

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

reverse side)

OMB NO. 1010-0188
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

ARCH PETROLEUM, INC.

(RICHARD WRIGHT 915-685-8140)

3. ADDRESS AND TELEPHONE NO.

P.O. BOX 10340 MIDLAND, TEXAS 79702-7340 (915-685-8100)

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

At surface

1330' FSL & 1650' FWL SEC. 22 T23S-R37E LEA CO. NM

At proposed prod. zone SAME

UNORTHODOX LOCATION

SUBJECT TO
LIKE APPROVAL
BY STATE

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

Approximately 10 miles Southeast of Eunice New Mexico

15. DISTANCE FROM PROPOSED

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

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

1330'

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

90'

16. NO. OF ACRES IN LEASE

1520

19. PROPOSED DEPTH

9800'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

ROTARY

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

3289' 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 Radi-mix.
17 1/2"	H-40 13 3/8"	48	500'	600 Sx. Circulate to surface.
11"	J-55 8 5/8"	32 & 24	3000'	1200 Sx. Circulate to surface.
7 7/8"	N-80 5 1/2"	17	9800'	1150 Sx. Top cement 2500'±

1. Drill 25" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Radi-mix.
2. Drill 17 1/2" hole to 500'. Run and set 500' of 13 3/8" H-40 48# ST&C casing. Cement with 600 Sx. of Class "C" cement + additives, circulate cement to surface.
3. Drill 11" hole to 3000'. Run and set 3000' of 8 5/8" J-55 32 & 24 # ST&C casing. Cement with 1200 Sx. of Class "C" cement + additives, circulate cement to surface. 800' of 32# 2200' of 24#.
4. Drill 7 7/8" hole to 9800'. Run and set 9800' of 5 1/2" casing as follows: 2800' of 17# N-80 LT&C, 6000' of 17# J-55 LT&C, 1000' of 17# N-80 LT&C casing. Cement in two stages with DV tool at 5500'±. Cement with 1150 Sx. of Class "H" cement + additives, estimate top of cement 2500' from surface.

CAPITAN CONTROLLED WATER BASIN

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS

CCJ

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM:
Decpen Simultaneously, give pertinent data on subsurface loc

OPER. GRID NO. 962

PROPERTY NO. 14898

POOL CODE 58900

EFF. DATE 6-19-00

API NO. 30-025-35057

he and proposed new productive zone. If proposal is to drill or
venter program, if any.

6/7/0000

SIGNED *Forrest James*

TITLE Agent

DATE 05/24/00

(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 enable the applicant to conduct operations thereon.
CONDITIONS OF APPROVAL, IF ANY:

/S/LARRY D. BRAY

Assistant Field Manager,
Lands And Minerals

JUN 13 2000

APPROVED BY

TITLE

DATE

*See Instructions On Reverse Side

APPROVED FOR 1 YEAR

Title 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 United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

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

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

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

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-35057	Pool Code 58900	Pool Name TEAGUE-SIMPSON
Property Code 14908	Property Name C.E. LAMUNYON FEDERAL	Well Number 77
OGRID No. 962	Operator Name ARCH PETROLEUM, INC.	Elevation 3289

Surface Location

UL or lot No. K	Section 22	Township 23 S	Range 37 E	Lot Idn	Feet from the 1330	North/South line SOUTH	Feet from the 1650	East/West line WEST	County LEA
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Bottom Hole Location If Different From Surface

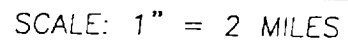
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No. NSL-4471
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature Joe T. Janica Printed Name AGent Title 05/24/00 Date
	SURVEYOR CERTIFICATION 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. MAY 18, 2000 Date Surveyed DC Signature & Seal of Professional Surveyor 5/19/00 00-11-0590 Certificate No. RONALD J. EIDSON 3239 CARY EIDSON 12641 MACDONALD 12185

