

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

Oil Cons. Division  
811 S. 1ST ST.  
ARTESIA, NM 88210-2000  
SUBMIT IN TRIPPLICATE  
(Other instructions on reverse side)

FORM APPROVED  
OMB NO. 1004-0136  
Expires: February 28, 1995

C/SF

**APPLICATION FOR PERMIT TO DRILL OR DEEPEN**

1a. TYPE OF WORK <b>DRILL</b> <input checked="" type="checkbox"/> <b>DEEPEN</b> <input type="checkbox"/>			5. LEASE DESIGNATION AND SERIAL NO. <b>NM-25336</b>	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>			6. INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR <b>ARCO Permian</b> <b>990</b>			7. LEASE AGREEMENT NAME	
3. ADDRESS AND TELEPHONE NO. <b>P.O. Box 1610, Midland, TX 79702</b> <b>915-688-5570</b>			8. FARM OR LEASE NAME, WELL NO. <b>JAGUAR FEDERAL "26"</b> <b>2</b>	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements) At surface <b>660' FSL &amp; 660' FWL</b> <b>wt.M</b>			9. API WELL NO. <b>30-015-31766</b>	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* <b>35 MILES NW OF CARLSBAD</b>			10. FIELD AND POOL, OR WILDCAT <b>LITTLE BOX CANYON (CISCO &amp; MORROW)</b>	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) <b>660'</b>		16. NO. OF ACRES IN LEASE <b>640</b>	17. NO. OF ACRES ASSIGNED TO THIS WELL <b>320</b>	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. <b>5550'</b>		19. PROPOSED DEPTH <b>8600'</b>	20. ROTARY OR CABLE TOOLS <b>ROTARY</b>	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) <b>4524' GR</b>			22. APPROX. DATE WORK WILL START* <b>5/1/01</b>	
23. PROPOSED CASING AND CEMENTING PROGRAM				

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4	8-5/8 J-55	32#	1400'	960
7-7/8	5-1/2 J-55	17#	8600'	539

SUBJECT WELL IS PLANNED AS A 8600' STRAIGHT HOLE.  
3,000 PSI BOPE WILL BE USED FROM 1400' TO TD.  
  
PLANS ARE TO PERFORM AND TEST THE MORROW.

**APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED**

ATTACHMENTS ARE AS FOLLOWS:

1. CERTIFIED LOCATION PLAT
2. DRILLING PLAN WITH ATTACHMENTS
3. SURFACE USE PLAN WITH ATTACHMENT

NOTIFY OCD SPUD & TIME TO WITNESS  
WATER PROTECTION STRING

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 Elizabeth A. Casper TITLE REGULATORY COMPLIANCE ANALYST DATE 3/9/01

(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 \_\_\_\_\_ TITLE \_\_\_\_\_ DATE MAY 1 2001

\*See Instructions On Reverse Side

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.

RECEIVED

MAR 19 1971

RECEIVED

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

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

DISTRICT III  
1000 Rio Brazos Rd., Axtec, 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

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

AMENDED REPORT

API Number	Pool Code 80240	Pool Name LITTLE BOX CANYON (CISCO + MORROW)
Property Code	Property Name JAGUAR FEDERAL "26"	Well Number 2
OGRID No. E00990	Operator Name ARCO PERMIAN	Elevation 4524'

**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	26	20-S	21-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 320	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><b>OPERATOR CERTIFICATION</b></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>Elizabeth A. Casbeer</i> Signature</p> <p>Elizabeth A. CASBEER Printed Name</p> <p>Reg. Intocg Compliance Analyst Title</p> <p>3/9/01 Date</p>
	<p><b>SURVEYOR CERTIFICATION</b></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 supervisor, and that the same is true and correct to the best of my belief.</p> <p>FEBRUARY 15 2001 Date Surveyed</p> <p>Signature &amp; Seal of Professional Surveyor <i>Ronald J. Edson</i></p> <p>3239 01-11-0186</p> <p>Certificate No. RONALD J. EDSON 3239 GARY EDSON 12641</p>

