

OPER. LOG NO. 21355
PROPERTY NO. 1062 TE*
POOL CODE 24130
EFF. DATE 11/5/96
API NO. 30-025-33668FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995UNITED
DEPARTMENT OF
BUREAU OF LAND
APPLICATION FOR PERM.

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

b. TYPE OF WELL

OIL
WELL ☒GAS
WELL ☐OTHER ☐SINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Southwest Royalties Inc.

3. ADDRESS AND TELEPHONE NO.

P.O. Box 11390 Midland, Texas 79702 Ph. 915-

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

At surface

990' FSL & 1980' FWL SEC 20 T22S-R36E LEA CO. NEW MEXICO

At proposed prod. zone

Same

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

Approximately 10 miles Southwest of Eunice New Mexico

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.

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

990'

16. NO. OF ACRES IN LEASE

280

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.

1400'

19. PROPOSED DEPTH

4200'

20. ROTARY OR CABLE TOOLS

Rotary

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

3296' GR.

22. APPROX. DATE WORK WILL START*

As soon as approved

23. PROPOSED CASING AND CEMENTING PROGRAM **CAPITAN CONTROLLED WATER BASIN**

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	20" cond.	NA	40'	cement to surface
12 1/4"	J-55 8 5/8"	24	450'	400Sx. Circulate to surface
7 7/8"	J-55 5 1/2"	15.5	4200'	675 Sx. Circulate to surface

1. Drill 26" hole to 40' set 40' of 20" conductor pipe cement to surface W/Redi-Mix.
2. Drill 13 3/8" hole to 450'. Run and set 450' of 8 5/8" J-55 24# ST&C casing. Cement with 450 Sx. Class "C" + 2% CaCl = 1/3 Flocele/SX. Circulate cement to surface.
3. Drill 7 7/8" hole to 4200'. Run and set 4200' of 5 1/2" J-55 15.5# ST&C casing. Cement with 275 Sx. Halco Light + 1/4# Flocele/Sx. tail in with 400 Sx. Class "C" POZ + 2% CaCl + .4% Halad 9 + .3% CFR-2 + 4# salt/Sx. + 1/4# Flocele/Sx. Circulate cement to surface.

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

IN 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.

24.

SIGNED

TITLE Agent

DATE 09/25/96

(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 (ORIG. SGD.) TONY L. FERGUSON

TITLE

ADM. MINERALS

DATE

*See Instructions On Reverse Side

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

DISTRICT II
P.O. Drawer 80, Artesia, NM 88211-0718

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

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

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

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-33668	Pool Code 24130	Pool Name EUNICE SEVEN ROVERS QUEEN
Property Code 10624	Property Name CITIES FEDERAL	Well Number 5
OGED No. 21355	Operator Name SOUTHWEST ROYALTIES INC.	Elevation 3534'

