlsbad New Mexico

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.

330'

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

1320'

16. NO. OF ACRES IN LEASE

480

19. PROPOSED DEPTH

5200'

17. NO. OF ACRES ASSIGNED TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

ROTARY

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

3258' GR.

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.
17 1/2"	H-40 13 3/8"	48	650'	500 Sx. circulate cement to surface
11"	J-55 8 5/8"	32	1700'	600 Sx. " " "
7 7/8"	J-55 5 1/2"	15.5	5200'	750 Sx. Top of cement 1700'

1. Drill 25" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
2. Drill 17 1/2" hole to 650'. Run and set 650' of 13 3/8" H-40 48# ST&C casing. Cement with 500 Sx. of Class "C" cement + 1/2# Flocele/Sx. + 2% CaCl, circulate cement to surface.
3. Drill 11" hole to 1700'. Run and set 1700' of 8 5/8" 32# J-55 ST&C casing. Cement with 600 Sx. of Class "C" cement + 1/2# Flocele/Sx. + 2% CaCl, circulate cement to surface.
4. Drill 7 7/8" hole to 5200'. Run and set 5200' of 5 1/2" 15.5# ST&C casing. Cement with 750 Sx. of Class "C" cement + additives, estimate top of cement 1700'. Top of cement must be at least 200' up into the 8 5/8" casing.

Carlsbad Controlled Water Basin

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

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 Joel Janice TITLE Agent

DATE 05/15/02

(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/ Mary J. Rugwell TITLE FIELD MANAGER

DATE JUL 08 2002

*See Instructions On Reverse Side

DISTRICT I

1625 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	Pool Name
		WILDCAT BONE SPRING
Property Code	Property Name	Well Number
	MIDWEST FEDERAL "L"	5
OGRID No.	Operator Name	Elevation
17891	POGO PRODUCING COMPANY	3258'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	34	22 S	26 E		660	NORTH	330	WEST	EDDY

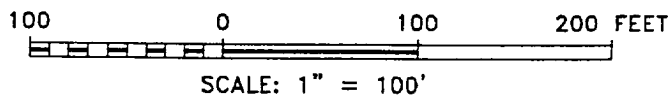
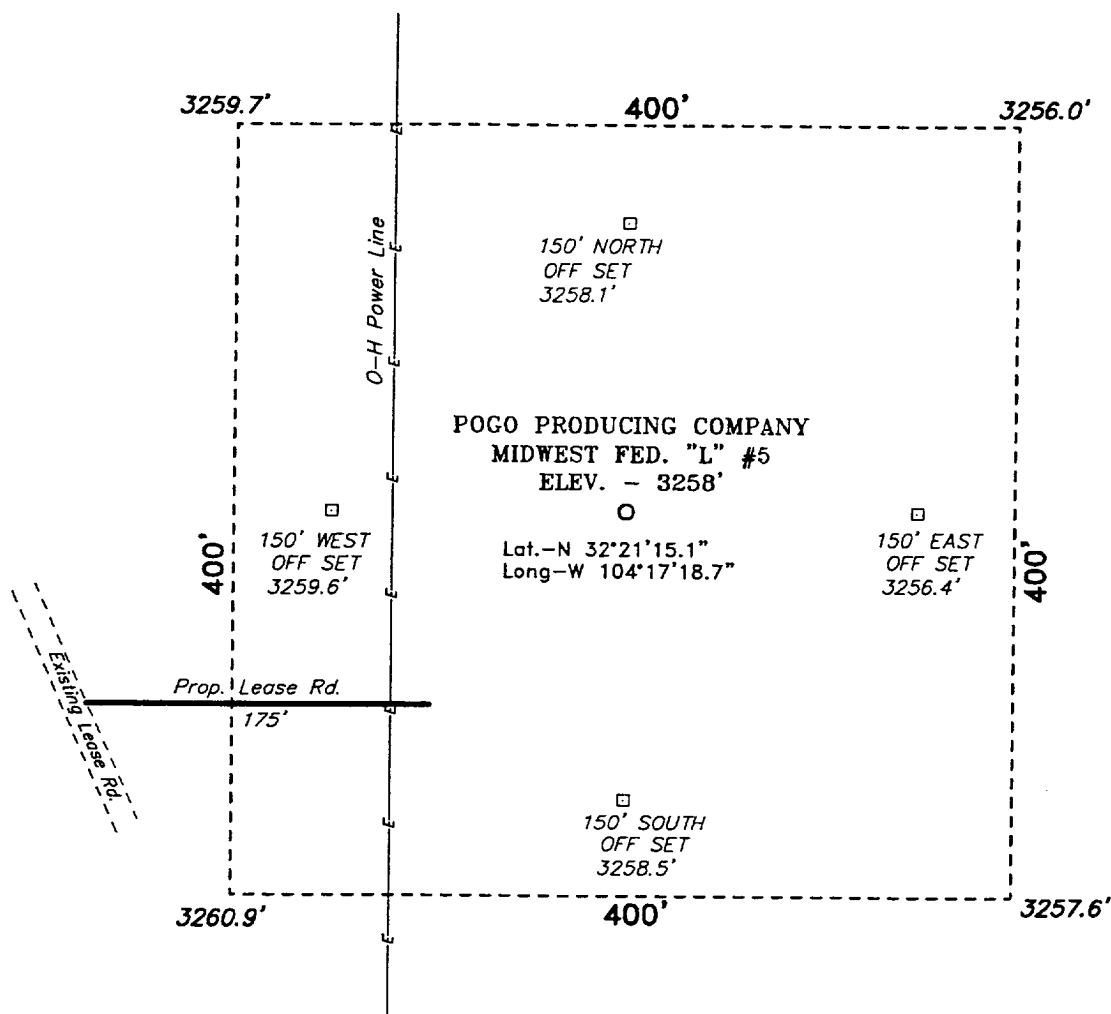
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						
40									