# DRILLING PLAN

Attachment to BLM Form 3160-3  
 ARCO Permian  
 Well: Jaguar Federal "26" #2  
 Unit Letter - M  
 660 FSL, 660 FWL  
 Section 26, T20S-R21E  
 Eddy County, New Mexico

**1. Surface Geological Formation**

Quaternary Formation

**2. Estimated Tops of Geological Markers**

<u>Formation</u>	<u>TVD</u>
Glorieta	1430
Tubb Sand	2840
Abo Dolomite	3425
Cisco	5850
Canyon	6550
Strawn	7260
Atoka	7600
Lower Morrow	7850
Mississippian	8550

**3. Estimated Tops of Possible Water, Oil, Gas or Mineral:**

Sands above 300'	Water
Cisco and Morrow	Oil or Gas

**4. Pressure Control Equipment**

<u>Interval, TVD</u>	<u>Pressure Control Equipment</u>
0' – 1400'	Rotating Head
1400' – TD	11", 3M psi double ram preventer and 3M psi annular preventer

Exhibits 1, 2 and 3 show the BOP stack arrangement, the choke manifold arrangements and the BOP specifications, respectively. The BOPE will be hydraulically tested per BLM requirements outlined by Onshore Oil and Gas Order No. 2. Pipe rams and blind rams will be functioned on each trip out of the hole. All BOPE checks and testes will be witnessed by ARCO's representative and will be noted on the IADC daily drilling report. Accessories to BOPE will include an upper kelly cock, lower kelly cock, and floor safety valve; all with pressure rating equivalent to the BOP stack.

**5. Proposed Casing and Cementing Program**

	<u>Hole Size</u>	<u>Interval M.D.</u>	<u>Casing Size</u>	<u>Weight &amp; Grade</u>
Surface	12-1/4"	0'-1400'	8-5/8"	32.0# J-55
Production	7-7/8"	0'-8600'	5-1/2"	17.0# J-55

**Cement Program:** (Actual volumes will be based on caliper log when available)

Surface – Cement to surface as follows:

Lead – 460 sxs Class "C" + 5 #/sx Gilsonite + 1/4 #/sx Flocele + 2% CaCl

Tail – 150 sxs "C" + 2% CaCl

If cement does not circulate will run temperature survey to determine TOC. Will run 1" tubing down the hole beside the 8 5/8" casing and cement to surface using Class "C" + 2% CaCl mixed in 100 sx stages.

Production - Cement to 5000' as follows:

Lead - 133 sx Class "C" + 2 lb/sk Salt + .4% FL-25 + 15% gel

Tail – 396 sx 15:61:11 POZ:C:CSE + .3% FL-25 + .3% FL-52

**6. Mud Program**

<u>Depth</u>	<u>Mud Type</u>	<u>Weight ppg</u>	<u>Funnel Viscosity</u>	<u>Water Loss</u>
0'-1400'	Air Drilled			
1400-6750'	FVW/Brine	8.4/9.0	28-30	NC
6750-8600'	XCD Polymer	9.0/9.2	34-36	8-10 cc

**7. Auxiliary Equipment**

Upper Kelly Cock, Lower Kelly Cock, and Full Opening Stabbing Valve

**8. Testing, Coring and Logging Program**

- A. Drill Stem Tests – None planned
- B. Coring – None planned
- C. Logging – Mud logging planned from 1400' to TD
- D. Electric Logs
  - Open Hole: GR, DLL/MLL, CNL/LDT Shoe of 8-5/8" csg to TD
  - Cased Hole: GR/CCL TD to top cement in prod csg

**9. Anticipated Abnormal Temperature, Pressure, or Hazards**

Normally have severe lost circulation from surface to 1400'. Air drilling should alleviate this. Lost circulation is not anticipated below 1400'.

**10. Anticipated Starting Date and Duration of Operations**

Pending favorable weather and permit approval, construction work on this location is planned to begin in May, 2001. Construction work will require 5 days, move-in and rig up rotary tools, 1 day, drill and complete, 30 days. It is planned to spud the well in July, 2001.