Surface Location

UL or lot No. N	Section 20	Township 22 S	Range 36 E	Lot Idn	Feet from the 990	North/South line SOUTH	Feet from the 1980	East/West line WEST	County LEA
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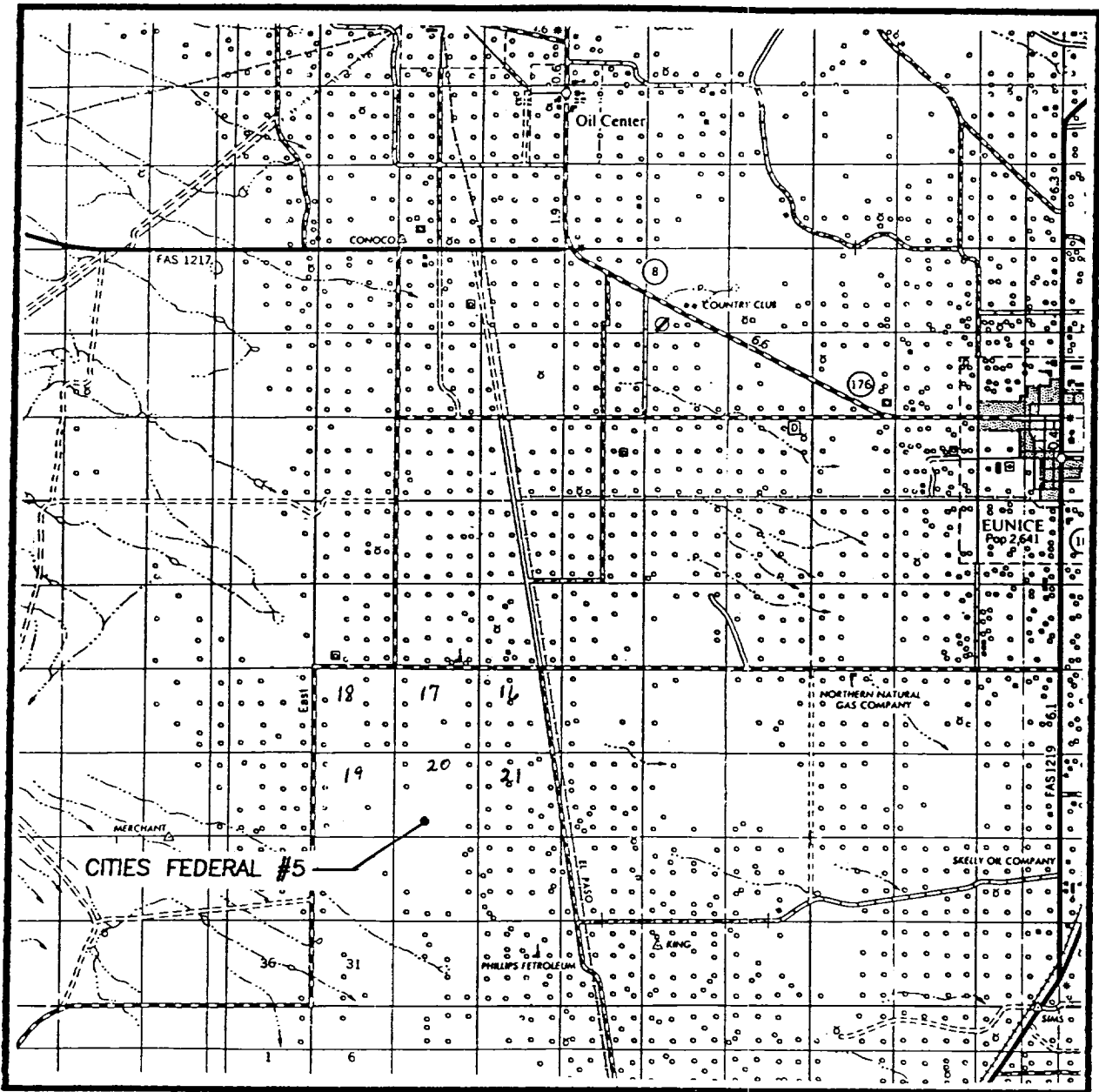
Bottom Hole Location If Different From Surface

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

	OPERATOR CERTIFICATION I hereby certify the information contained herein is true and complete to the best of my knowledge and belief. Signature Joe T. Janica Printed Name Agent Title 09/25/96 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. SEPTEMBER 10, 1996 Date Surveyed Signature & Seal of Professional Surveyor W.D. Nunn, 98-1162 Certificate No. JOHN W. WEST 676 RONALD J. EIDSON 3239 DARY EIDSON 12641

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 20 TWP. 22-S RGE. 36-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 990' FSL & 1980' FWL

ELEVATION 3534'

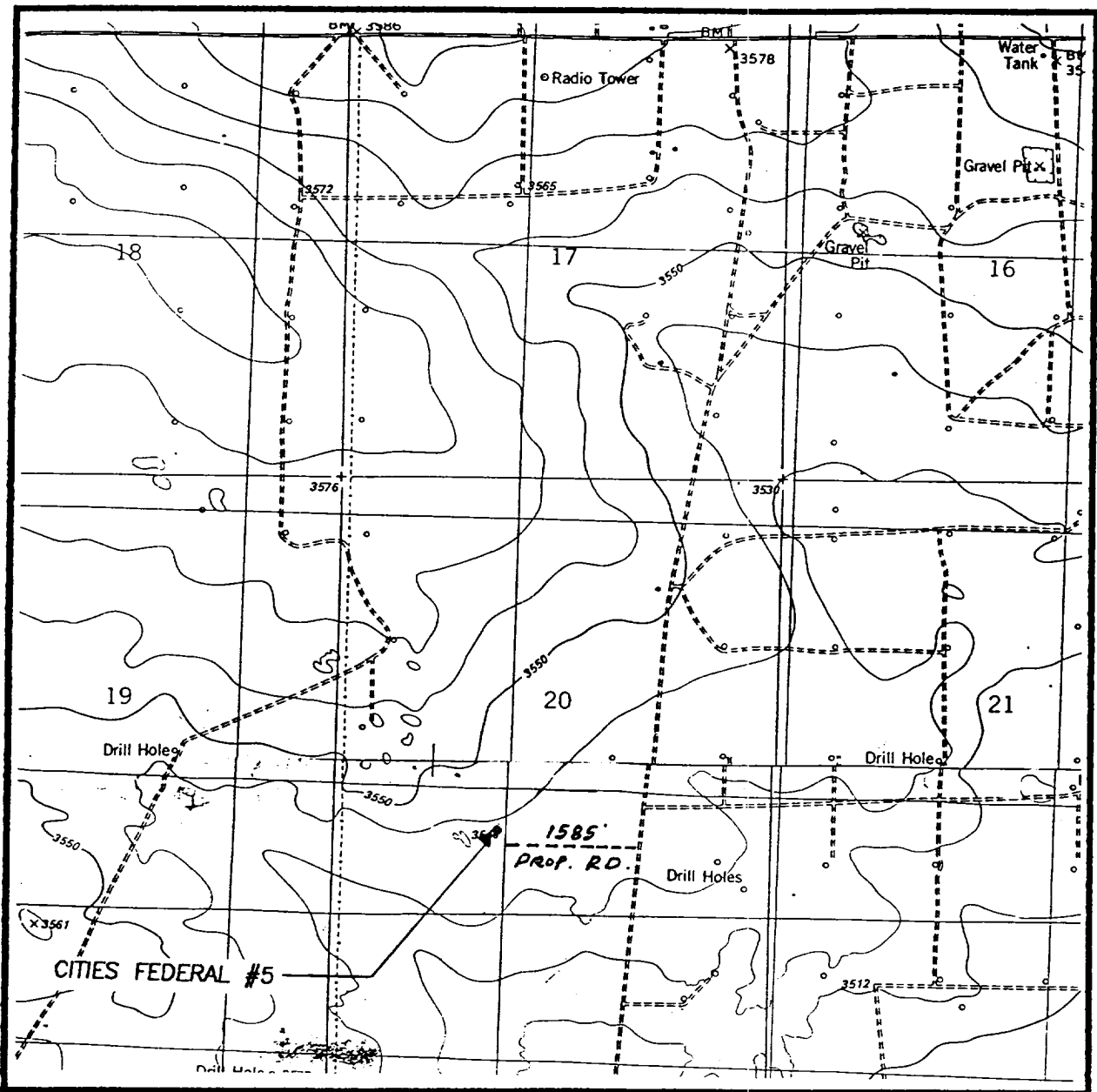
OPERATOR SOUTHWEST ROYALTIES INC.