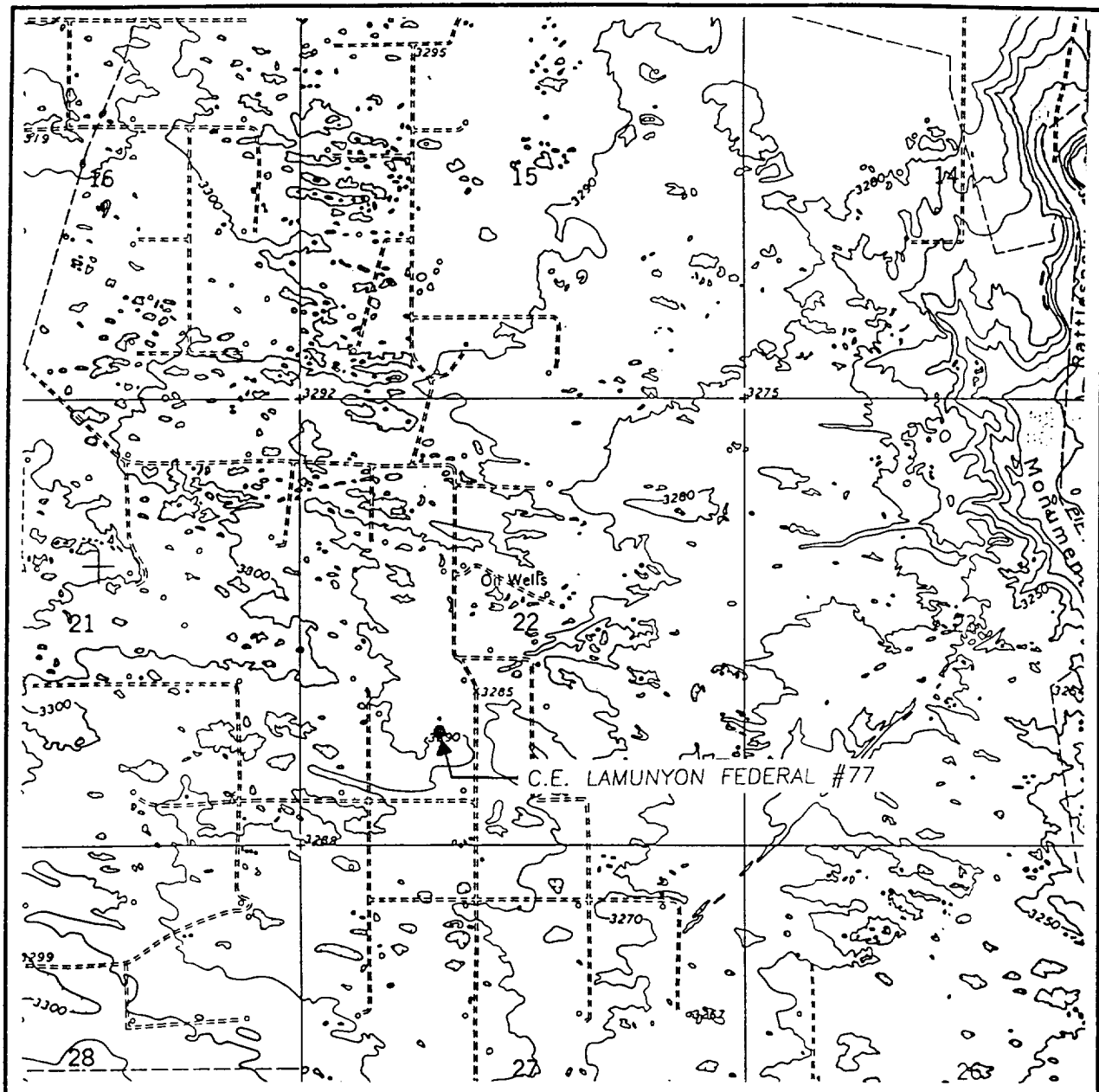
EXHIBIT "A"



LEASE C.E. LAMUNYON FEDERAL

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
RATTLESNAKE CANYON - 10'

SEC. 22 TWP. 23-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1330' FSL & 1650' FWL

ELEVATION 3289

OPERATOR ARCH PETROLEUM, INC.

LEASE C.E. LAMUNYON FEDERAL

U.S.G.S. TOPOGRAPHIC MAP

RATTLESNAKE CANYON, N.M.

**JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505 393-3117)**

APPLICATION TO DRILL

ARCH PETROLEUM, INC.
 C.E. LaMUNYON # 77
 UNIT "K" SECTION 22
 T23S-R37E LEA 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: 1330' FSL & 1650' FWL SEC 22 T23S-R37E LEA CO. NM
2. Elevation above Sea Level: 3289' 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: 9800'
6. Estimated tops of geological markers:

Rustler Anhydrite	1040'	San Andres	3790'
Yates	2550'	Devonian	7510'
Queen	3255'	Simpson	9600'
Glorieta	4970'	McKee	9775'
7. Possible mineral bearing formations:

San Andres	Oil	Devonian	Oil
Glorieta	Oil	Simpson	Oil
8. Casing program:

Hole size	Interval	OD of casing	Weight	Thread	Collar	Grade
25"	0-40	20"	NA	NA	NA	Conductor
17½"	0-500' 1050'	13 3/8"	48	8-R	ST&C	H-40
11"	0-3000'	8 5/8"	32 & 24	8-R	ST&C	J-55
7 7/8"	0-9800'	5½"	17	8-R	LT&C	N-80 J-55