# SURFACE USE PLAN

Attachment to BLM Form 3160-3  
ARCO Permian  
Well: Jaguar Federal "26" #2  
Unit Letter - M  
660 FSL, 660 FWL  
Section 26, T20S-R21E  
Eddy County, New Mexico

## 1. Directions to location Existing Roads

From Carlsbad, New Mexico go North +/- 20 miles on Highway 285 to Eddy County Rd. 23 (Rock Daisy Rd.). Go West on Rock Daisy Rd. 19 miles to Armstrong Rd. Go South on Armstrong Rd. 6.5 miles. Turn right and go NE 1.0 miles. Turn left and go West 0.3 miles to location. Exhibits "4" and "5" are the Vicinity Map and the Location Verification Map.

- A. The proposed development wellsite is staked as shown on the certified location plat attached.
- B. The existing roads will require improvement. Any existing sections of road that needs improvement or repair will be fixed to a condition equal to that of the good sections of the existing road. All roads will be maintained in a condition equal to that which existed prior to the start of the construction.

## 2. Planned Access Roads

- A. Approximately 2600' of new access road will be required.
- B. New access roads will have a 12' wide travel lane and be surfaced with 6" compacted caliche.
- C. Turnouts: None
- D. Culverts: If needed, across creeks cutting new or existing dirt road
- E. Cuts and fills: No major road cuts or fill will be necessary.

## 3. Location of Existing Wells

- A. The existing wells within a one-mile radius of this location are shown on Exhibit "6".

## 4. Location of Existing or Proposed Facilities

- A. Existing Facilities – No facilities are currently existing for this well.
- B. New Facilities Proposed – If a successful Morrow producer is completed, surface facilities will consist of a separator, line heater and collection tanks for oil and water.

**5. Location and Type of Water Supply**

Fresh and brine water used in drilling and completion operations will be purchased from independent trucking companies located in Artesia or Carlsbad, New Mexico. The water will be hauled over existing and new roads to the location.

**6. Source of Construction Materials**

Caliche for the road and well pad construction will be from the designated BLM caliche pit.

**7. Methods of Handling Waste Disposal**

- A. Drill cuttings will be handled in the reserve pit and buried during reclamation operations.
- B. Trash, waste paper, garbage and junk will be contained in a fenced trash trailer to prevent scattering by the wind and hauled to a municipal sanitary landfill. The supplier will pick up all sacked drilling mud. The drilling contractor will haul away any chemicals that they used while drilling.
- C. Toilet facilities will be provided for human waste. Sewage disposal facilities will be in accordance with State and Local Regulations.
- D. Drilling fluids will be handled as follows. The free water will be either hauled to the reserve pit of the next drilling well for re-use or hauled to a permitted SWD. If any mud is hauled away it will be disposed of at an approved mud disposal site. Remaining drilling fluids will be allowed to evaporate in the reserve pit until dry enough for reclamation.
- E. Any fluids produced during swab testing the well while the pulling unit is on location will be collected in a test tank. Produced water will be hauled to a permitted SWD. Oil produced will remain in the test tank until sold and hauled from the site.

**8. Auxiliary Facilities**

No new facilities will be built during drilling of this well. A trailer will be used as an office and temporary living quarters for wellsite supervision.

**9. Wellsite Layout**

- A. Exhibit "7" shows the proposed wellsite layout and dimensions. Major rig components and reserve pits are shown.
- B. No significant cuts or fills will be required.
- C. The reserve pits will be plastic lined with minimum 6 mil double x laminated plastic. The liner will overlap the pit dikes and be anchored down. The reserve pit will be fenced on three sides during drilling operations. After drilling operations have ceased the fourth side of the pit will be fenced.

**10. Plans for Reclamation of the Surface**

- A. In a timely manner, after finishing the drilling and/or completion operations all equipment and other material not needed for production operations will be removed. The location will be cleared of all trash and debris then any ruts, etc. will be filled. The cellar will be filled around the wellhead.