LEASE CITIES FEDERAL

**JOHN WEST ENGINEERING
HOBBS, NEW MEXICO**

(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
OIL CENTER - 10'
EAST LAKE - 10'

SEC. 20 TWP. 22-S RGE. 36-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 990' FSL & 1980' FWL

ELEVATION 3534'

OPERATOR SOUTHWEST ROYALTIES INC.

LEASE CITIES FEDERAL

U.S.G.S. TOPOGRAPHIC MAP

OIL CENTER, N. MEX., & EAST LAKE, N. MEX.

**JOHN WEST ENGINEERING
HOBBS, NEW MEXICO**

(505) 393-3117

APPLICATION TO DRILL

SOUTHWEST ROYALTIES INC.
Cities Federal # 5
990' FSL & 1980' FWL SEC. 20
T22S-R36E LEA CO. NM

In response to questions asked under Section II B of Bulletin NTL-6 the following information is provided for your consideration:

1. Location: 990' FSL & 1980' FWL SEC. 20 T22S-R36E LEA CO. NEW MEXICO
2. Elevation above sea level: 3296' GR.
3. Geologic name of surface formation: Quaternary Aeolian Deposits.
4. Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
5. Proposed drilling depth: 4200'
6. Estimated tops of geological markers:

Rustler Anhydrite	1450'	Yates	3296'
Top Salt	1650'	Seven Rivers	3518'
Base of Salt	3148'	Queen	3778'
7. Possible mineral bearing formation:

Yates	Gas
Seven Rivers	Gas
Queen	Oil
8. Casing program:

Hole size	Interval	OD casing	Weight	Thread	Collar	Grade	Condition
26"	0-40	20"	NA	NA	NA	Conductor	New
12 1/4"	0-450'	8 5/8"	24#	8-R	ST&C	J-55	New
7 7/8"	0-4200'	5 1/2"	15.5#	8-R	ST&C	J-55	New

APPLICATION TO DRILL

SOUTHWEST ROYALTIES INC.

CITIES FEDERAL # 5

990' FSL & 1980' FWL SEC. 20

T22S-R36E LEA CO. NM

9. Cementing and setting depth:

20"	Conductor	Set 40' of 20" conductor and cement to surface with Redi-Mix.
8 5/8"	Surface	Set 450' of 8 5/8" J-55 24# ST&C casing. Cement with 450 Sx. Class "C" + 2% CaCl + 1/4# Flocele/Sx. circulate cement to surface.
5 1/2"	Production	Set 4200' of 5 1/2" J-55 15.5# ST&C casing. Cement with 275 Sx. Halco Light + 1/4# Flocele /Sx. tail in with 400 Sx. Class "C" POZ + 2% CaCl + .4% Halad 9 + .3% CFR2 + 4# Salt/Sx. + 1/43 Flocele/Sx. circulate cement to surface.