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>Lat.: N32°21'15.1" Long.: W104°17'18.7"</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that 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>05/15/02 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>MAY 1, 2002 Date Surveyed</p> <p>GARY L. JONES Signature & Seal of Professional Surveyor</p> <p>W.O. No. 2485 Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
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SECTION 34, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM THE JUNCTION OF US HWY 62/180 AND CO. RD. 672(HIDALGO RD.), GO SOUTHWEST ON CO. RD. 672 FOR 3.6 MILES TO LEASE ROAD; THENCE SOUTH ON LEASE ROAD FOR 0.1 MILE TO PROPOSED LEASE ROAD.

POGO PRODUCING CO.

REF: MIDWEST FED. "L" #5 / Well Pad Topo

THE MIDWEST FED. "L" No. 5 LOCATED 660' FROM THE NORTH LINE AND 330' FROM THE WEST LINE OF SECTION 34, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 2485

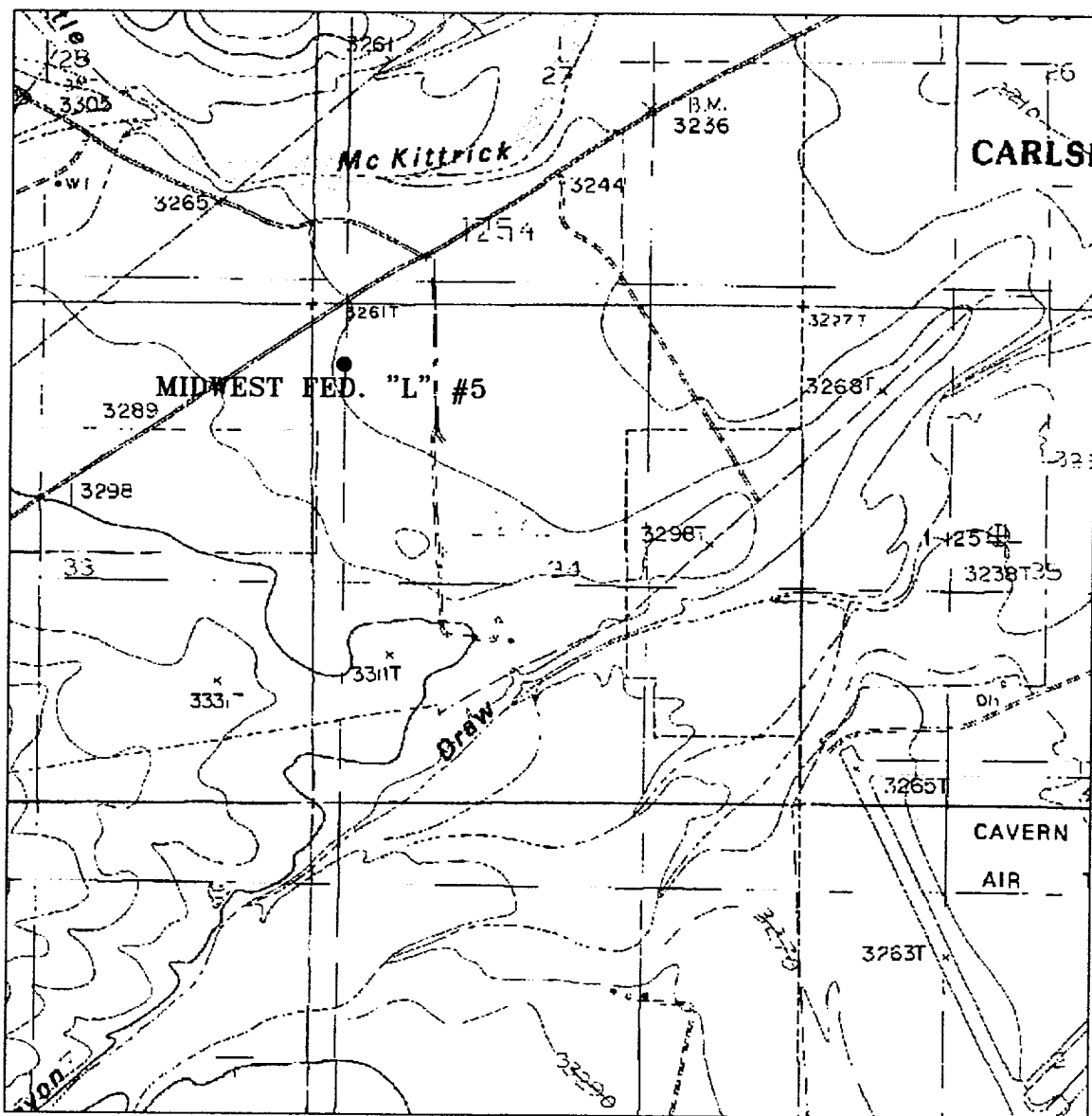
Drawn By: K. GOAD

Date: 05-02-2002

Dick: KIC CD#4 - 2485A.DWG

Survey Date: 05-01-2002

Sheet: 1 of 1 Sheets



MIDWEST FEDERAL "L" #5

Located at 660' FNL and 330' FWL

Section 34, Township 22 South, Range 26 East,
N.M.P.M., Eddy County, New Mexico.

