

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

SUBMIT IN TRIPLIC
(Other instructions on
reverse side)

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 ☐

SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR

ARCO Permian

3. ADDRESS AND TELEPHONE NO.

P.O. Box 1610, Midland, TX 79702

915-688-5532

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

At surface

660' FNL, 1980' FEL

At proposed prod. zone

SAME

Unit B

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

21 MILES EAST FROM LOVING

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any) 660

16. NO. OF ACRES IN LEASE

1280.81

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

8450'

20. ROTARY OR CABLE TOOLS

ROTARY

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

3481

22. APPROX. DATE WORK WILL START*

3/00

23. SECRETARY'S POTASH PROPOSED CASING AND CEMENTING PROGRAM

CARLSBAD CONTROLLED WATER BROWN

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2	13-3/8 H-40	48 ST&C	860	700
11	8-5/8 J-55	32 ST&C	4600	1300
7-7/8	5-1/2 J-55	15.5 # LT&C	8450	900

SUBJECT WELL IS PLANNED AS A 8450' STRAIGHT HOLE.
3,000 PSI BOPE WILL BE USED FROM 860' TO TD.

ATTACHMENTS ARE AS FOLLOWS:

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



APPROVED FOR 1 YEAR
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS

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

Barrie Cherry

TITLE REGULATORY COMPLIANCE

DATE 2/7/00

(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 entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY

Stephen D. Selzer

TITLE

Acting State Director

DATE

4/17/2000

*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
FEB 16 2000
BLM
ROSWEIL, NM

DISTRICT I
P.O. Box 1860, Hobbs, NM 88241-1860

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., Artec, 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	Pool Code	Pool Name <i>LIVINGSTON RIDGE (DEL)</i>
Property Code	Property Name BARCLAY FEDERAL	Well Number 30
OGRID No. <i>000990</i>	Operator Name ARCO PERMIAN	Elevation 3481

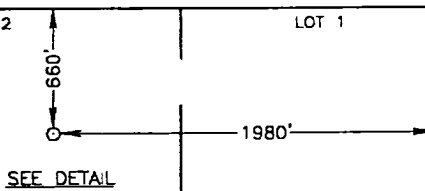
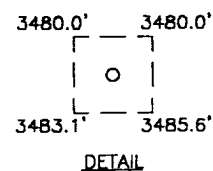
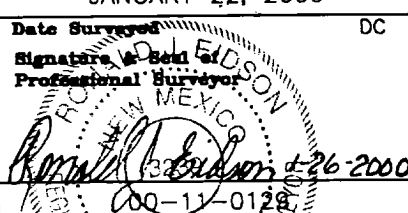
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 2	1	23 S	31 E		660	NORTH	1980	EAST	EDDY