10. Pressure control equipment: Exhibit "E" shows a skematic of the type of a BOP that will be used on this well. (900 Series 3000 PSI working Pressure) This preventor will consist of double rams and a bag type preventor. The will be hydraulically operated closing unit that is shown on Exhibit "E-1". Blind rams on top and pipe rams on bottom corrsponding to the size drillpipe being used. The BOP will be nipped up on the 8 5/8" casing and will remain on well till casing is run and cemented. The BOP will be worked once each day while drilling and blind rams will be worked on trips when drillpipe is out of hole. Flow sensors, PVT, full opening stabbing valve and upper kelley cock will be utilized.

11. Proposed Mud Circulating System:

Depth	Mud Wt.	Mud Visc.	Fluid Loss	Type Mud
40-450'	8.4-8/8	30-38	NC	Fresh water spud mud add paper to control seepage
450 4200'	10.2-10.5	30-38	NC	Brine water add salt water Gel for viscosity if needed Starch for water loss control if necessary to log well and run casing.

Sufficient mud materials to maintain mud properties, meet lost circulation and weight increase requirements will be kept at the wellsite at all times. In order to log well run casing or run DST'S the viscosity and water loss may have to be altered.

APPLICATION TO DRILL

SOUTHWEST ROYALTIES INC.

CITIES FEDERAL # 5

990' FSL & 1980' FWL SEC. 20

T22S-R36E LEA CO. NM

12. Testing, Logging and Coring Program:

- A. No DST'S or cores are planned on this well.
- B. No mud logger will be used.
- C. Open hole logs, Dual-Laterlog, SNP, FDC, Caliper from TD to 450', Gamma Ray from TD to surface.

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. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used. Estimated BHP 1400 PSI, estimated BHT 100° .

14. Anticipated Starting Date and Duration of Operation:

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 8-12 days. If production casing is run an additional 30 days to complete and construct surface facility and place well on production.

15. Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals. The Yates, 7 Rivers Queen pay will be perforated and stimulated. The well will be swab tested and potentialized 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. All testing will be done in daylight hours.
 - B. Exhausts will be watered
 - C. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
 - D. 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 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.

APPLICATION TO DRILL

SOUTHWEST ROYALTIES INC.
CITIES FEDERAL # 5
990' FSL & 1980' FWL SEC. 20
T22S-R36E LEA CO. NM

1. EXISTING ROADS. Area map, Exhibit "B" is a reproduction of the New Mexico General Hi-way Co. Map. Exhibit "C" is a reproduction of a topographic map. Existings roads and proposed roads are shown on each exhibit. All roads will be maintained in a condition equal to or better than existed prior to start of construction.
 - A. Exhibit "A" shows the proposed development well as staked.
 - B. From New Mexico High-way junction of 234 and 209 in Eunice New Mexico go South 2.5 miles, turn West on Delaware Road and go 7.1 miles, turn South on lease road go 1.85 miles then turn West and go .3 miles to location.
 - C. Construct powerlines and lay pipelines along road or along existing Right-of-ways nessary for the production of oil and gas from this lease.
2. PLANNED ACCESS ROADS: Approximately 1500' of new road will be constructed.
 - A. The access road will be crowned and ditched to a 12'00" wide travel surface with 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 - " " " " "

SURFACE USE PLAN

SOUTHWEST ROYALTIES INC.

CITIES FEDERAL # 5

990' FSL & 1980' FWL SEC. 20

T22S-R36E LEA CO. NM

4. If, upon completion, the well is a producer, Southwest Royalties Inc. will furnish maps or plats showing On Well Pad facilities and Off well Pad facilities (if needed) on a Sundry Notice before construction of these facilities starts.

5. LOCATION AND TYPE OF WATER SUPPLY

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

6. SOURCE OF CONSTRUCTION MATERIALS

If needed, construction materials will be obtained from the drill site's excavations or from a local source. These materials will be transported over the access route as shown on Exhibit "A".

7. METHODS FOR HANDLING WASTE DISPOSAL

- A.
1. Drill cuttings will be disposed of in the reserve pit.
 2. Trash, waste paper, and garbage will either be contained in a fenced trash trailer or in a trash pit, fenced with mesh wire to prevent wind-scattering during storage. When the rig moves out, all trash and debris left at the site will be contained to prevent scattering and will be buried at least 36" deep within a reasonable period of time.
 3. Salts remaining after completion of the well will be picked up by the supplier, including broken sacks.
 4. Sewage from trailer houses will drain into holes with minimum depth of 10'00". These holes will be covered during drilling and backfilled upon completion. A "porta John" will be provided for the rig crews. This will be properly maintained during the drilling operations and removed upon completion of the well.
- B.
- Remaining drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry enough for backfilling. In the event drilling fluids will not evaporate in a reasonable period of time they will be transported by tank truck to a state approved disposal site.

Water produced during testing of the well will be disposed of in the reserve pit. Oil produced during testing of the well will be stored in test tanks until sold and hauled from the site.

8. ANCILLARY FACILITIES

No camps or airstrips will be constructed.