basin
surveys
focused on excellence
in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

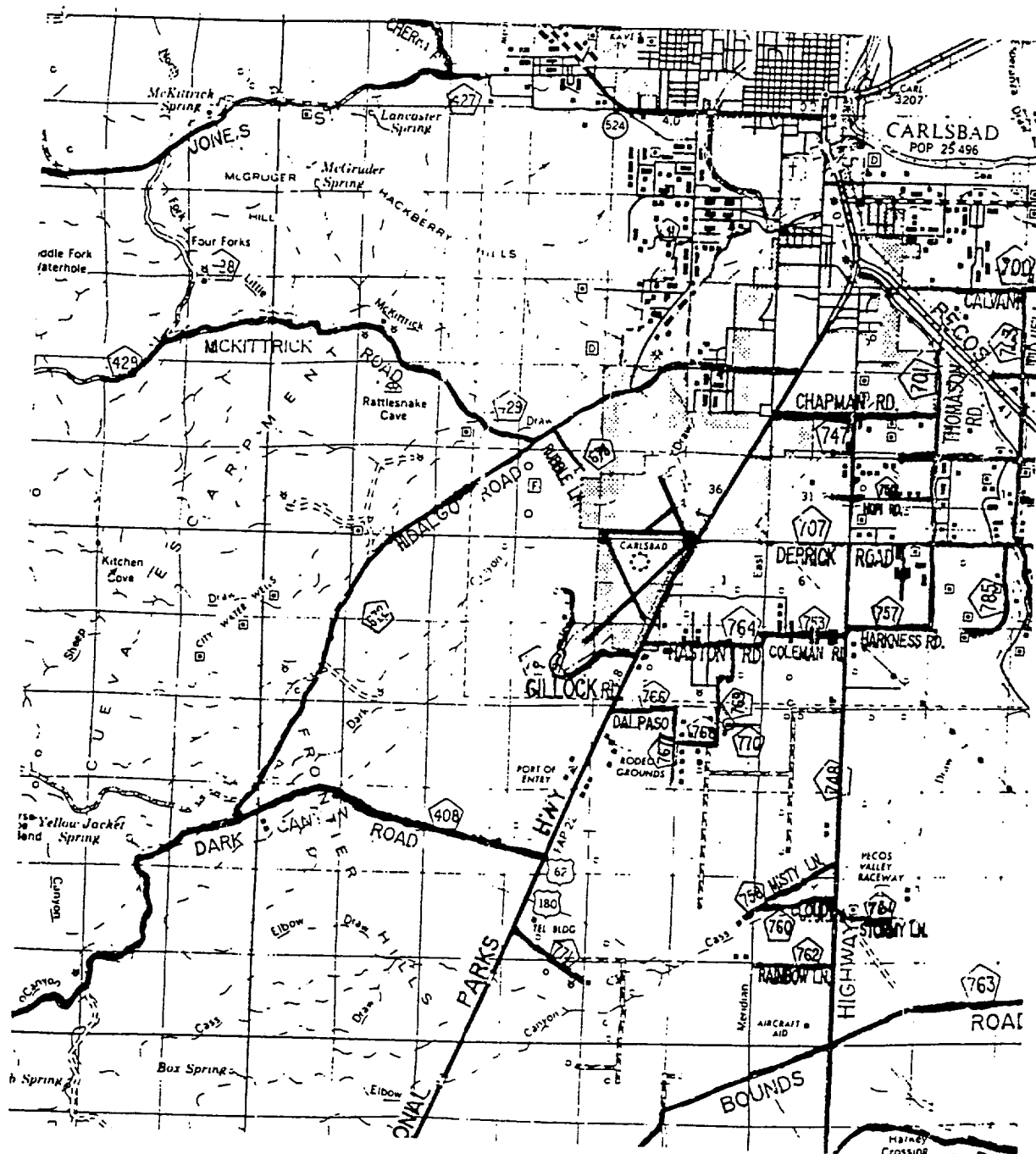
W.O. Number: 2485AA - KJG CD#5

Survey Date: 05-01-2002

Scale: 1" = 2000'

Date: 05-02-2002

POGO
PRODUCING
COMPANY



MIDWEST FEDERAL "L" #5
 Located at 660' FNL and 330' FWL
 Section 34, Township 22 South, Range 26 East,
 N.M.P.M., Eddy County, New Mexico.

basin
surveys
 focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 393-7316 - Office
 (505) 392-3074 - Fax
 basinsurveys.com

W.O. Number: 2485AA - KJG CD#5

Survey Date: 05-01-2002

Scale: 1" = 2 MILES

Date: 05-02-2002

POGO
PRODUCING
COMPANY

APPLICATION TO DRILL

POGO PRODUCING COMPANY
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E 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: 330' FWL & 660' FNL SEC. 34 T22S-R26E EDDY CO. NM

2. Elevation above Sea Level: 3258' 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: 5200'

6. Estimated tops of geological markers:

Basal Anhydrite	1200'	Cherry Canyon	2350'
Delaware Lime	1550'	Brushy Canyon	3500'
Bell Canyon	1750'	Bone Spring	5000'