APPLICATION TO DRILL

ARCH PETROLEUM, INC.
 C.E. LaMUNYON # 77
 UNIT "K" SECTION 22
 T23S-R37E LEA CO. NM

9. CEMENTING & SETTING DEPTH:

20"	Conductor	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
13 3/8"	Surface	Set 500' ^{1050'} of 13 3/8" 48# H-40 ST&C casing. Cement with 600 Sx. of Class "C" cement + additives, circulate cement to Surface.
8 5/8"	Intermedicate	Set 3000' of 8 5/8" 32 & 24# J-55 ST&C casing. Cement with 1200 Sx. of Class "C" cement + additives, circulate cement to surface.
5 1/2"	Production	Set 9800' of 5 1/2" 17# N-80 & J-55 LT&C casing as follows: 2800' of 5 1/2" 17# N-80 LT&C, 6000' of 5 1/2" 17# J-55 LT&C, 1000' of 5 1/2" 17# N-80 LT&C. Cement in two stages with DV tool at 5500'±. Cement with 1150 Sx. of Class "H" cement + additives, estimate top of cement 2500' from surface.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E". A Series 900 3000 PSI working pressure B.O.P. consisting of a double ram type preventor with a bag type annular preventor. The B.O.P. unit will be hydraulically operated. Exhibit "E-1". Choke manifold and closing unit. The B.O.P. will be nipples up on 13 3/8" casing and will be operated at least once each 24 hour period while drilling and blind rams will be operated when out of hole on trips. Full opening stabbing valve and upper kelly cock will be utilized. No abnormal pressure or temperature is expected while drilling.

11. PROPOSED MUD CIRCULATING SYSTEM:

Depth	Mud Wt.	Visc.	Fluid Loss	Type Mud System
40-500' ^{1050'}	8.6-8.8	30-36	NC	Fresh water spud mud add paper if necessary to control seepage.
500-3000' ^{1050'}	10.5-10.8	32-38	NC	Brine water add paper to control seepage and use high viscosity sweeps to Clean hole.
3000-8600'	8.6-8.8	32-38	NC	Fresh water add Gel for viscosity and paper to control seepage
8600-9800-	8.6-8.8	32-40	10 cc or less	Fresh water Dris-Pac 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 the viscosity and/or water loss may have to be adjusted to meet these needs.

APPLICATION TO DRILL

ARCH PETROLEUM, INC.
C.E. LaMUNYON # 77
UNIT "K" SECTION 22
T23S-R37E LEA CO. NM

12. TESTING, LOGGING, & COREING PROGRAM:

- A. Open hole logs: Dual Induction, CNL, Density, Gamma Ray, Caliper from TD to 3000'.
- B. Run Gamma Ray, Neutron from 3000' to surface.
- C. Place mud logger on hole at 3000' and continue to TD.
- D. No cores of DST's are planned at this time, but may be run at the discretion of 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 4500 PSI & estimated BHT 165°.

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 30 days. If production casing is run an additional 25 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 Simpson 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"
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 location is near any dwelling a closed D.S.T. will be performed.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.
9. If H_2S 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_2S scavengers if necessary.

SURFACE USE PLAN

ARCH PETROLEUM, INC.
C.E. LaMUNYON # 77
UNIT "K" SECTION 22
T23S-R37E LEA 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 junction of State Hi-way 176 & State Hi-way 18 two miles East of Eunice New Mexico go South 13 miles to Mile Post 19 turn East follow Caliche Road 1 mile bear Northeast for .75 miles turn East go .25 miles, turn North go .9 miles turn West go .25 miles turn North go .25 miles turn East to location.
 - C. Lay necessary pipelines and construct powerlines along existing roads or existing R-O-W's in order to produce this well.
2. PLANNED ACCESS ROADS: No new roads will be required.
 - 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. No turnouts will be 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

ARCH PETROLEUM, INC.
C.E. LaMUNYON # 77
UNIT "K" SECTION 22
T23S-R37E LEA CO. NM

4. If on completion this well is a producer Arch Petroleum, Inc. will furnish Maps and/or plats showing on location surface facilities. If facilities are required off location this will be accompanied with a Sundry Report.

5. LOCATION AND TYPE OF WATER SUPPLY:

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

6. SOURCE OF CONSTRUCTION MATERIAL:

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

7. METHODS OF HANDLING WASTE MATERIAL:

- A. Drill cuttings will be disposed of in the reserve pit.
- B. All trash, junk and other waste material will be contained in trash cages or 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 supplier including broken sacks.
- D. Sewage from living quarters will drain into holes with a minium depth of 10'. These holes will be covered during drilling and will be back filled upon completion. A Porta-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of the well.
- E. Remaining drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry enough for breaking out. In the event that drilling fluids do not evaporate in a reasonable time they will be hauled off by transports and be disposed of at a state approved disposal facility. Later pits will be broken out to speed drying. Water produced during testing will be put in reserve pits. Any oil or condensate produced will be stored in test tanks until sold and hauled from the site.