- B. Any pits containing fluids will be fenced until they are filled. The NMOCDC pit netting rules will be followed. The reserve pits will be reclaimed by deep burying the drill cuttings. The pit area will be leveled and contoured to conform to the surrounding area. A stockpile of topsoil from the location construction will be evenly distributed over the disturbed area. Re-vegetation procedures will comply with BLM standards.
- C. Upon abandonment of the well, surface restoration will be in accordance with the surface owner requirements and will be accomplished as expediently as possible.

**11. Surface Ownership**

The surface for the wellsite locations is on BLM surface and minerals and Leased by Corrales Livestock Corp., Hope, New Mexico.

**12. Additional Information**

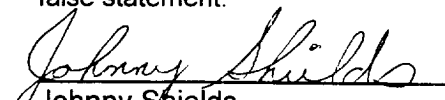
- A. Topography: Hilly with canyons. Location is in a relatively flat area
- B. Vegetation includes mesquite, catclaw, creosote, broom snakeweed, various cacti, shin oak, sand sage, narrowleaf yucca, and mixed grasses.
- C. The soil is stony and rocky with loamy soils over limestone.
- D. Primary use of the land is livestock grazing and accessing producing wells.
- E. There are no dwellings in the vicinity.
- F. An archaeological block survey will be prepared; a copy of which will be sent to your office.
- G. The selected dirt contractor will be furnished with an approved copy of the Surface Use Plan and any additional stipulations prior to beginning and work.

**13. Operator's Representatives**

J.E. Shields  
Sierra Engineering as Agent for ARCO Permian  
P.O. Box 1610  
Midland, TX 79702  
(915) 688/5674

**Certification**

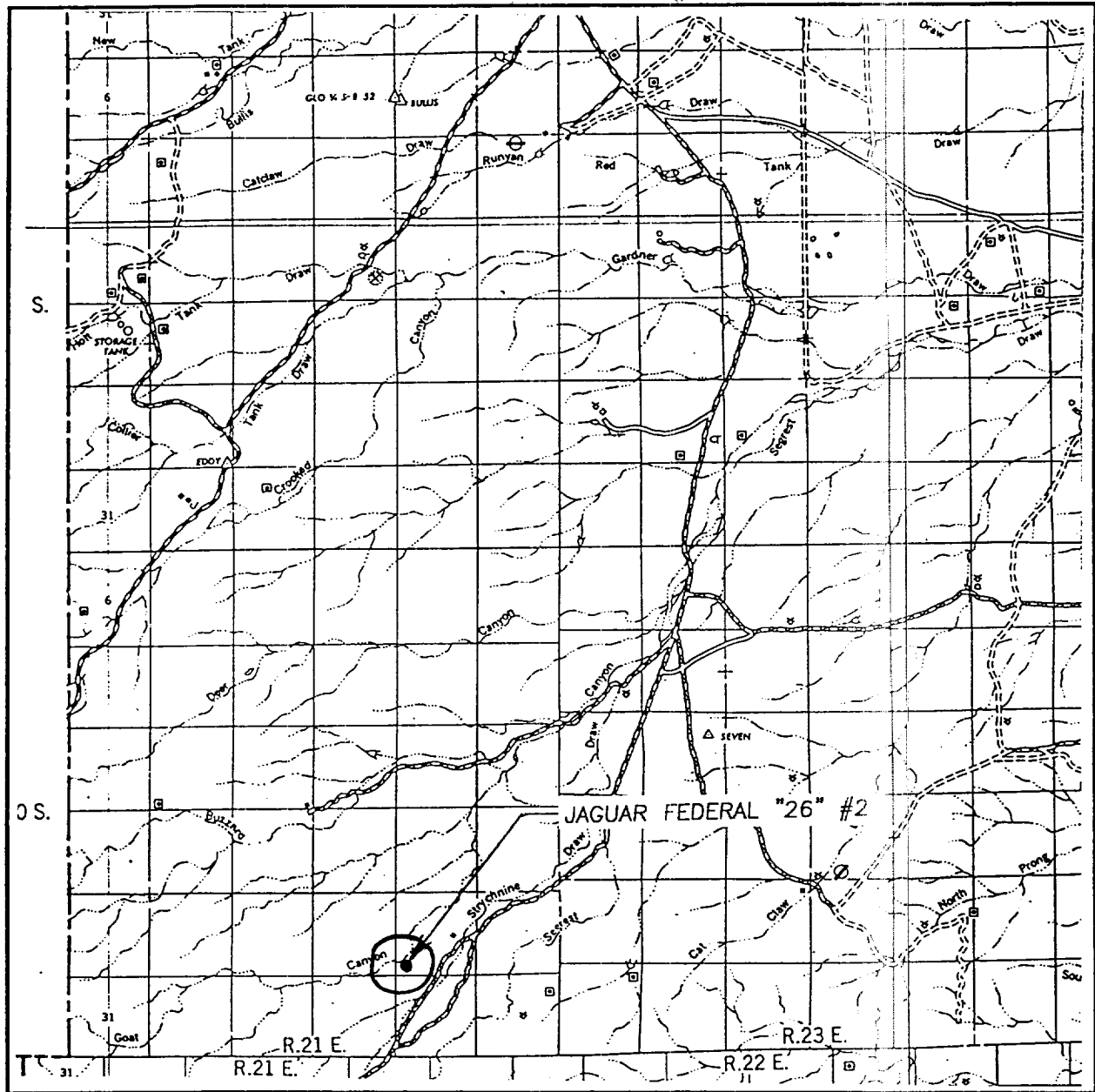
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct. The work associated with the operations proposed herein will be performed by ARCO Permian and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for filing of a false statement.