7. Possible mineral bearing formations:

Delaware	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"	0-650'	13 3/8"	48	8-R	ST&C	H-40
11"	0-1700'	8 5/8"	32	8-R	ST&C	J-55
7 7/8"	0-5200'	5½"	15.5	8-R	ST&C	J-55

POGO PRODUCING COMPANY
 MIDWEST FEDERAL "L" # 5
 UNIT "D" SECTION 34
 T22S-R26E EDDY CO. NM

9. CASING CEMENTING & SETTING DEPTH:

20"	Conductor	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
13 3/8"	Surface	Set 650' of 13 3/8" 48# H-40 ST&C casing. Cement with 500 Sx. of Class "C" cement + 2% CaCl ₂ + 1/4# Flocele/Sx. circulate cement to surface.
8 5/8"	Intermediate	Set 1700' of 8 5/8" 32# J-55 ST&C casing. Cement with 600 Sx. of Class "C" cement + 2% CaCl ₂ + 1/4# Flocele/Sx. circulate cement to surface.
5 1/2"	Production	Set 5200' of 5 1/2" 15.5# J-55 ST&C casing. Cement with 750 Sx. of Class "C" cement + additives, Bring cement back to at least 200' up into the 8 5/8" Intermediate.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 Series 300 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 the drillpipe 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 in the drilling of this well.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SUSTEM
0-650'	8.4-8.7	29-36	NC	Fresh water spud mud use paper to control seepage.
650-1700'	8.4-8.7	29-38	NC	Fresh water use paper to control seepage and high viscosity sweeps sweeps to clean hole.
1700-5200'	8.4-8.8	29-38	NC	Same as above.

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 the viscosity and/or water loss may have to be adjusted to meet these needs.

APPLICATION TO DRILL

POGO PRODUCING COMPANY
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E EDDY CO. NM

12. TESTING, LOGGING, & COREING PROGRAM:

- A. Open hole logs: Dual Induction, SNP, LDT, Gamma Ray, Caliper from TD back to 1700'. Gamma Ray, Neutron from 1700' back to surface.
- B. No cores or DST's are planned at this time but may be taken if desired.
- C. Mud logger may be put on well at the request of the Geologist.

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 2800 PSI & estimated BHT 130°.

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 20 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 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, 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
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E EDDY CO. NM

1. EXISTING ROADS: Area maps, Exhibit "B" is a reproduction of a County General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads 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 the junction of U.S. Hiways 62-180 & 285 go West toward White City on Highway 62-180 to the DOE building turn Left onto Hidalgo Road follow this road 3.6 miles to lease road on the Left side of road follow lease road .1 miles to location on the Left side of lease road.

C. Exhibit "F" shows proposed route of flowlines and powerlines to be used to produce this well.

2. PLANNED ACCESS ROADS: 175' of new road will be constructed.

A. The access road will be crowned and dirched to a 12'00" wide travel surface with a 40' right-of-way.

B. Gradient on all roads will be less than 5.00%.

C. Turn outs will be constructed where necessary.

D. If needed, road will be surfaced with a minimum of 4" of caliche. This material will be obtained from a local source.

E. Centerline for the new access road has been flagged. Earthwork will be as required by field conditions.

F. Culverts in the access road will not be used. The road will be constructed to utilize low water crossings for drainage as required by the Topography.

3. LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A-1"

A. Water wells	-	None known
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"

SURFACE USE PLAN

POGO PRODUCING COMPANY
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E EDDY CO. NM

4. If on completion this well is a producer the operator will lay pipelines and construct powerlines along existing road R-O-W's or other existing R-O-W's. Possible routes of pipelines, flowlines and powerlines are shown on Exhibit "F".

5. LOCATION AND TYPE OF WATER SUPPLY:

Water will be purchased locally from a commercial source and trucked over the access roads or piped to location in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIAL:

If possible construction material will be obtained from the excavation of drill site, if additional material is needed it will be obtained from a local source and transported over the access roads as shown on Exhibit "C".

7. METHODS OF HANDLING WASTE MATERIAL:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in a approved sanitary land fill.
- C. Salts remaining after completion of well will be picked up by the supplier, including broken sacks.
- D. Waste water from living quarters will be drained into holes with a minium of 10'. These holes will be covered during drilling and will be back filled when the well is completed. A Porto-John will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- E. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for furthed drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approve disposal site. Later pips will be broken out to speed drying. Water produced during completion will be put in reserve pits. Oil and condensate produced will be put in storage tanks and sold.

8. ANCILLARY FACILITIES:

- A. No camps or air strips will be constructed on location.

SURFACE USE PLAN

POGO PRODUCING COMPANY
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E EDDY CO. NM

9. WELL SITE LAYOUT:

- A. Exhibit "D" shows the proposed well site layout.
- B. This exhibit indicated proposed location of reserve and sump pits and living facilities.
- C. Mud pits in the active circulating system will be steel pits & the reserve pit is proposed to be unlined unless subsurface condition encountered during pit construction indicate that lining is needed for lateral containment of fluids.
- D. If needed, the reserve pit is to be lined with polyethelene. The pit liner will be 6 mils thick. Pit liner will extend a minimum of 2'00" over the reserve pits dikes where the liner will be anchored down.
- E. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases.. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

10. PLANS FOR RESTORATION OF SURFACE:

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the reserve pit will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be contoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

SURFACE USE PLAN

POGO PRODUCING COMPANY
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E EDDY CO. NM

11. OTHER INFORMATION:

- A. Topography is relatively flat with a slight dip to the North with drainage into McKittrick Draw. Cresote and Grease Wood is the main vegetation.
- B. Surface is owned by the U.S. Government and is administered by the Bureau of Land Management. The surface is used for grazing livestock and the production of oil and gas.
- C. An archaeological survey will be conducted on the location and access roads. This report will be filed with The Bureau of Land Management in the Carlsbad field office.
- D. There are no dwellings in the near vicinity of this location.