SURFACE USE PLAN

SOUTHWEST ROYALTIES INC.
CITIES FEDERAL # 5
990' FSL & 1980' FWL SEC. 20
T22S-R36E LEA CO. NM

9. WELL SITE LAYOUT

- A. Exhibit "D" rig site layout.
- B. This exhibit indicates proposed location of reserve and trash pits; and living facilities.
- C. Mud pits in the active circulating system will be steel pits and 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 PVC or polyethylene line. 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 recountered 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

SOUTHWEST ROYALTIES INC.
CITIES FEDARAL # 5
990' FSL & 1980' FWL SEC. 20
T22S-R36E LEA CO, NM

11. OTHER INFORMATION

- A. Topography consists of low stabilized sand dunes, vegetation consists of native grasses and Mesquite and shinnery oak.
- B. The surface is used for livestock grazing and is owned by the BLM Department of the Interior. The surface grazing lessee is Millard Deck Loop 18, Eunice New Mexico.
- C. An archaeologist study will be conducted for the location and new access road. The report will be submitted separately when completed.
- D. No dwellings within 2 miles of location.

12. OPERATOR'S REPRESENTATIVE:

Before Construction:

Tierra Exploration Inc.
P. O. Box 2188
Hobbs, New Mexico 88241
Office Phone 505-392-2112
Joe T. Janica

After APD is approved:

Southwest Royalties Inc.
P.O. Box 11390
Midland, Texas 79702
Office Phone 915-686-9927
Nelson Patton

13. CERTIFICATION - I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; 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 with the operations proposed herein will be performed by Southwest Royalties Inc., its contractors/subcontractors 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 : 09/25/96
TITLE : AGENT

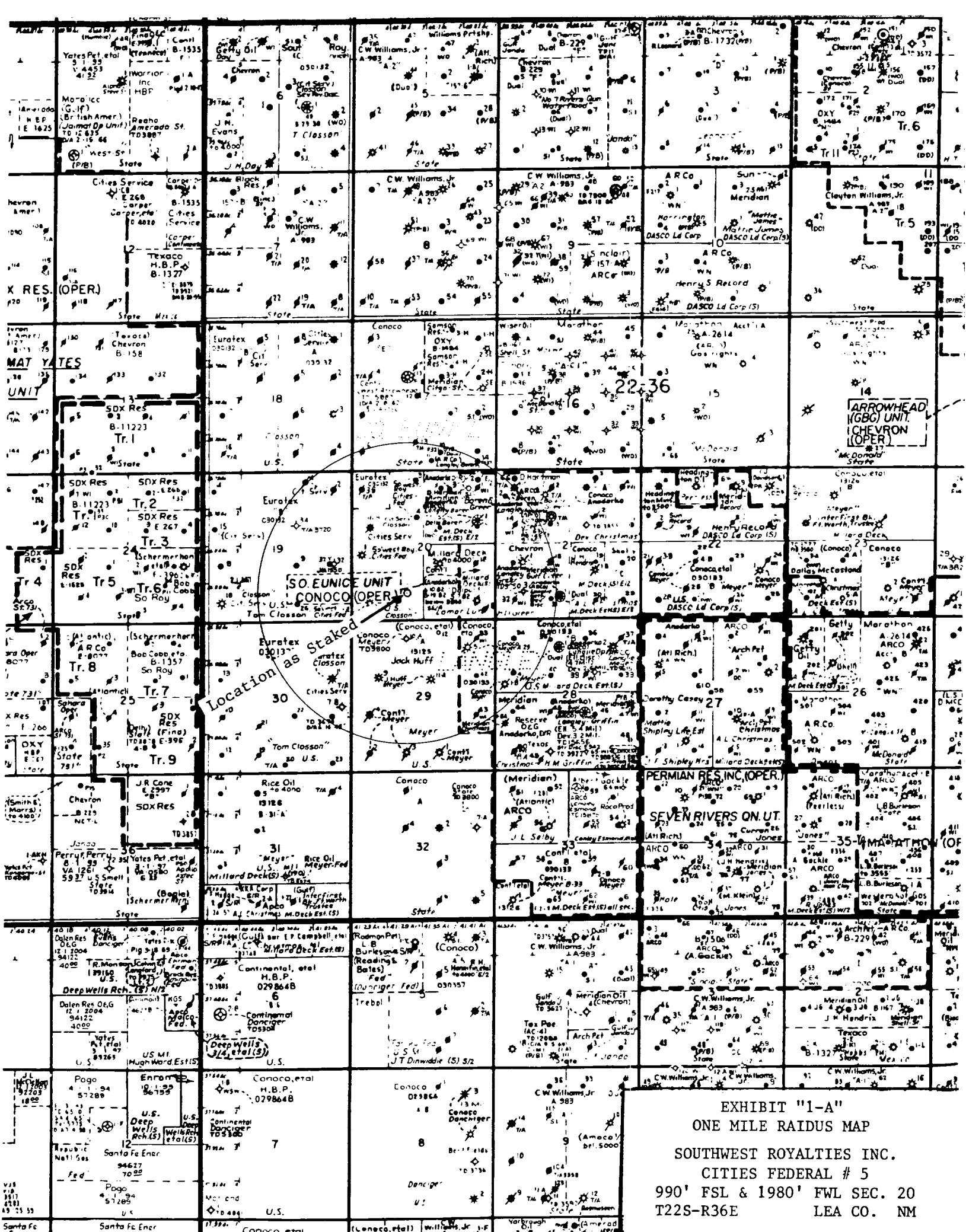


EXHIBIT "1-A"

