

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

915-688-5570

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

At surface

2280' ENL & 2010' FWL - UNIT F

\*At proposed prod. zone

SAME

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

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.

(Also to nearest dirg. unit line, if any) 960'

16. NO. OF ACRES IN LEASE

400

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.

1050'

19. PROPOSED DEPTH

5500

20. ROTARY OR CABLE TOOLS

ROTARY

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

2892'

22. APPROX. DATE WORK WILL START\*

7/01

23. PROPOSED CASING AND CEMENTING PROGRAM

Carlsbad Controlled Water Basin

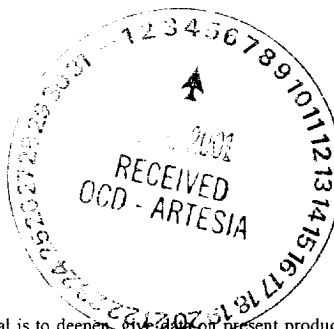
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
11	8-5/8 J-55	24	580'	315
7-7/8	5-1/2 J-55	15.5	5500'	800

SUBJECT WELL IS PLANNED AS A 5500' STRAIGHT HOLE.

2,000 PSI HOPE WILL BE USED FROM 580' TO TD.

ATTACHMENTS ARE AS FOLLOWS:

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



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

*Elizabeth L. Chabean*

TITLE REGULATORY COMPLIANCE ANALYST

DATE 5/24/01

(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

/S/ JOE G. LARA

TITLE

ACTIVE FIELD MANAGER

DATE

JUL 03 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.

APPROVAL FOR 1 YEAR

RECEIVED  
MAY 25 2001  
BLM  
NORWELL, NM

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
ARCO Permian

3. Address and Telephone No.

P.O. Box 1089, Eunice, NM 88231

505-394-1649

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Unit Letter F, Sec. 8, T26S, R29E  
2310' FNL & 2060' FWL

5. Lease Designation and Serial No.

NM101108

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

West Brushy 4

Federal

9. API Well No.

10. Field and Pool, or exploratory Area

Brushy Draw Delaware

11. County or Parish, State

Eddy NM

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other Location  
☒ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

ARCO Permian requests permission to change this well location as per direction from Barry Hunt - BLM. The original APD location referenced Unit Letter F, 2280' FNL & 2010' FWL, Sec. 8, T26S, R29E. The new well location will change to Unit Letter F, 2310' FNL & 2060' FWL, Sec. 8, T26S, R29E as indicated on the attached Well location & Dedication Plat.

The V-door location will face the East and the drilling pits will face North.

14. I hereby certify that the foregoing is true and correct

Signed

*[Signature]*

Title Sr. Administrative Asst.

Date

06/19/01

(This space for Federal or State office use)

Approved by

/s/ JOE G. LARA

Title

Active *[Signature]*

Date

JUL 03 2001

Conditions of approval, if any:

# State of New Mexico

Energy, Minerals and Natural Resources Department

## 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., 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

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	Pool Name
Property Code	Property Name WEST BRUSHY FEDERAL "8"	Well Number 4
OGRID No.	Operator Name ARCO PERMIAN	Elevation 2891'

### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	8	26-S	29-E		2310	NORTH	2060	WEST	EDDY