12. OPERATORS REPRESENTIVES:

Before construction:

TIERRA EXPLORATION, INC
P.O. BOX 2188
HOBBS, NEW MEXICO 88241
OFFICE Ph. 505-391-8503
JOE T. JANICA

During and after construction:

POGO PRODUCING COMPANY
P.O. BOX 10340
MIDLAND, TEXAS 79702-7340
OFFICE Ph. 915-685-8100
Mr. RICHARD WRIGHT 915-685-8140

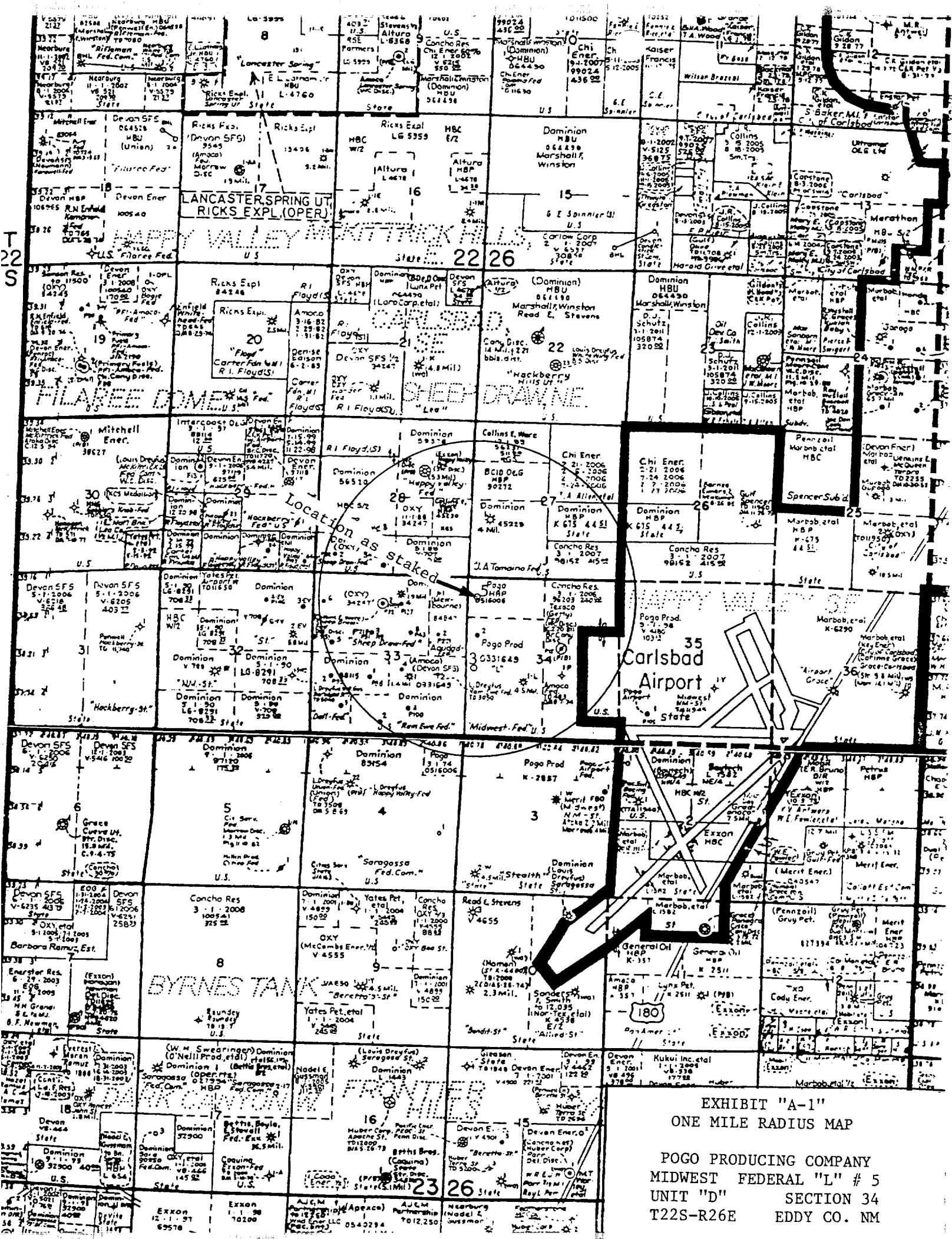
13. CERTIFICATION: I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access roads, and that I am familiar with the conditions which currently exist, that the statements made in this plan are to the best of my knowledge true and correct, and that the work associated ² with the operations proposed herein will be performed by POGO PRODUCING COMPANY it's contractors/subcontractors is in compformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false report.