8. ANCILLARY FACILITIES:

- A. No camps or airstrips to be constructed.

SURFACE USE PLAN

ARCH PETROLEUM, INC.
C.E. LaMUNYON # 77
UNIT "K" SECTION 22
T23S-R37E LEA 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 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

ARCH PETROLEUM, INC.
C.E. LaMUNYON # 77
UNIT "K" SECTION 22
T23S-R37E LEA CO. NM

11. Other Information:

- A. Topography as shown on the topographic map shows a very slight dip to the West. Soil is loose sand and the vegetation consists of native grasses Yucca, and occasional Shinnery Oak.
- B. The surface is owned by D. K. Boyd of Midland Texas, and the minerals are owned by the U.S. Department of Interior and are administered by the Bureau of Land Management.
- C. An archaeological survey will be conducted on the proposed roads and location, this report will be submitted to the Bureau of Land Management Carlsbad Field Office when it is completed.
- D. There are no dwellings within one mile of this location.

12. Operator's Representative:

Field representative for contact regarding compliance with the surface use plan is:

Before Construction..

TIERRA EXPLORATION INC.
P.O. BOX 2188
HOBBS, NEW MEXICO 88241
OFFICE PHONE
JOE T. JANICA

After and during construction.

ARCH PETROLEUM, INC.
P.O. BOX 10340
MIDLAND, TEXAS 79702-7340
OFFICE PHONE 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 drilling site and access route, 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. The work associated with the operations proposed herein will be performed by Arch Petroleum, Inc. its contractors / sub-contractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of 18 U.S.C. 1001 for the filing of a false statement.