### Bottom Hole Location If Different From Surface

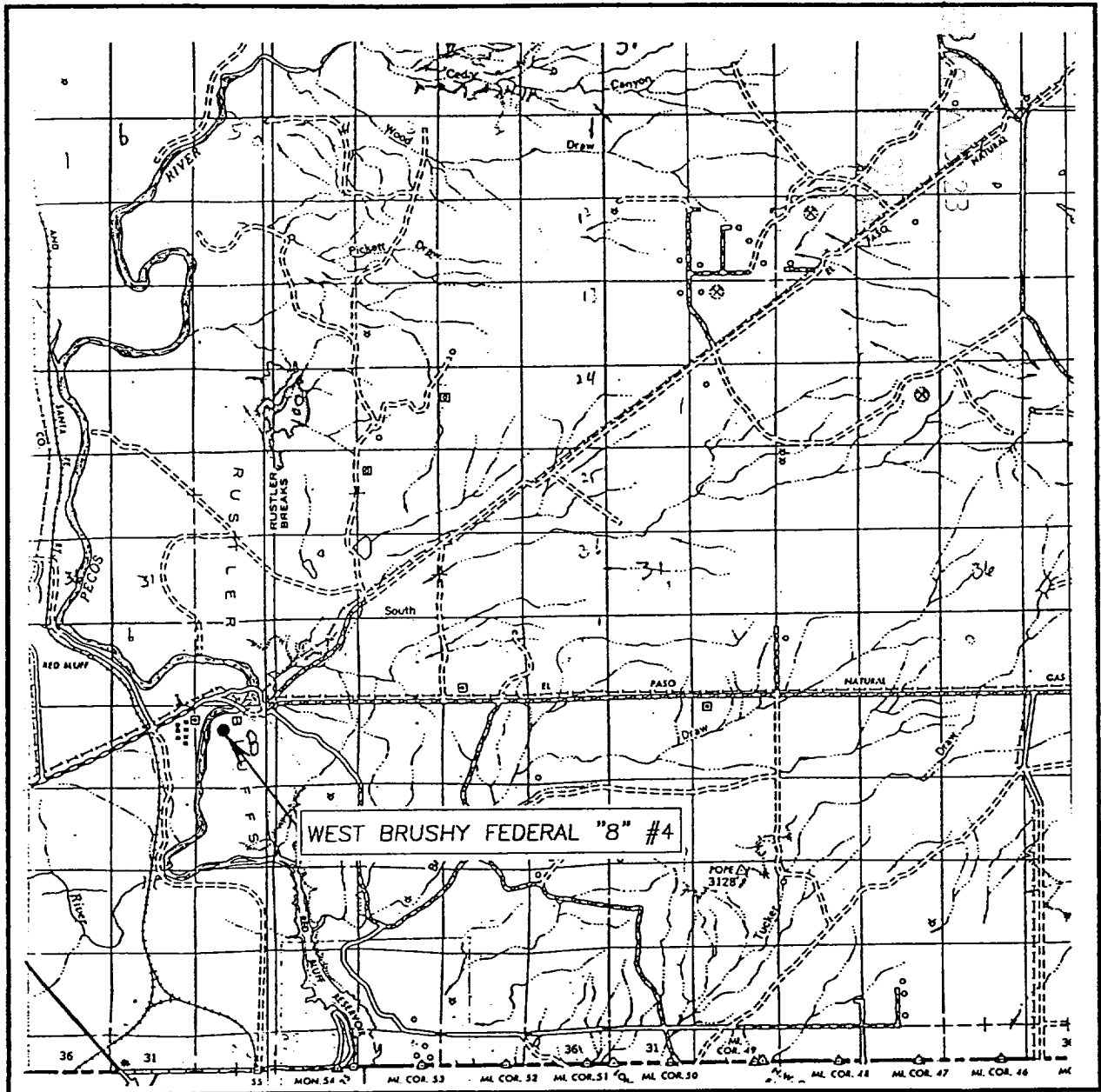
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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

	<b>OPERATOR CERTIFICATION</b>  I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.  <i>Kellie D. Murriss</i> Signature Kellie D. Murriss Printed Name Sr Admin Asst. Title 6-819-01 Date
	<b>SURVEYOR CERTIFICATION</b>  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.  JUNE 12, 2001  Date Surveyed Signature & Seal of Professional Surveyor <i>Ronald J. Edson</i> 6/12/01 01-11-0725
	Certificate No. RONALD J. EDSON 3239 GARY EDSON 12641

# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 8 TWP. 26-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2310' FNL & 2060' FWL

ELEVATION 2891'

OPERATOR ARCO PERMIAN

LEASE WEST BRUSHY FEDERAL "8"

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



CONTOUR INTERVAL: 20' & 10'  
RED BLUFF, N.M.  
ROSS RANCH, N.M.