NAME :

DATE :

TITLE :

Joe T Janica
05/15/02
Agent



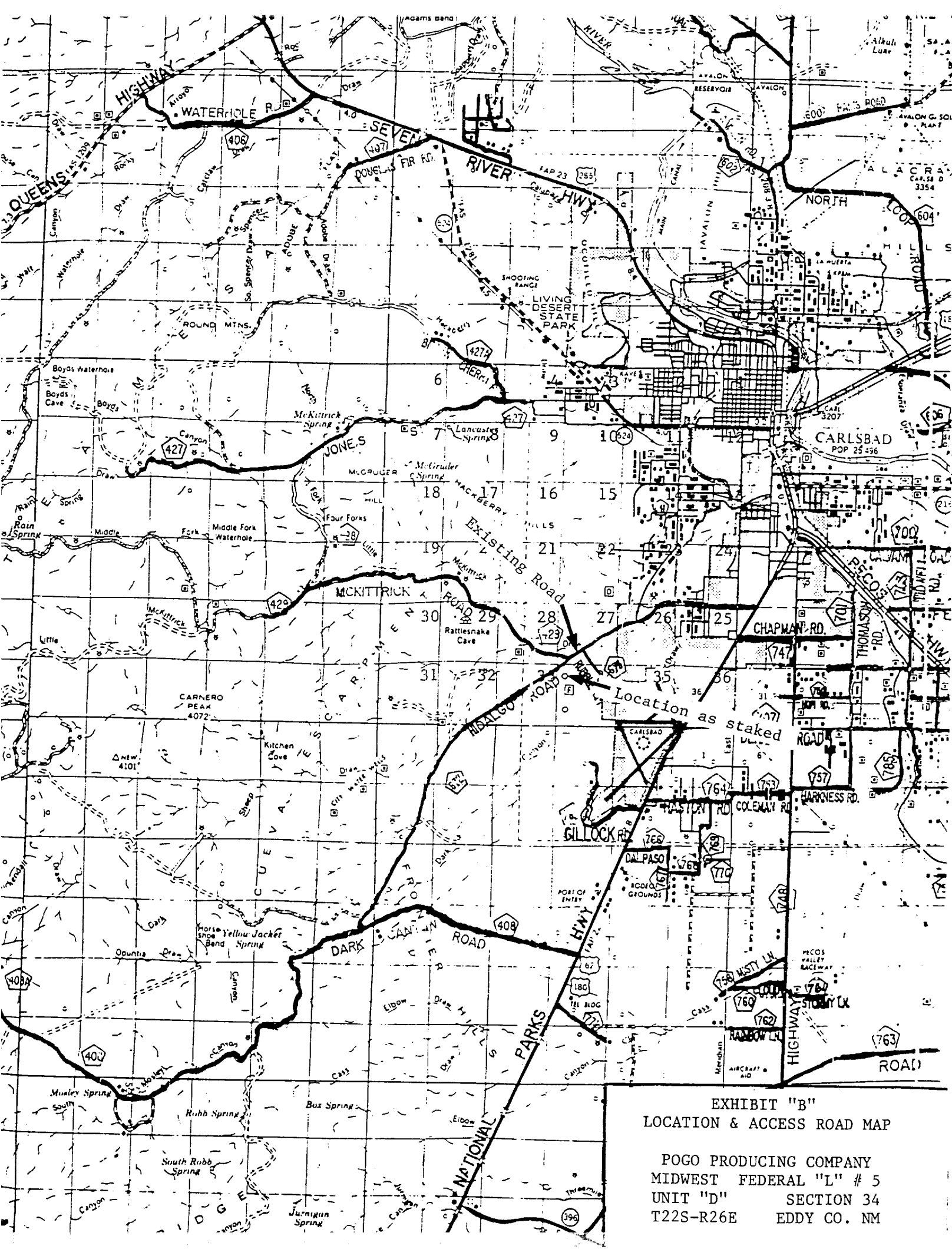
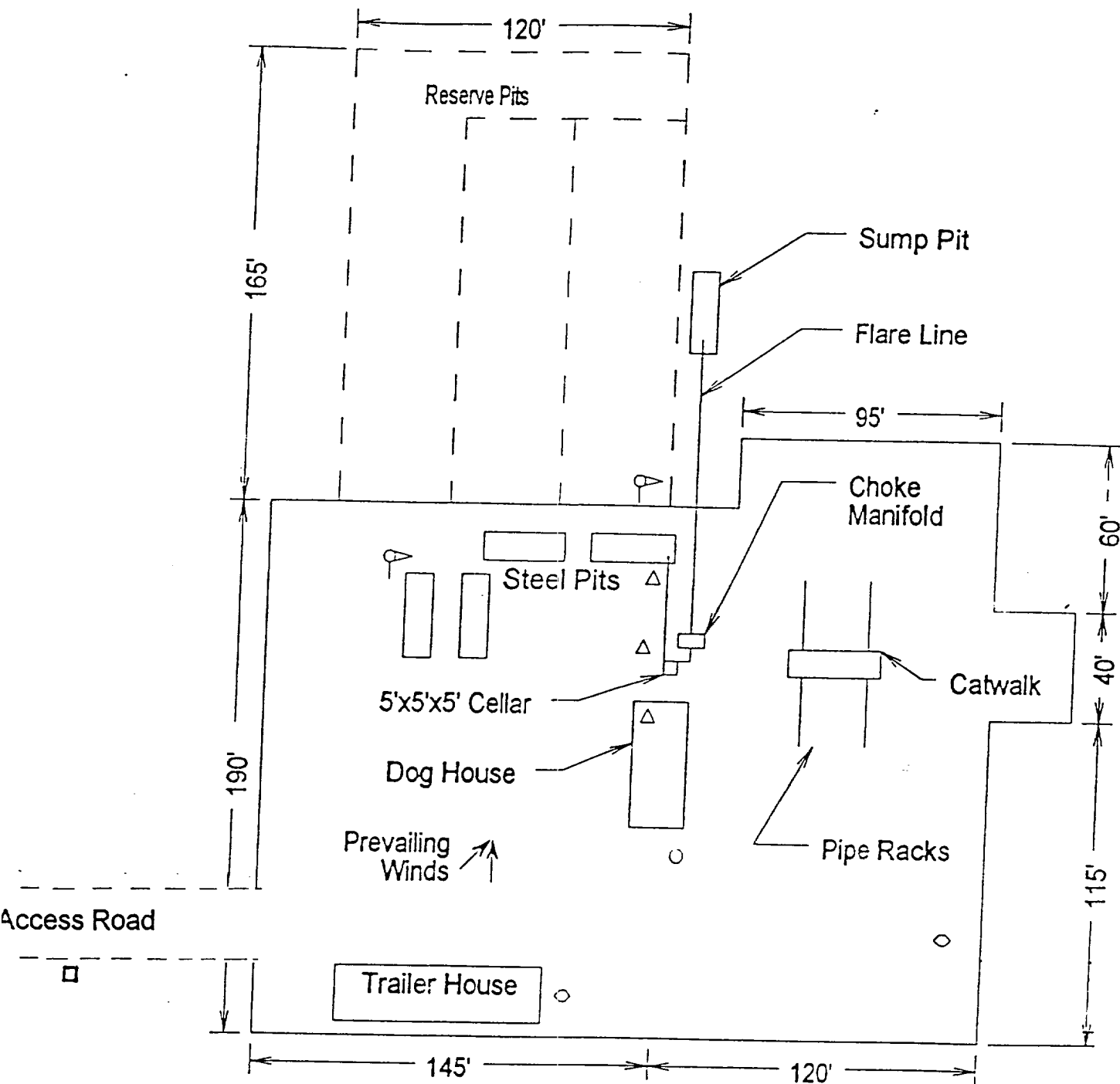