NAME

: Joe T Janica

DATE

: 05/24/00

TITLE

: Agent

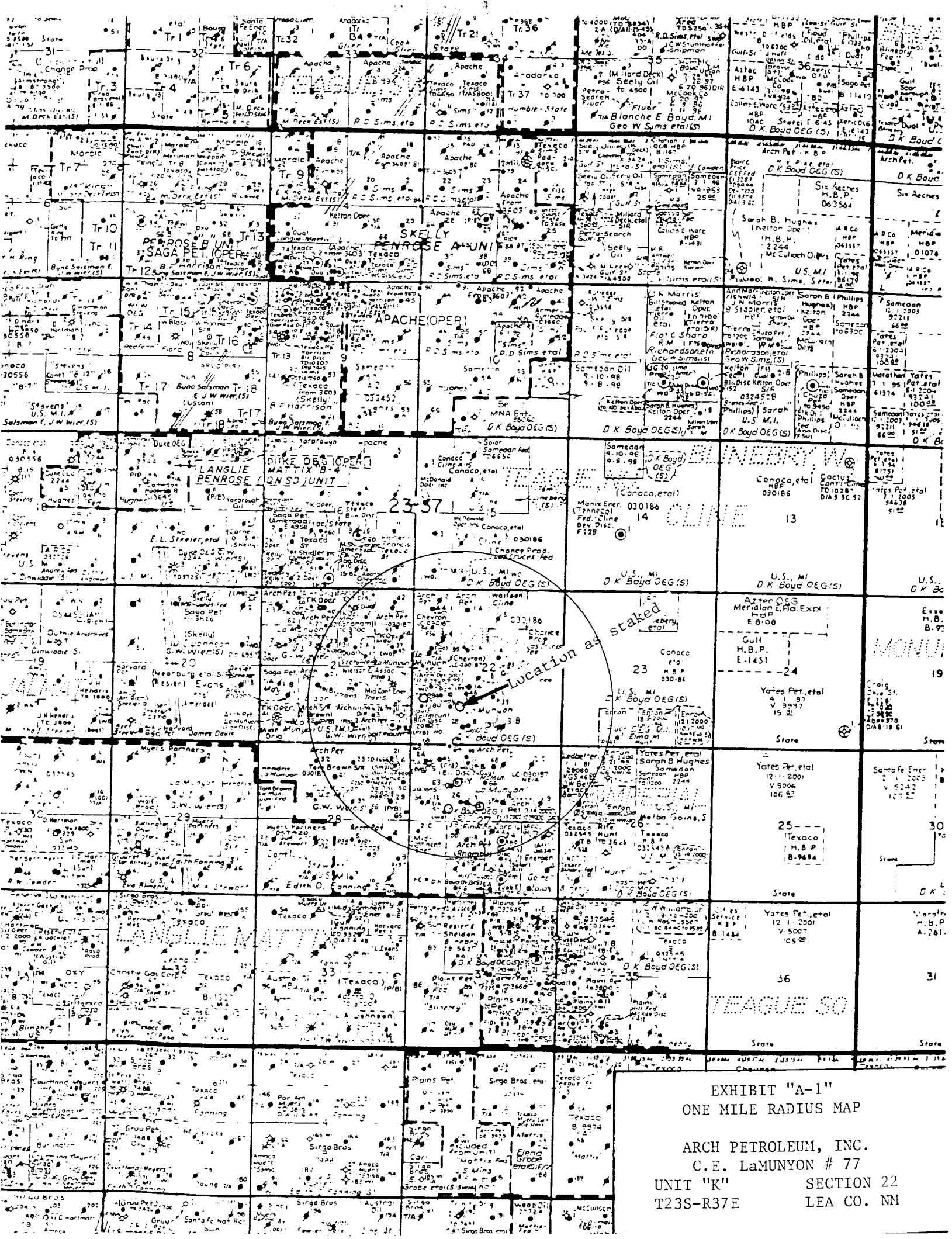


EXHIBIT "A-1"
ONE MILE RADIUS MAP

ARCH PETROLEUM, INC.
C.E. LAMUNYON # 77
UNIT "K" SECTION 22
T23S-R37E LEA CO. NM

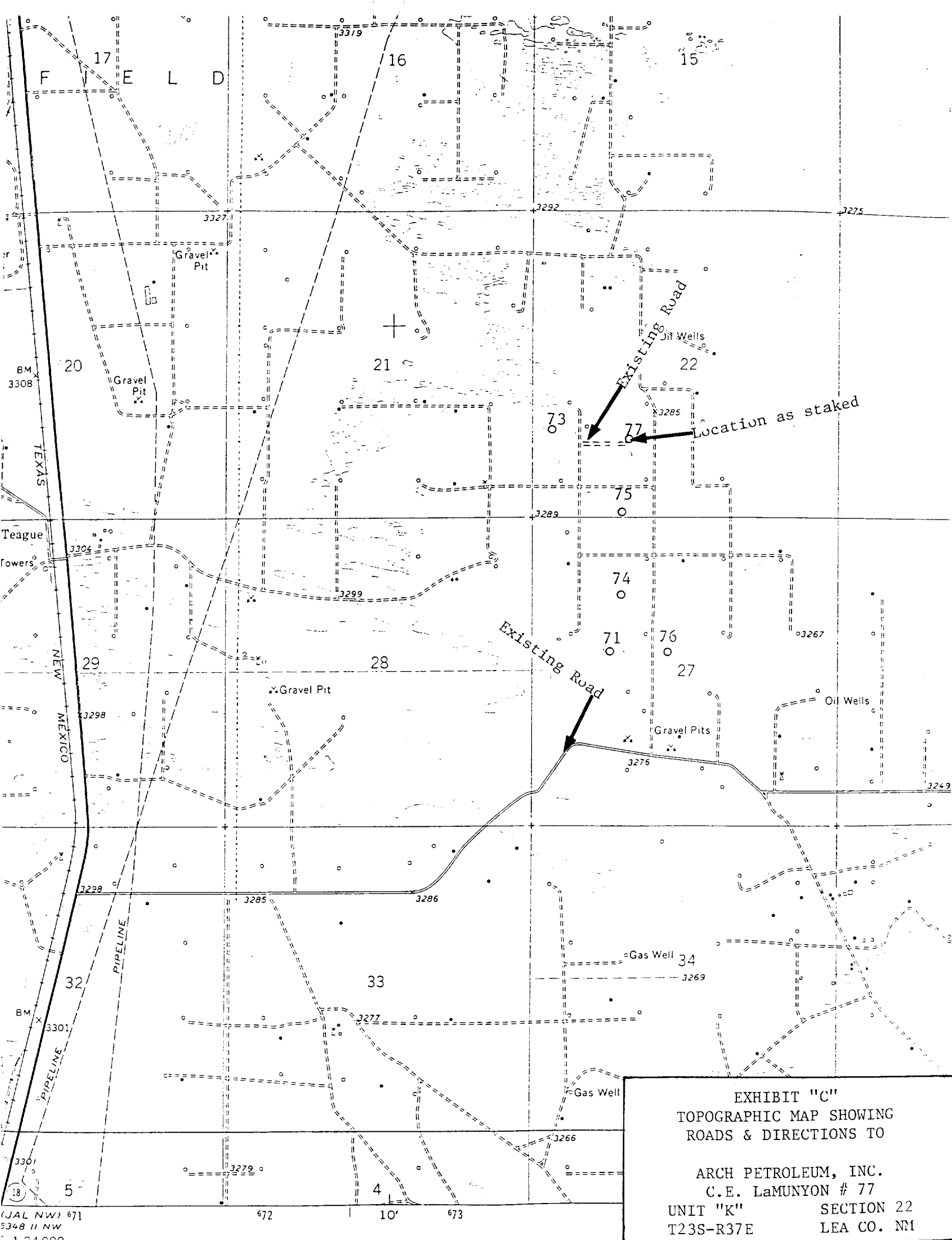