  
Johnny Shields  
Drilling Coordinator

3/08/01  
Date



# VICINITY MAP

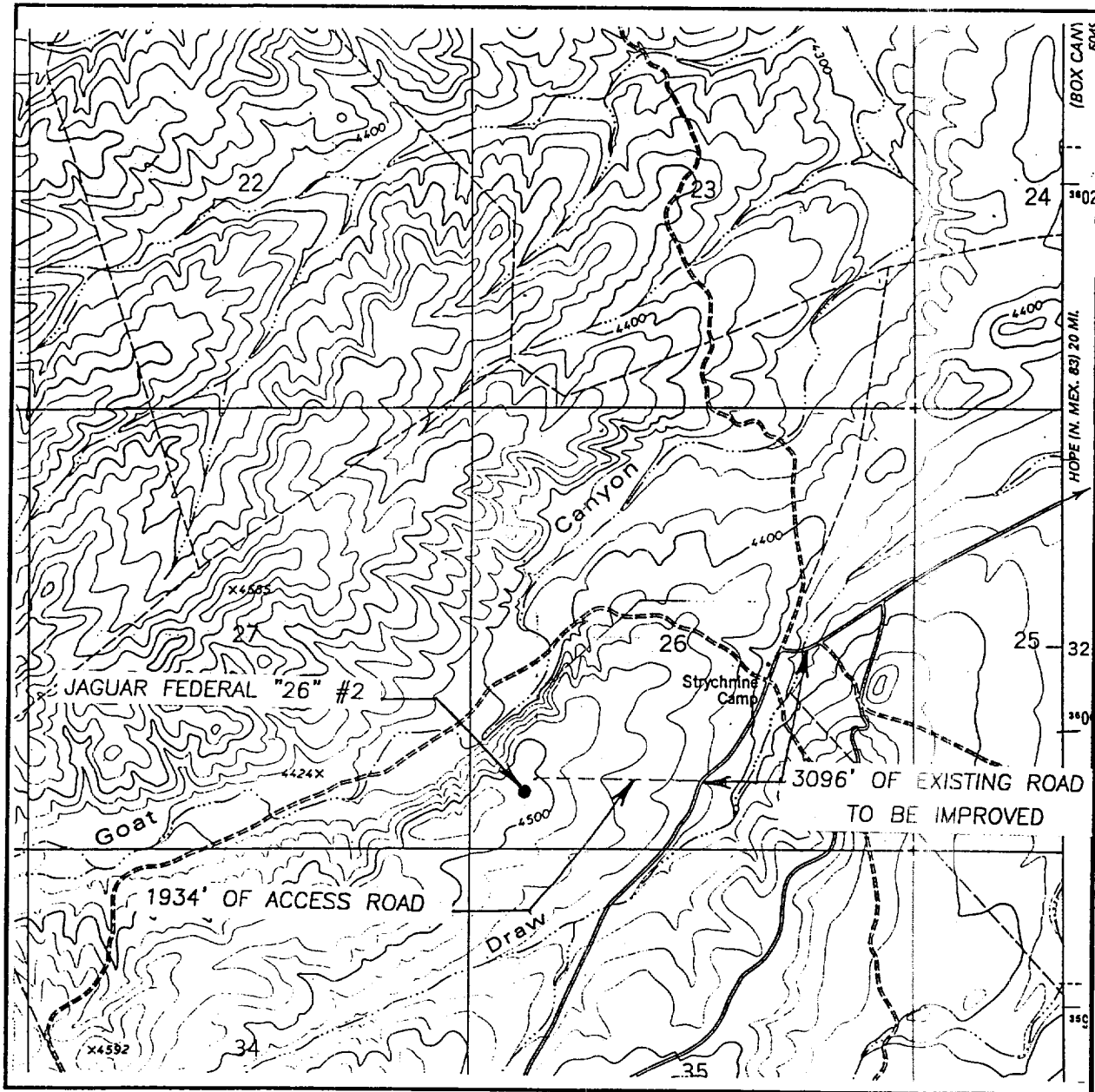


SCALE: 1" = 2 MILES

SEC. 26 TWP. 20-S RGE. 21-E  
 SURVEY N.M.P.M.  
 COUNTY EDDY  
 DESCRIPTION 660' FSL & 660' FWL  
 ELEVATION 4524'  
 OPERATOR ARCO PERMIAN  
 LEASE JAGUAR FEDERAL "26"

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

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 20'

SEC. 26 TWP. 20-S RGE. 21-E

STRYCHNINE DRAW, N.M.

SURVEY \_\_\_\_\_ N.M.P.M.

COUNTY \_\_\_\_\_ EDDY

DESCRIPTION 660' FSL & 660' FWL

ELEVATION \_\_\_\_\_ 4524'

OPERATOR \_\_\_\_\_ ARCO PERMIAN

LEASE \_\_\_\_\_ JAGUAR FEDERAL "26"

U.S.G.S. TOPOGRAPHIC MAP

STRYCHNINE DRAW, N.M.

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

## **BLOWOUT PREVENTION EQUIPMENT SPECIFICATIONS**

1. All BOP equipment shall be fluid and/or mechanically operated.
2. BOP's and all fittings will be in good working condition.
3. Equipment through which the bit must pass shall be at least as large as the casing size being drilled.
4. The nipple above the BOP shall be at least the same size as the last casing set.
5. The upper kelly cock with handle and lower kelly cock shall be rated at the BOP working pressure.
6. A floor safety valve (full opening) or drill string BOP with appropriate pressure ratings shall be available on the rig floor with connections or subs to fit any tool joint in the string.
7. The minimum size choke line shall be 3 inches nominal diameter, with a minimum size for vent lines downstream of chokes of 2 inches nominal, and vent lines which by-pass shall be a minimum of 3 inches nominal and as straight as possible.
8. All valves, fittings and lines between the closing unit and the blowout preventer stack should be of steel construction with rated working pressure at least equal to working pressure rating of the stack. Lines shall be bundled and protected from damage.
9. Minimum size for kill line is 2 inches nominal.
10. Ram type preventers shall be equipped with extension hand wheels or hydraulic locks.