EXHIBIT "B"
LOCATION & ACCESS ROAD MAP

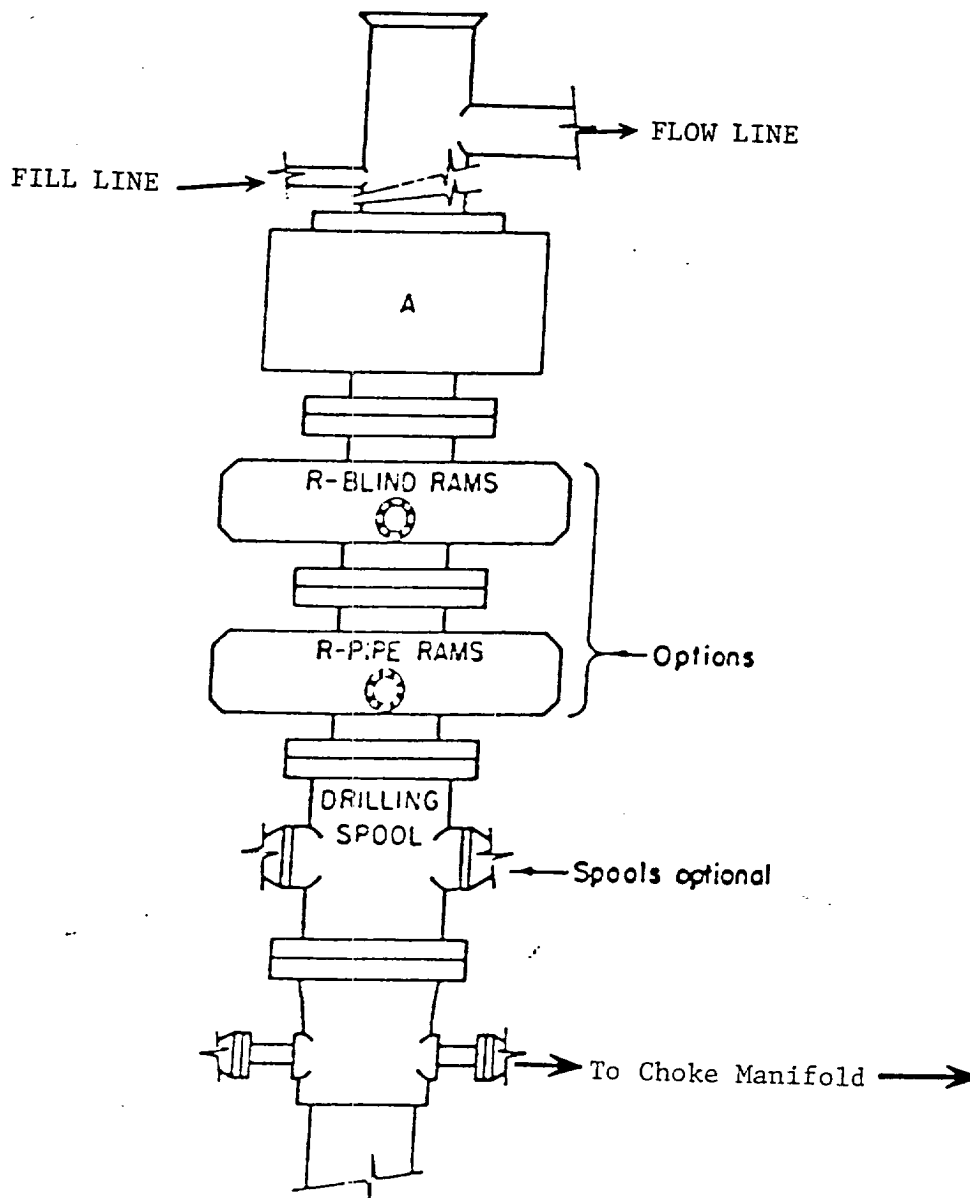
POGO PRODUCING COMPANY
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E EDDY CO. NM