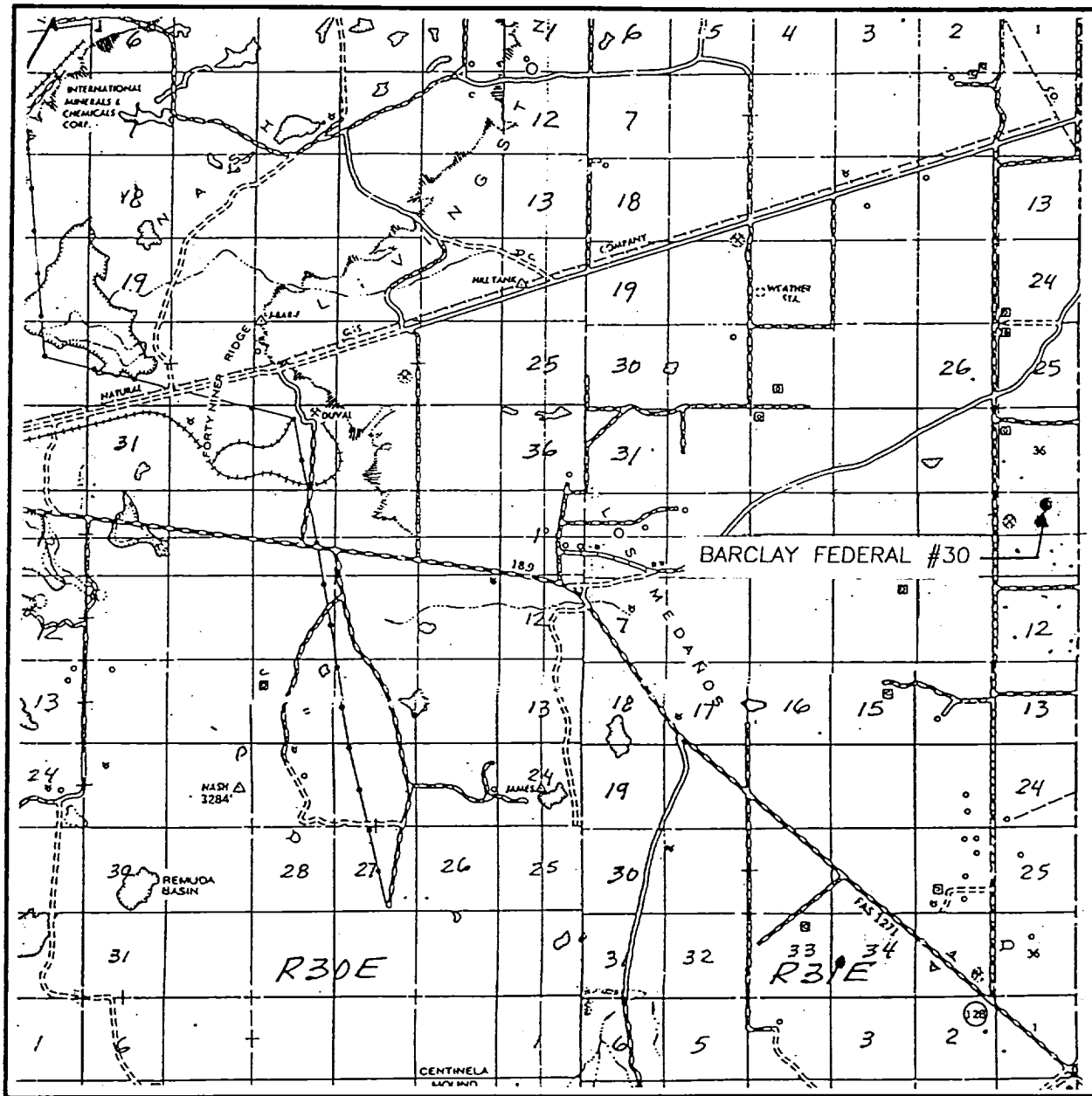
Bottom Hole Location If Different From Surface

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

LOT 4	LOT 3	LOT 2	LOT 1
40.00 ACRES	40.00 ACRES	40.00 ACRES	40.00 ACRES
			
			
OPERATOR CERTIFICATION			
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.			
<i>Laurie Cherry</i> Signature			
Laurie Cherry Printed Name			
Reg/Comp. Asst. Title			
2-7-00 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.			
JANUARY 22, 2000			
Date Surveyed			
Signature & Seal of Professional Surveyor			
			
Certificate No. RONALD C. EDSON 3239 GARY EDSON 12841 QUACON McDONALD 12185			

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 1 TWP. 23-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 660' FNL & 1980' FEL