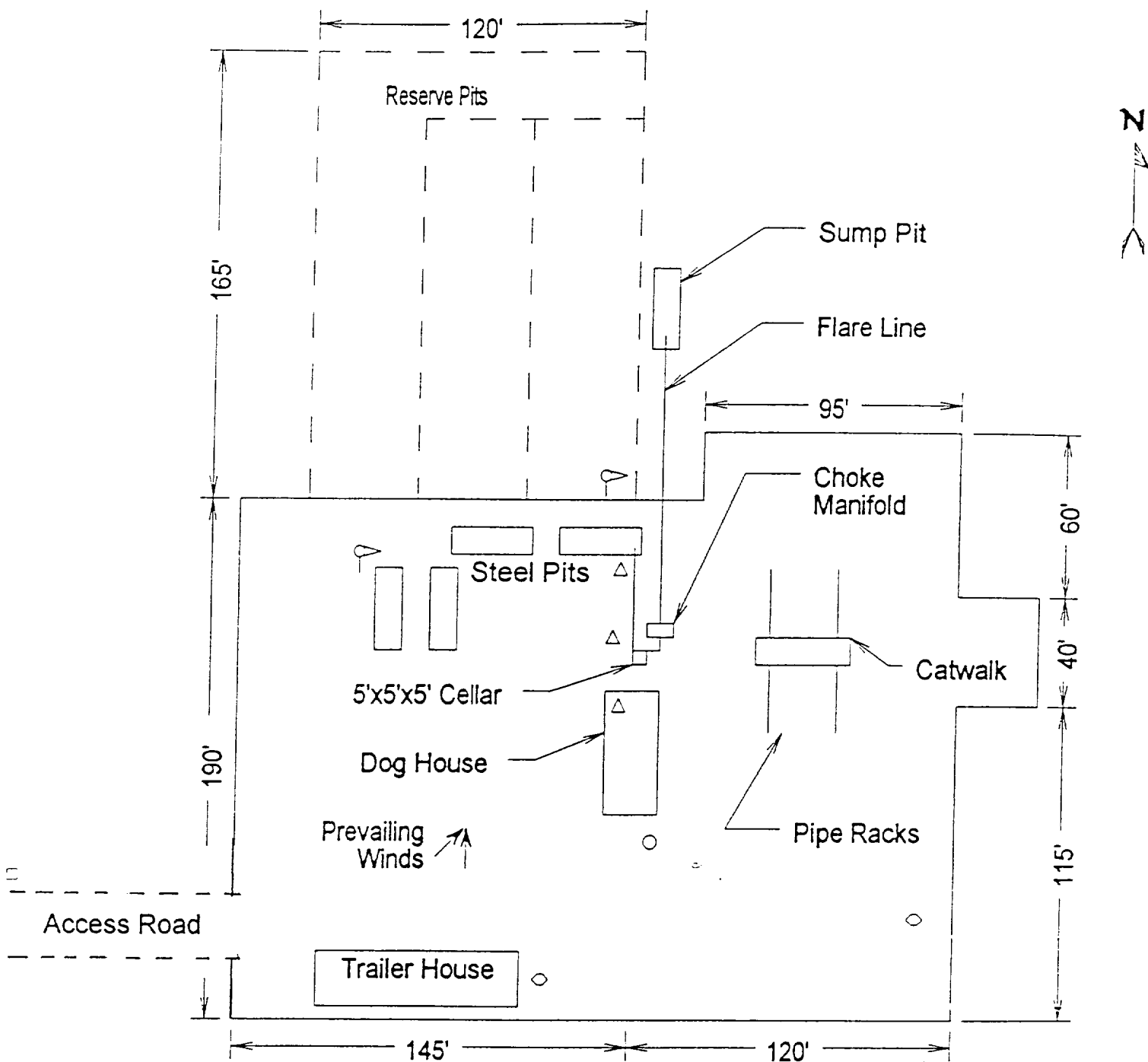


EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

ARCH PETROLEUM, INC.
C.E. Lamunyon # 77
UNIT "K" SECTION 22
T23S-R37E LEA 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