- 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 LAY OUT PLAT

POGO PRODUCING COMPANY
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E EDDY CO. NM



ARRANGEMENT SRRA

900 Series
3000 PSI WP

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

POGO PRODUCING COMPANY
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E EDDY CO. NM

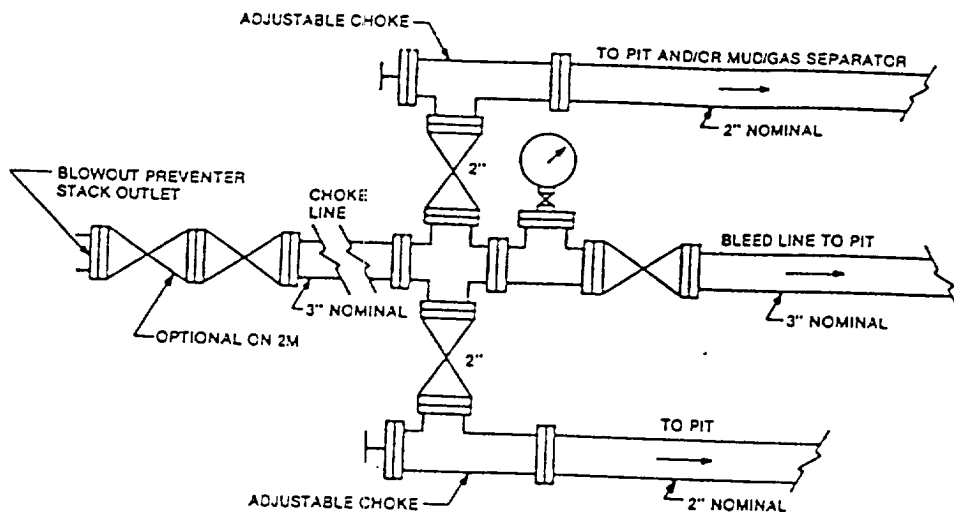


FIGURE K4-1. Typical choke manifold assembly for 2M and 3M rated working pressure service — surface installation.

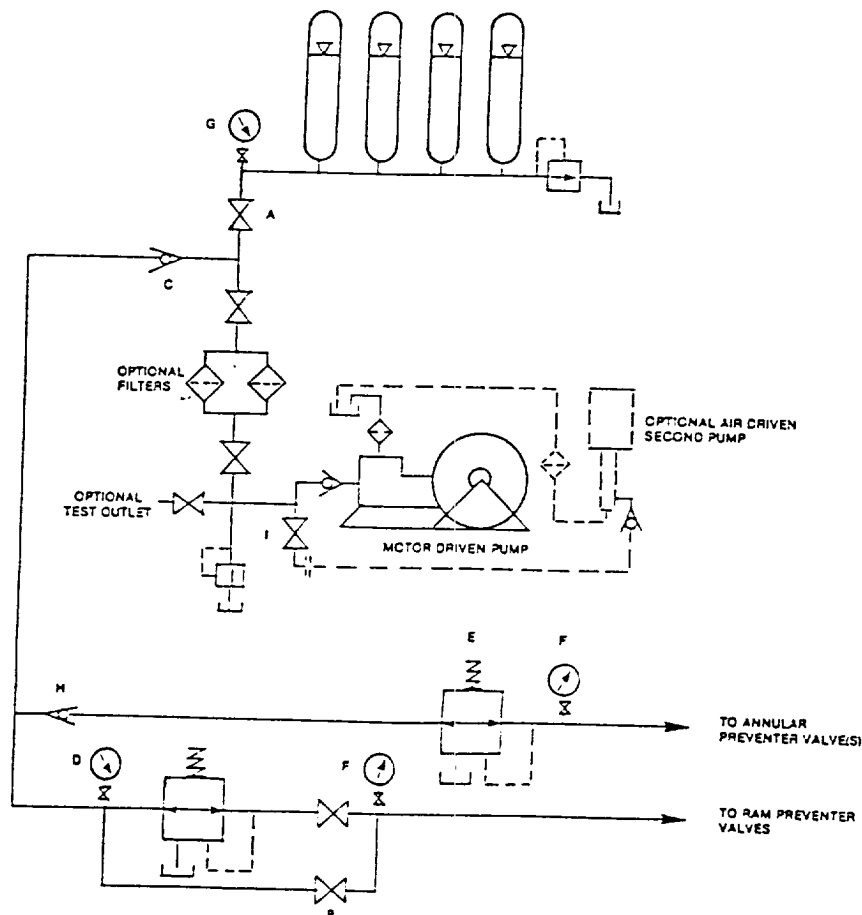


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

EXHIBIT "E-1" CHOKE MANIFOLD & CLOSING UNIT

POGO PRODUCING COMPANY
MIDWEST FEDERAL "L" # 5
UNIT "D" SECTION 34
T22S-R26E EDDY CO. NM