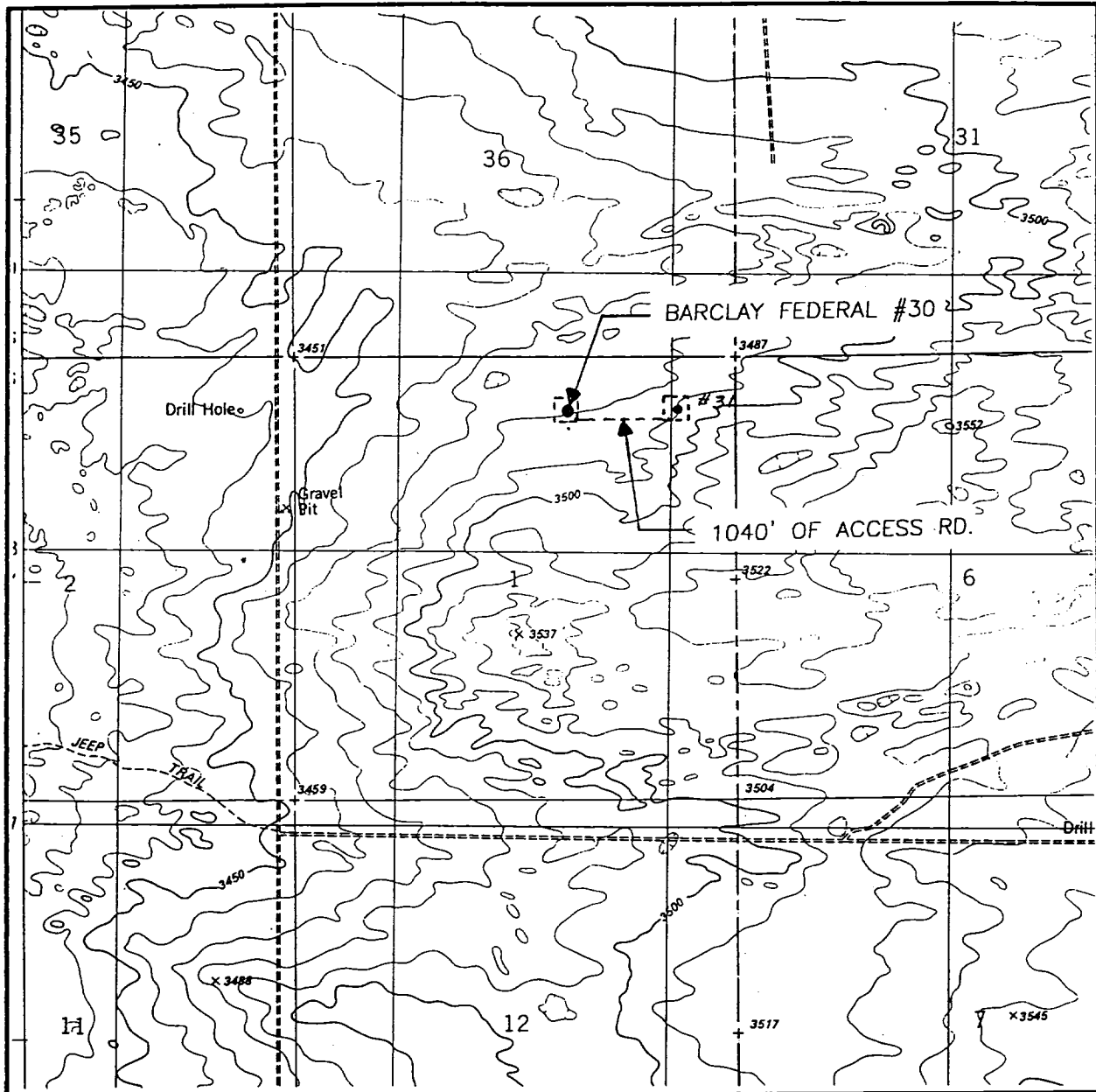
ELEVATION 3481

OPERATOR ARCO PERMIAN

LEASE BARCLAY FEDERAL

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

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
BOOTLEG RIDGE - 10'

SEC. 1 TWP. 23-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 660' FNL & 1980' FEL

ELEVATION 3481

OPERATOR ARCO PERMIAN

LEASE BARCLAY FEDERAL

U.S.G.S. TOPOGRAPHIC MAP

BOOTLEG RIDGE, N.M.

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

DRILLING PLAN

Attachment to BLM Form 3160-3

ARCO Permian

Well: Barclay Federal #30

660'FNL, 1980'FEL

Section 1-T23S-R31E

Eddy County, New Mexico

1. Surface Geological Formation

Quaternary Formation

2. Estimated Tops of Geological Markers

<u>Formation</u>	<u>TVD</u>
Rustler	865'
Castile	1200'
Lamar Shale	4540'
Bell Canyon	4575'
Cherry Canyon	5650'
Brushy Canyon	7000'
Bone Spring	8425'

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

Sands above 800'	Water
Cherry & Brushy Canyon	Oil or Gas

4. Pressure Control Equipment

<u>Interval, TVD</u>	<u>Pressure Control Equipment</u>
0'-860'	No pressure control required
860'-TD	11", 3M psi double ram preventer with 3M psi annual 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 tests 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 & Grade</u>
Surface	17-1/2"	0'-860'	13-3/8"	48.0# H-40
Intermediate	11"	0-4600'	8-5/8"	32.0# J-55
Production	7-7/8"	0-8450'	5-1/2"	15.5# J-55