ONE MILE RAIDUS MAP

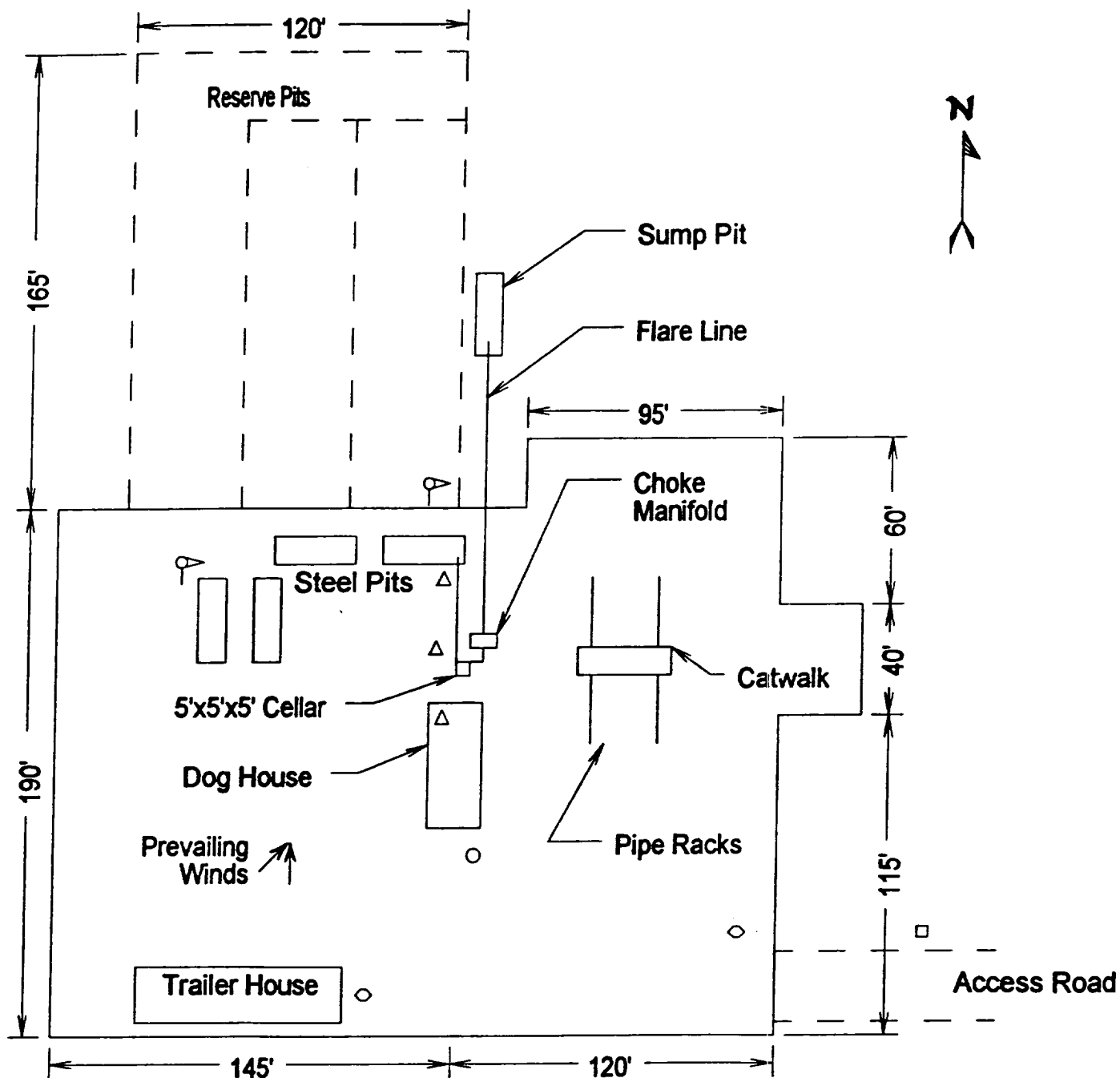
SOUTHWEST ROYALTIES INC.