EXHIBIT 1

DRILLING OPERATIONS

CLASS -1: NORMAL PRESSURE < 10PPG

OPTION - 2: MMS STANDARD; SINGLE SIZE DRILL STRING

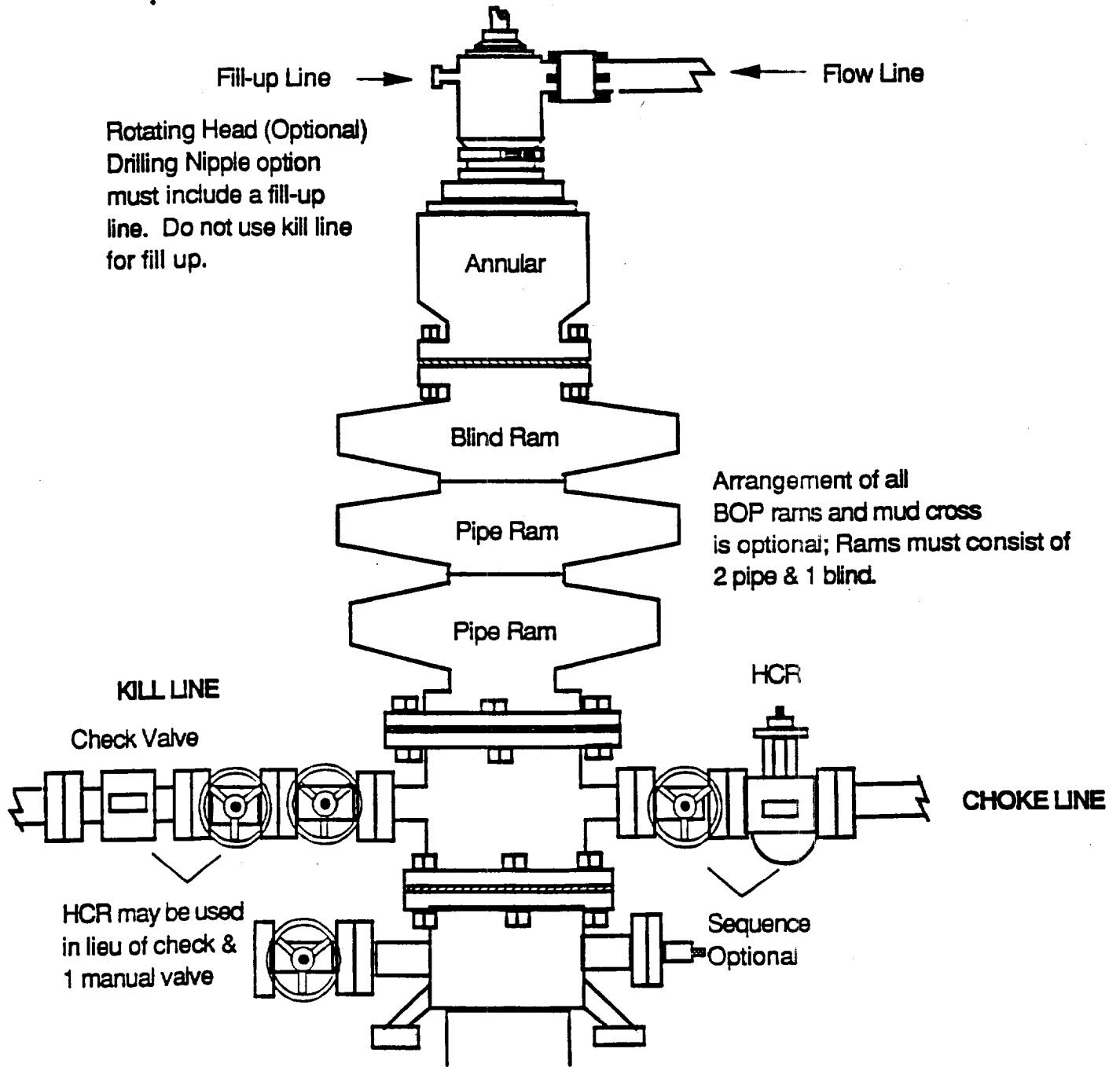


EXHIBIT 2

DRILLING OPERATIONS  
CHOKE MANIFOLD  
2M AND 3M SERVICE