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

COUNTY EDDY

ELEVATION 2891'

LEASE WEST BRUSHY FEDERAL "8"

U.S.G.S. TOPOGRAPHIC MAP  
RED BLUFF, N.M. ROSS RANCH, N.M.

## 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., Aztec, NM 87410

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

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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	Pool Name <i>BRUSHY DEAN (DELAWARE)</i>
Property Code	Property Name <b>WEST BRUSHY FEDERAL "8"</b>	Well Number <b>4</b>
GRID No. <i>000990</i>	Operator Name <b>ARCO PERMIAN</b>	Elevation <b>2892'</b>

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	8	26-S	29-E		2280	NORTH	2010	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 <i>40</i>	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

	<b>OPERATOR CERTIFICATION</b>  I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.  <i>Elizabeth A. Casbeer</i> Signature Elizabeth A. Casbeer Printed Name Regulator/Comp Analyst Title 5/24/01 Date
	<b>SURVEYOR CERTIFICATION</b>  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 10, 2001 Date Surveyed Signature & Seal of Professional Surveyor <i>Ronald G. Edson</i> 01-11-0298 Certificate No. RONALD G. EDSON 3239 GARY EDSON 12841
	NAD 27N.M. SCALED LAT. = 32°03'28.2"N LONG. = 104°00'30.4"W

# DRILLING PLAN

Attachment to BLM Form 3160-3

ARCO Permian

Well: West Brushy Federal #4

2280' FNL, 2010 FWL

UNIT F

Section 8, T26S-R29E

Eddy County, New Mexico

## 1. Surface Geological Formation

Yates Formation (Sand and Anhydrite)

## 2. Estimated Tops of Geological Markers

<u>Formation</u>	<u>TVD</u>
Salt	700'
Base Salt/Anhydrite	2825'
Bell Canyon	2845'
Cherry Canyon	3725'
Brushy Canyon	5000'

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

Sands above 500'	Water
Cherry Canyon & Brushy Canyon	Oil or Gas

## 4. Pressure Control Equipment

<u>Interval, TVD</u>	<u>Pressure Control Equipment</u>
0' – 580'	No pressure control required
580' – TD	11", 2M psi double ram preventer, or 11" 2M 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, if a double ram preventer is used, 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 &amp; Grade</u>
Surface	11"	0'-580'	8-5/8"	24.0# J-55
Production	7-7/8"	580'-5500'	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 +/- 600 cu ft as follows:

Lead – 120 sxs 35/65 POZ:C + 6% Bentonite

Tail – 195 sxs “C” + 2% CaCl

Production - Cement to surface with total of +/- 800 cu ft as follows:

Lead - 330 sx 35/65 POZ:C + 6% gel

Tail – 470 sx 50/50 POZ:C + 32% gel + 3% salt + .4% 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'-580'	Spud Mud	8.4-8.9	29-34	NC
580-2900'	Brine	10.0	28-30	NC
2900-3800'	SWG	10.0	30-35	≤ 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 2500' to TD
- D. Electric Logs
  - Open Hole: GR, DLL/MLL, CNL/LDT TD to 2800'
  - Cased Hole: GR/CCL TD to 2800'

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

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 2 days, move-in and rig up rotary tools, 1 day, drill and complete, 18 days. It is planned to spud the well in June, 2001.

# **SURFACE USE PLAN**

*Attachment to BLM Form 3160-3*

ARCO Permian

Well: West Brushy Federal #4

2280' FNL, 2010' FWL

UNIT F

Section 8, T26S-R29E

Eddy County, New Mexico

## **1. Directions to location Existing Roads**

From Loving, New Mexico go South 17 miles on Highway 285 to Eddy County Rd. 725. Go East on CR 725 4.2 miles and turn left 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. Most of the existing roads will not 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 30' 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 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 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 Loving 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 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 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 expediently as possible.