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

Surface - Cement to surface with total of +/- 1213 cu ft as follows:

Lead Slurry - 500 sks 35:65 Poz: C + 2% CaCl₂ + 1/4 pps Cello-Seal

Tail Slurry - 200 sks Class "C" + 2% CaCl₂ + 1/4 pps Cello-Seal

Intermediate - Cement to surface with a total of +/- 2545 cu ft as follows:

Lead Slurry - 1100 sks 35:65 Poz: C + 1/4 pps Cello-Seal + 3% Salt

Tail Slurry - 200 sks Class "C" + 2% CaCl₂ + 1/4 pps Cello-Seal

Production - Cement to Int Csg. with a total of +/- 1730 cu ft as follows:

1st Stage: Lead Slurry - 500 sks 35:65 Class "H" Poz + 1/4 pps Cello-Seal + 0.5% FL52

Tail Slurry - 400 sks Class "H" + 12% BR-90 + 0.4% FL52 + 3% salt + .2% CD-32 +
1/4 pps Cello-Seal

6. Mud Program

Depth	Mud Type	Weight ppg	Funnel Viscosity	Water Loss
0'-860'	Spud Mud	8.4-8.9	29-34	NC
860'-4600'	Brine	10.0-10.2	28-30	NC
4600'-8300'	FW	8.4-8.8	28-30	NC
8300;-8450'	FW LSND	8.6-9.0	32-34	≤15 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 4000' to TD

D. Electric Logs

Open Hole: DLL/MLL, CNL/LDT, GR:

Shoe of 8-5/8" csg to TD

Cased Hole: GR/CNL

Surf. to shoe of 8-5/8" csg

GR/CCL

TD to top cement in prod. csg.

9. Anticipated Abnormal Temperature, Pressure, or Hazards

Possible water flow from +/- 3500' to 4200'. Seepage is expected starting in the Cherry Canyon formation and continuing to TD (5650'-8450').

10. Anticipated Starting Date and Duration of Operations

As soon as possible.

SURFACE USE PLAN

Attachment to BLM Form 3160-3

ARCO Permian

Well: Barclay Federal #30

660'FNL, 1980'FEL

Section 1-T23S, R31E

Eddy County, New Mexico

1. Directions to Location/Existing Roads

From Jal, New Mexico go West +/- 22 miles on Highway 128 to Red Road. Go North 5.20 miles and turn right on lease road. Go .08 miles East turn left on new lease road. Go North .1 miles. 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. Most of the existing roads will not require any improvement or repair. 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 2000' 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: None
- E. Cuts and fills: No major road cuts or fills 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 Delaware producer is completed, surface facilities will consist of a treater 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 Jal or Hobbs, 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 purchased from nearby land owned by J. C. Mills, P. O. Box 190, Abernathy, TX 79311 managed by his grandson Stacey Mills. The caliche will be hauled over existing and new roads to the location..

7. Methods of Handling Waste Disposal

- A. Drill cuttings will 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. All sacked drilling mud will be picked up by the supplier. The drilling contractor will haul away any chemicals that they use 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 NMOCD 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 expeditiously as possible.

11. Surface Ownership

The surface for the wellsite location is on BLM surface and minerals and Leased by J. C. Mills, P. O. Box 190, Abernathy, TX 79311.

12. Additional Information

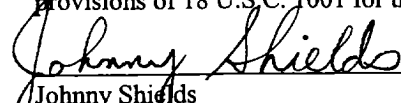
- A. Topography: Relatively flat grassland.
- B. Vegetation includes mesquite, catclaw, creosote, broom snakeweed, various cacti, shin oak, sand sage, narrowleaf yucca and mixed grasses.
- C. The soil is a sandy loam type.
- D. Primary use of the land is livestock grazing and accessing producing wells.
- E. There are no nearby dwellings.
- F. An archaeological block survey has been completed; 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 any work.