CITIES FEDERAL # 5

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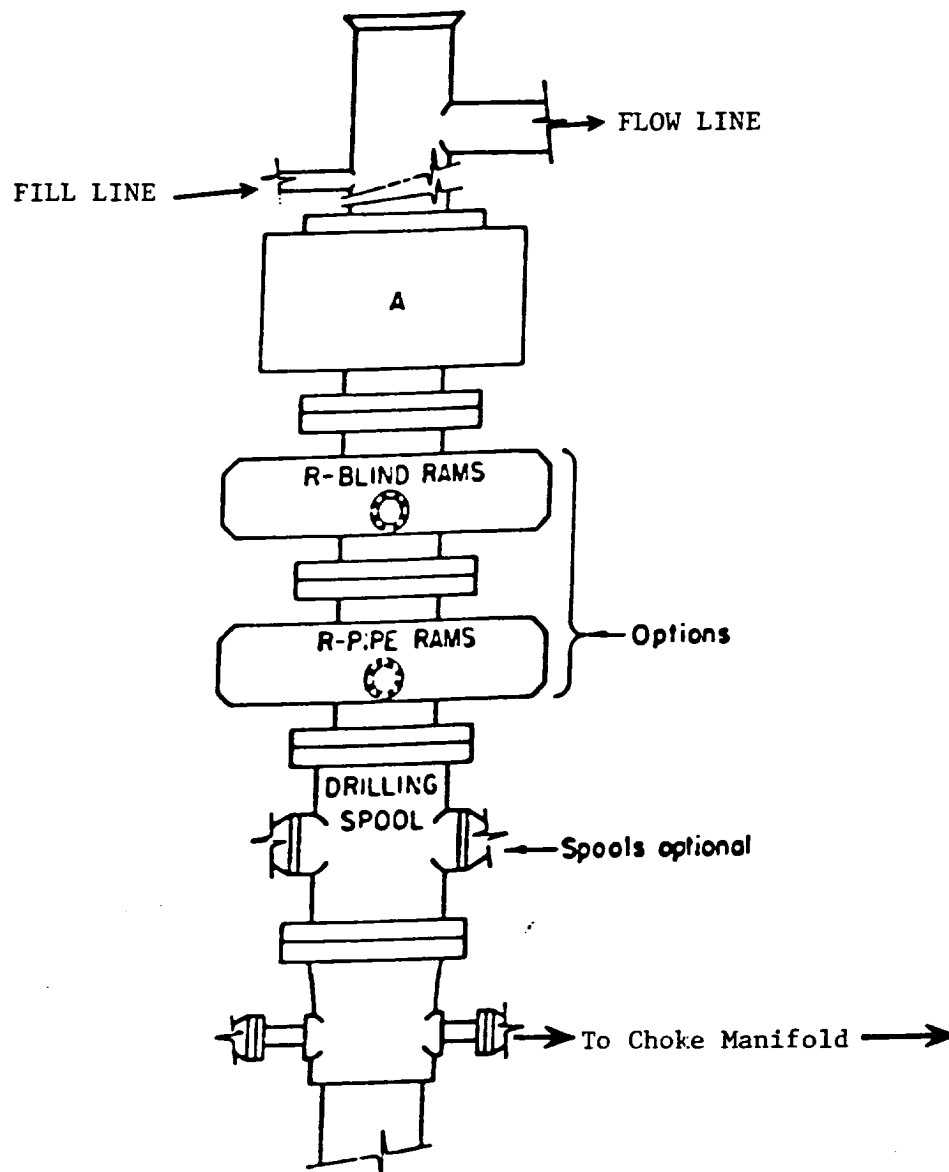
T22S-R36E

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

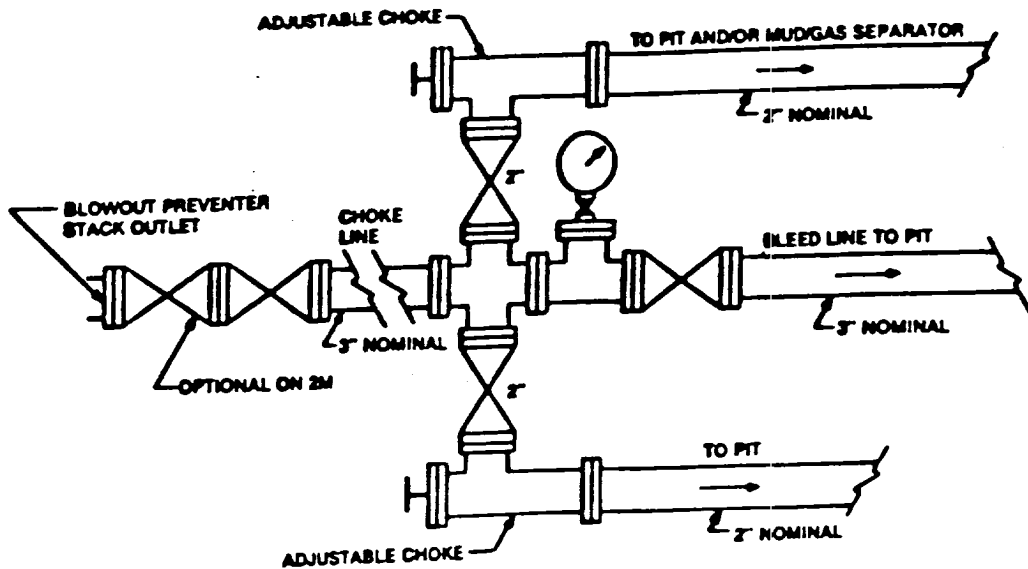
EXHIBIT "D"
RIG LAYOUT PLAT
SOUTHWEST ROYALTIES INC.
CITIES FEDERAL # 5
990' FSL & 1980' FWL SEC. 20
T22S-R36E LEA CO. NM