11. **Surface Ownership**

The surface for the wellsite locations is on BLM surface and minerals and administered by the BLM.

12. **Additional Information**

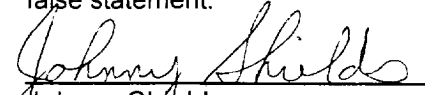
- A. Topography: Gently rolling grassland.
- B. Vegetation includes mesquite, catclaw, creosote, broom snakeweed, various cacti, shin oak, sand sage, narrowleaf yucca, and mixed grasses.
- C. The soil is a sandy loam.
- D. Primary use of the land is livestock grazing and accessing producing wells.
- 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 any 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.

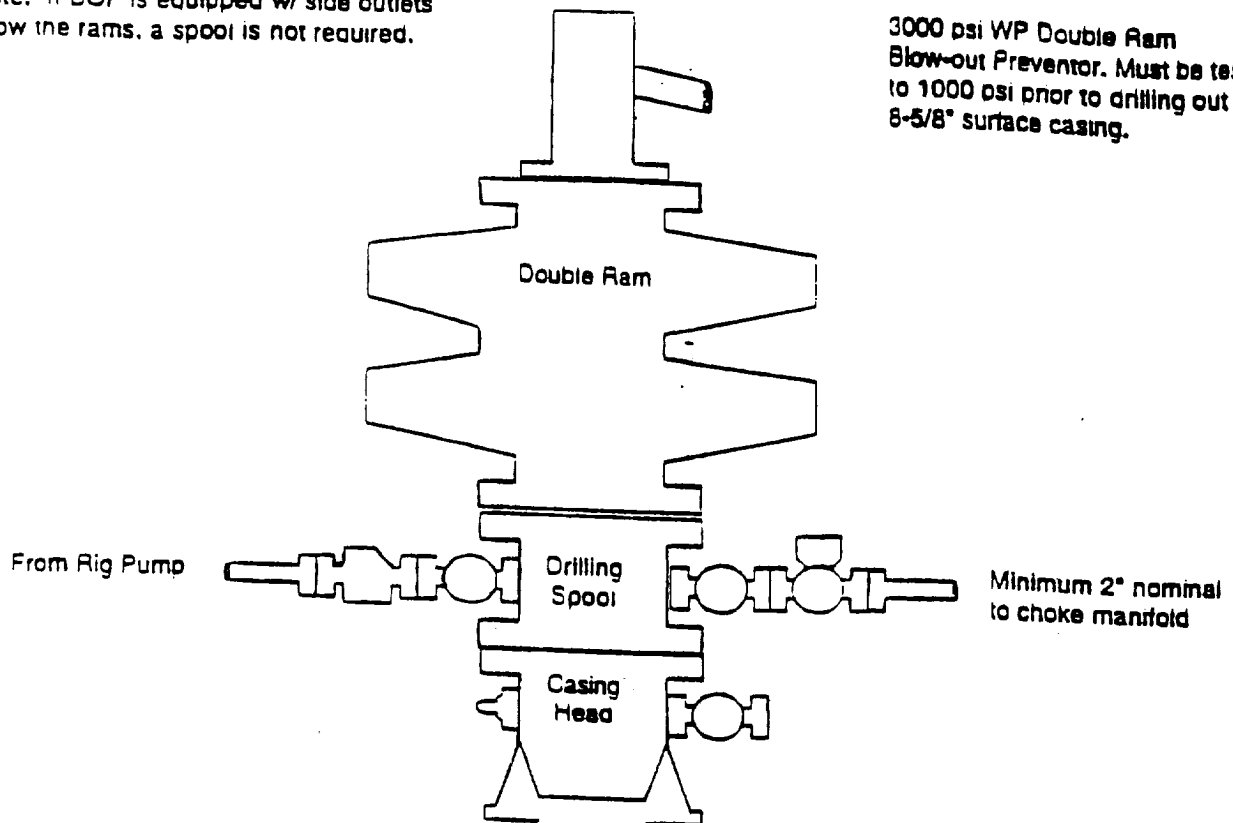
  
Johnny Shields  
Drilling Coordinator

5/24/01  
Date

# BOP Schematic (EXHIBIT 1)

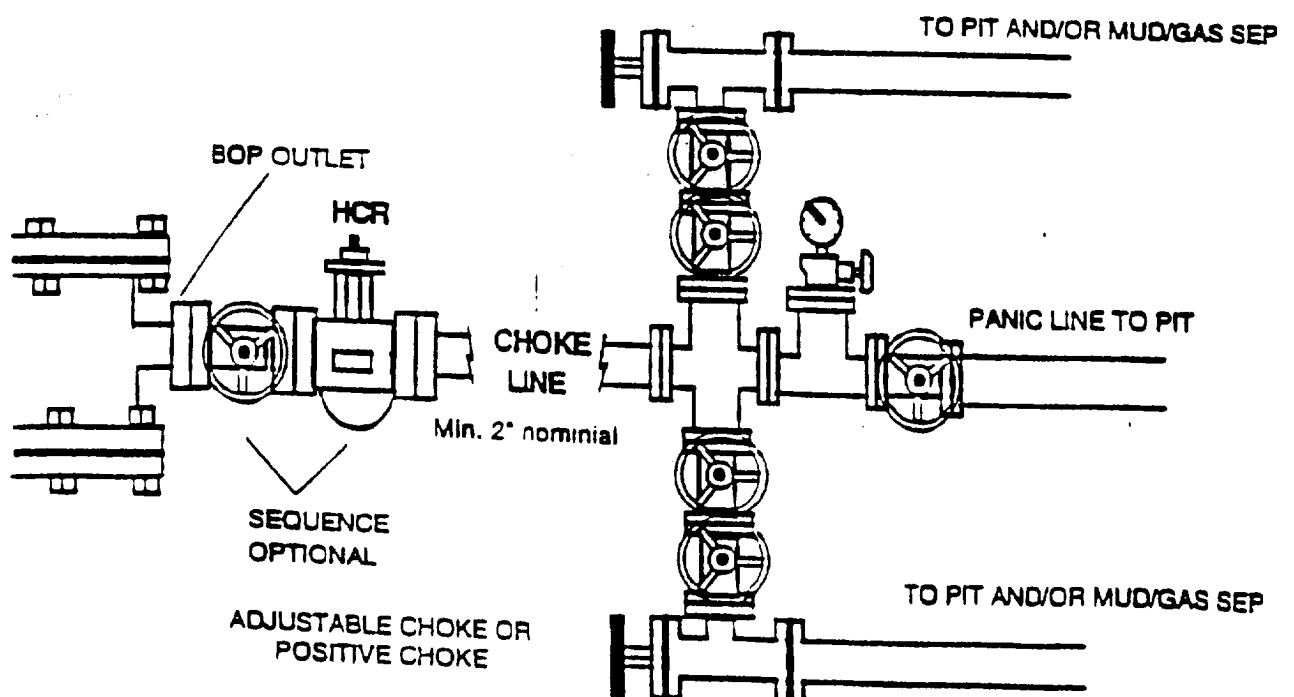
\*Note: if BOP is equipped w/ side outlets below the rams, a spool is not required.

3000 psi WP Double Ram  
Blow-out Preventor. Must be tested  
to 1000 psi prior to drilling out  
6-5/8" surface casing.