13. Operator's Representatives

J.E. Shields
ARCO Permian
P. O. Box 1610
Midland, Texas 79702
(915)688-5574

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 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 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 the filing of a false statement.


Johnny Shields
ARCO Permian Drilling Manager

2/10/00
Date

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

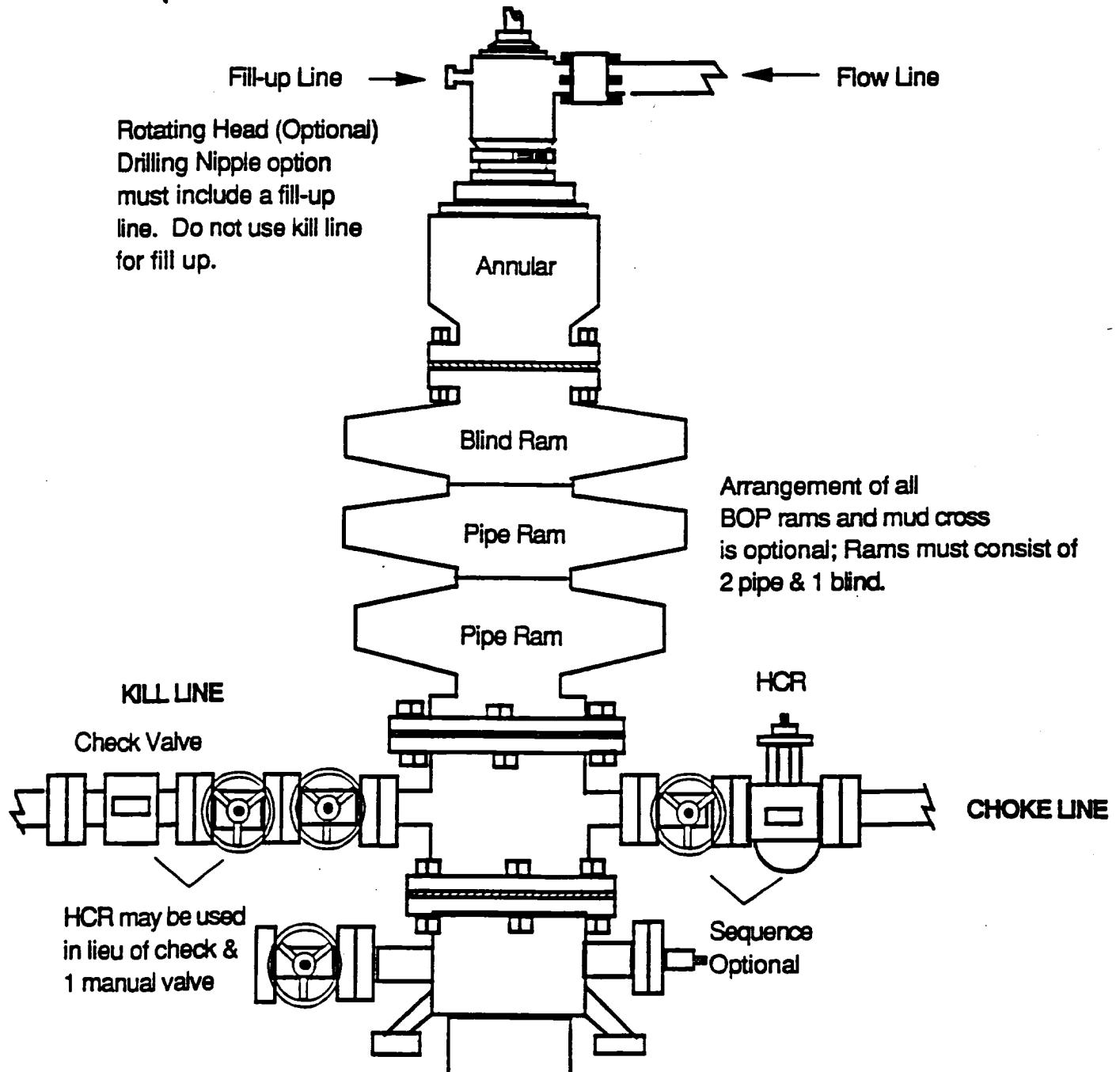
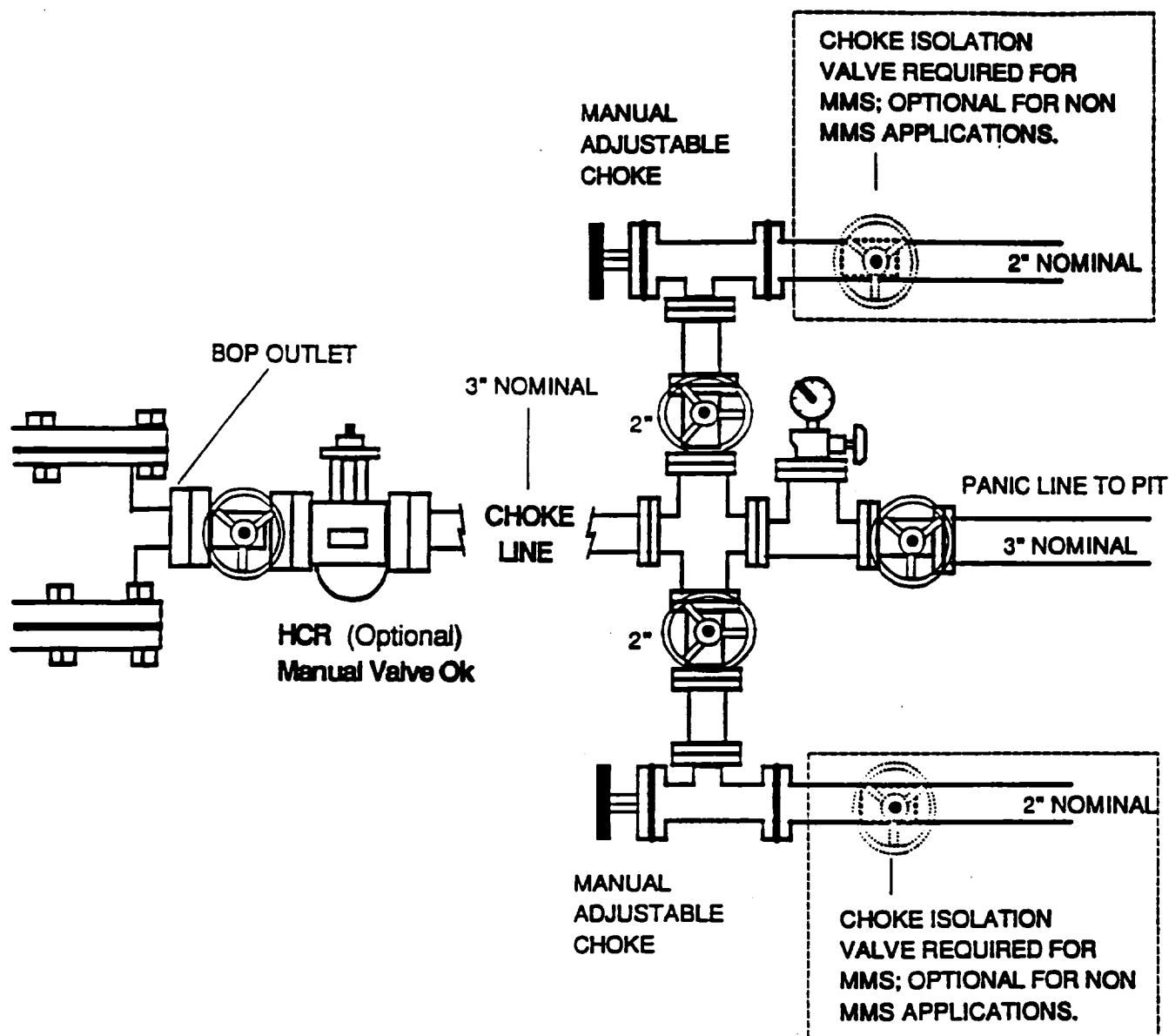


EXHIBIT 2

DRILLING OPERATIONS CHOKE MANIFOLD 2M AND 3M SERVICE



BLOWOUT PREVENTION EQUIPMENT SPECIFICATIONS

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#30

BARCLAY FEDERAL

Pad & Rig Layout

Section 1 23S-31E

Eddy County, NM