ARRANGEMENT SRRA

900 Series
3000 PSI WP

EXHIBIT "E"
B.O.P. SKETCH TO BE USED ON
SOUTHWEST ROYALTIES INC.
CITIES FEDERAL # 5
990' FSL & 1980' FWL SEC. 20
T22S-R36E LEA CO. NM



Typical choke manifold assembly for 3M WP system

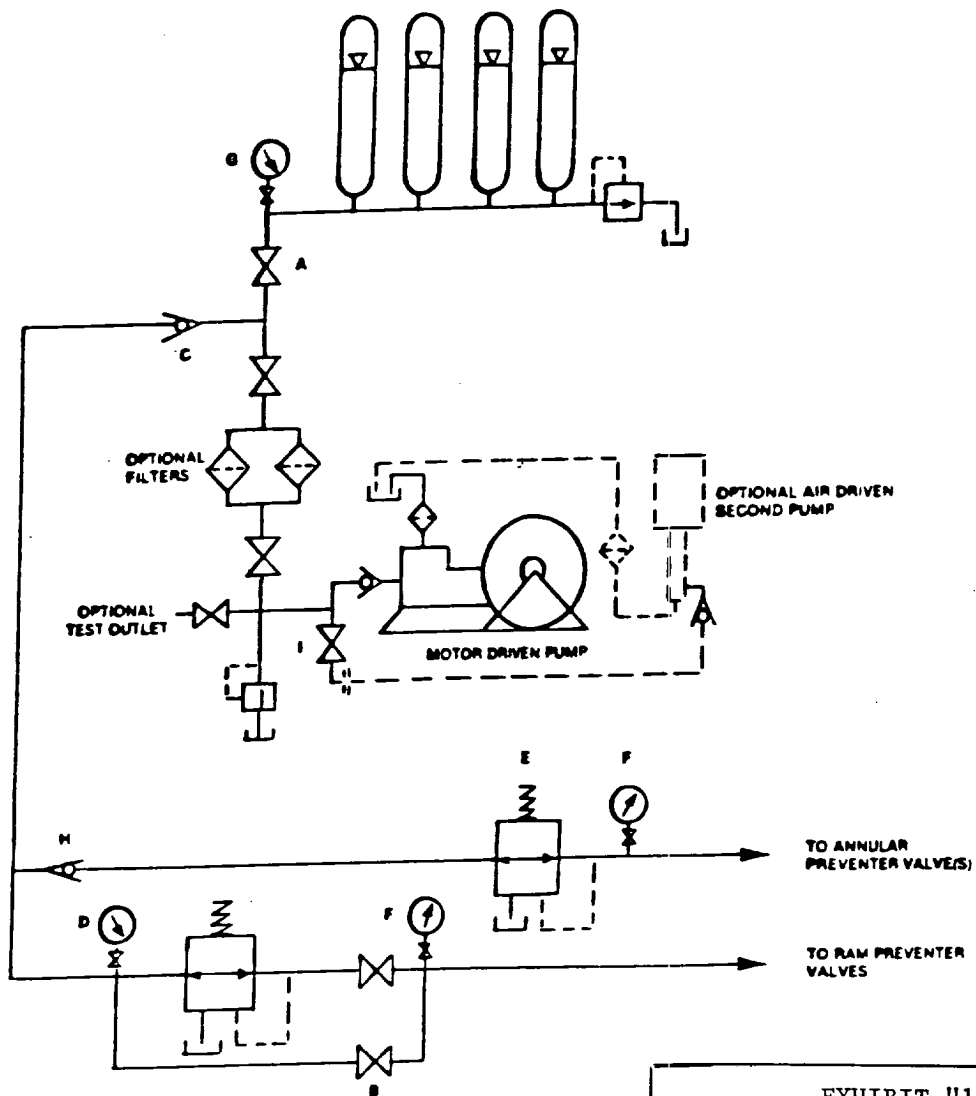


EXHIBIT "1-E"
 CHOKE MANIFOLD & CLOSING UNIT
 SOUTHWEST ROYALTIES INC.
 CITIES FEDERAL # 5
 990' FSL & 1980' FWL SEC. 20
 T22S-R36E LEA CO. NM