# Choke Manifold Schematic (EXHIBIT 2)

MANUAL  
ADJUSTABLE  
CHOKE



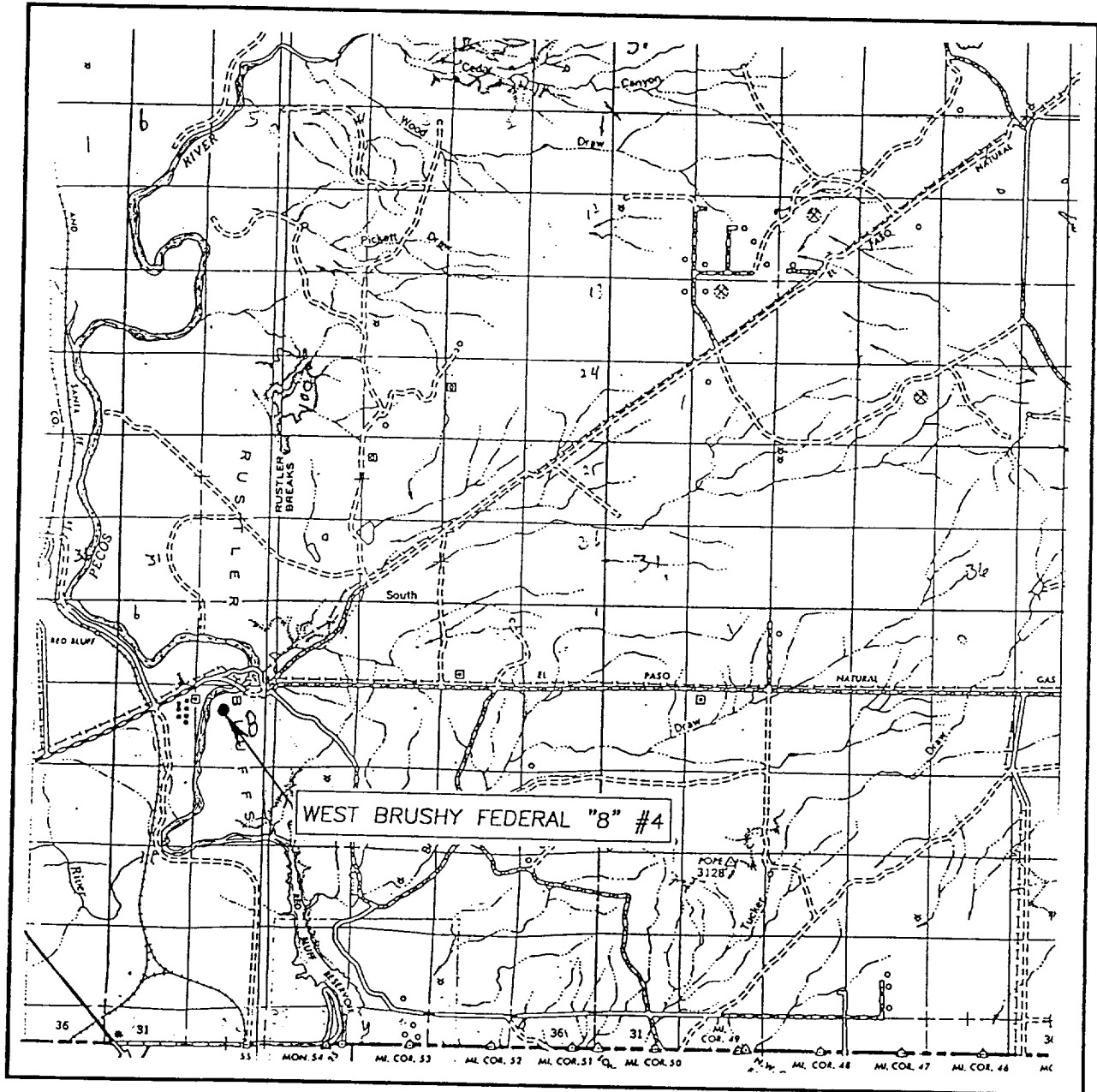
# EXHIBIT 3

## 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 4

## VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 8 TWP. 26-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2280' FNL & 2010' FWL

ELEVATION 2892'

OPERATOR ARCO PERMIAN

LEASE WEST BRUSHY FEDERAL "8"

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