ARCH PETROLEUM, INC.
C.E. LaMUNYON # 77
UNIT "K" SECTION 22
T23S-R37E LEA CO. NM

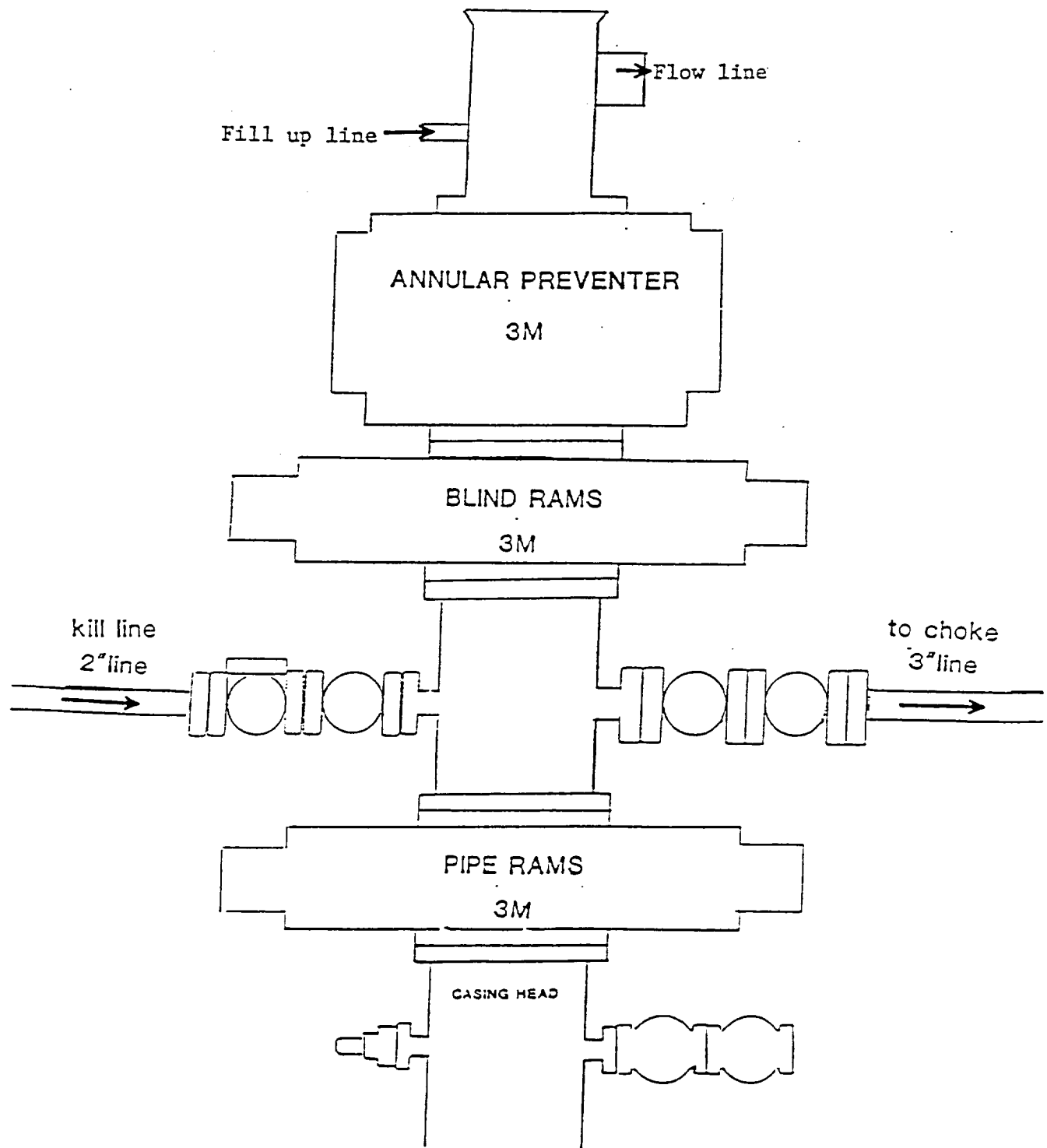
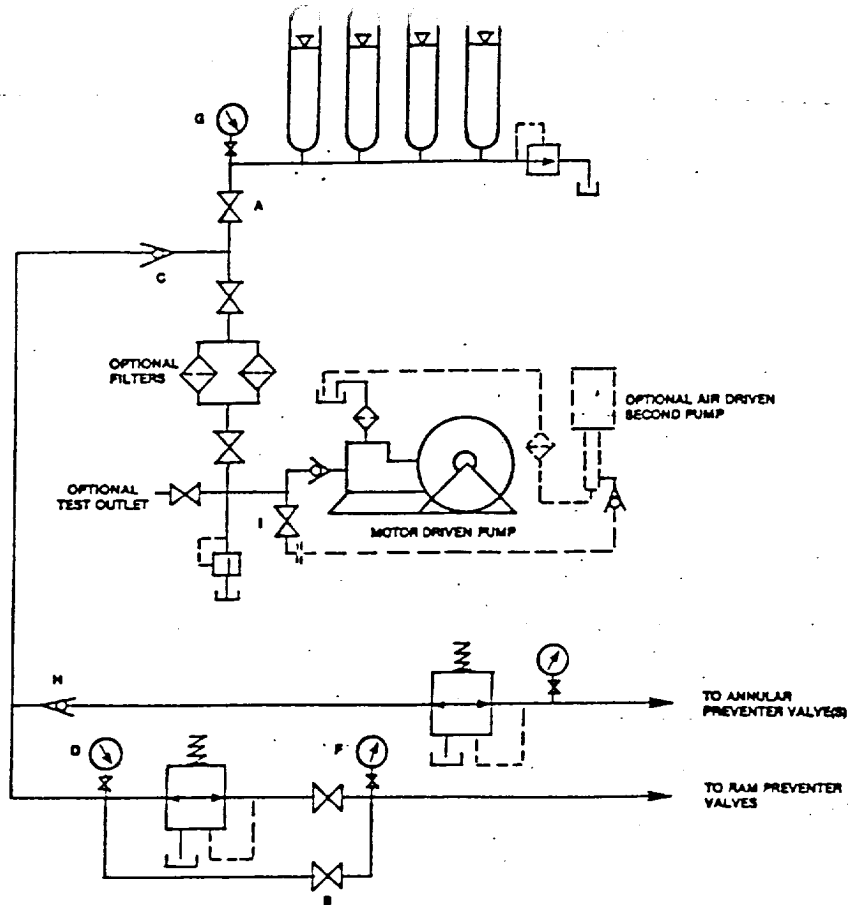


EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

ARCH PETROLEUM, INC.
C.E. LaMUNYON # 77
UNIT "K" SECTION 22
T23S-R37E LEA CO. NM



HAND AJUSTABLE CHOKE

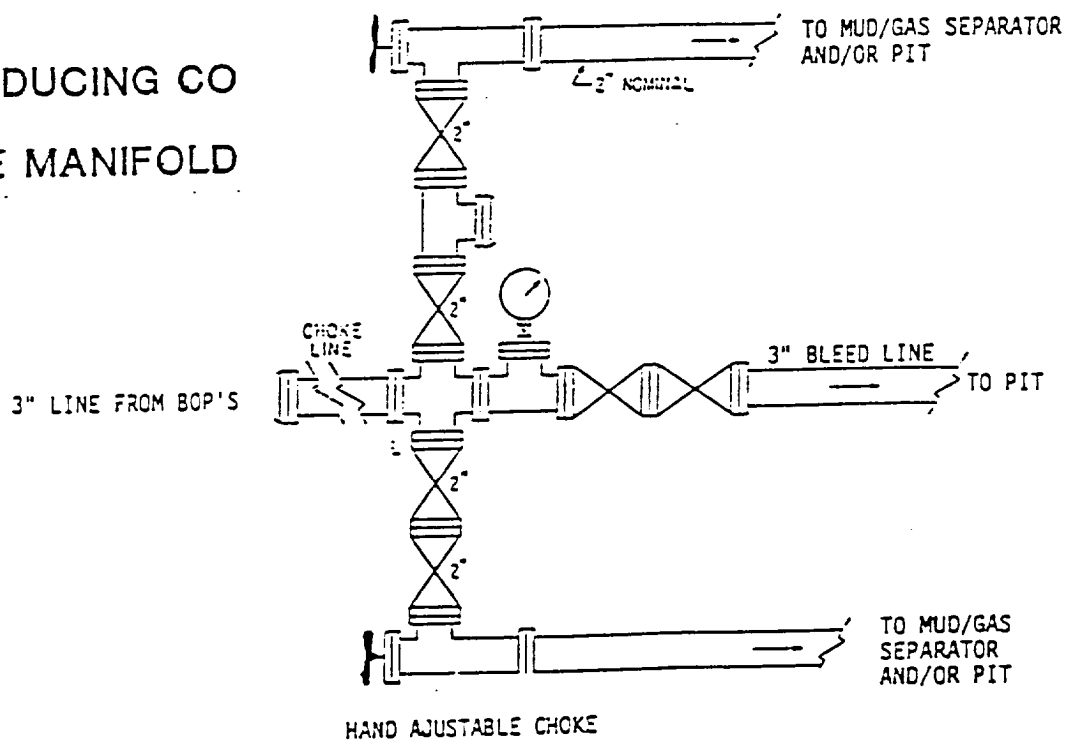


EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

ARCH PETROLEUM, INC.
C.E. LaMUNYON # 77
UNIT "K" SECTION 22
T23S-R37E LEA CO. NM

POGO PRODUCING CO
3M CHOKE MANIFOLD

ABOVE DATE DOES NOT
INDICATE WHEN
CONFIDENTIAL LOGS
WILL BE RELEASED

ELF