Forn, 3 60-3 (July 1992)	UNIT DEPARTMEN	ED STATE T OF THE I	S NTERIO GEMEN	SUBMIT IN TRIPI (Other instructi reverse sid OR	ons on	FORM APPROVED OMB NO. 1004-0136 Expires: February 28, 1995 5 LEASE DESIGNATION AND SERIAL NO. NM101108 6 IF INDIAN, ALLOTTEE OR TRIBE NAME
APPL 1a. TYPE OF WORK		7. UNIT AGREEMENT NAME				
DR b. TYPE OF WELL OIL WELL X	CAS OTHER	DEEPEN		IGLE X MULTIP		8. FARM OR LEASE NAME, WELL NO. WEST BRUSHY 4
2. NAME OF OPERATOR <u>ARCO Permian     </u> Address and telephone	1) 2) NO.					$\frac{FEDERAL}{3} (27864)$
P.O. Box 1610, Mi 4. LOCATION OF WELL (Repu At surface	ort location clearly and in accorda	ance with any State re	quirements.*)		588-5570	10. FIELD AND POOL, OR WILDCAT BRUSHY DRAW (DELAWARE)
2280' FNL & 2010 At proposed prod. zone SAME			11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA <b>8, T26S, R29E</b> 12. COUNTY OR PARISH 13. STATE			
15. DISTANCE FROM PROPOSI LOCATION TO NEAREST PROPERTY OR LEASE LINI (Also to nearest drlg. unit 18. DISTANCE FROM PROPOSI TO NEAREST WELL, DRLI	E, FT. line, if any) 960 ' ED LOCATION*		400			EDDY NM ACRES ASSIGNED WELL 40 Y OR CABLE TOOLS
OR APPLIED FOR, ON THIS 21. ELEVATIONS (Show whe 2892 '		ROTZ	22. APPROX. DATE WORK WILL START* 7/01			
23.		PROPOSED CASING	AND CEMI	ENTING PROGRAM	C	erlebed Controlled Water Basin
SIZE OF HOLE	GRADE, SIZE OF CASING 8-5/8 J-55	WEIGHT PER FOO	DT	SETTING DEPTH 580 '	315	QUANTITY OF CEMENT NESS
7-7/8	5-1/2 J-55	15.5		5500 '	800	
2,000 PSI BO ATTACHMENTS A 1. CERTIFIED 2. DRILLING 1	IS PLANNED AS A 55 PE WILL BE USED FRO ARE AS FOLLOWS: LOCATION PLAT. PLAN WITH ATTACHMEN SE PLAN WITH ATTACH	M 580' TO TD. TS. MENTS.	_		enerai	L SUBJECT TO REQUIREMENTS AND STIPULATIONS ED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen fire 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

/S/ JOE G. LARA

TITLE REGULATORY COMPLIANCE ANALYST

FIELD WANAGER

DATE 5/24/01

JUL 0 3 2001

(This space for Federal or State office use)

PERMIT NO.

23

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 ACTING

TITLE

APPROVED BY

\*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

DATE



Form 3160-5 (June 1990)	UNITE DEPARTMENT BUREAU OF LA	FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993 5. Lease Designation and Serial No.		
Do not use this form	6. If Indian, Allottee or Tribe Name			
	SUBMIT IN		7. If Unit or CA, Agreement Designation	
4. Location of Well (Footage	unice, NM 88231 , Sec., T., R., M., or Survey Descripti .ec. 8, T26S, R29E	505-394-1649	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 A	PPROPRIATE BOX(s)	TO INDICATE NATURE OF NOTICE, RE		
TYPE OF SU		TYPE OF ACT		
	Intent Int Report andonment Notice	Abandonment Recompletion Plugging Back Casing Repair Altering Casing X OtherLocation	Change of Plans  New Construction  Non-Routine Fracturing  Water Shut-Off Conversion to Injection Dispose Water (Note: Report results of multiple completion on Wel Completion or Recompletion Report and Log form.	

۰ h

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 loction 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.

	RECEIVED OCD - ARTESIA	
14. I hereby certify that the foregoing is frue and correct Signed	Sr. Administrative Asst	
(This space for Federal or State office use) Approved by <b>SJOE G. LARA</b> Conditions of approval, if any:		<b>JUL 0 3 2001</b>

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 statem or representations as to any matter within its jurisdiction.

#### State of New Mexico

Energy, Minerals and Natural Resources Department

DISTRICT I P.O. Box 1980, Hobbe, NM 68241-1980

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

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION P.O. Box 2088 Form C-102 Revised February 10, 1994 Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

Santa	Fe,	New	Mexico	87504-2088

DISTRICT IV p.0, box 2008, santa fe, n.m. 87504-2088

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

P.O. BOX 2066, EANTA FE, N.M. 87504-2088	WELL LOCATION AND	ACREAGE DEDICATION	PLAI	□ AMENDED REPORT		
API Number	Pool Code	Pool Name				
Property Code	WEST BRUSH		Well Number 4			
OGRID No.	Operator Name ARCO PERMIAN					
· · ·	Surfa	ce 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 Co	nsolidation (	Code Ore	der No.			L	

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 having contribution to the and complete to the best of my broadedge and balled 2872.8' 2888.8' 2872.8' 2888.8' 2872.8' 2888.8' 2872.8' 2888.8' 28		
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Image: Protocol of the second state	2884.2'2890.9' (0,1)	SURVEYOR CERTIFICATION
actual surveys made by me or under my supervison and that the same is true and correct to the best of my belief. JUNE 12, 2001 Date Surveyed Signature & Scal of Professional Surveyor MMM/(+ D/M/M 6/09/01 01-11-0725; Certificate No. RONARD & EIDSON 3239	1200030	I hereby certify that the well location shown
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Date Surveyed Signature & Scal of Professional Surveyor AMB OLIV-0725; Certificate No. RONALD J. EDSON 3239		COTTECL LO LIVE DESL OF THY DEMAS.
Signature & Scal of Professional Surveyor OF 12-0725; Certificate No. RONALD & EDSON 3239		
Professional Surveyor Professional Surveyor OU-12-0725; Certificate No. RONALD & EDSON 3239		
Certificate No. RONALD & EDSON 3239		Professional Surveyor
Certificate No. RONALD - EDSON 3239		DUTION
Certificate No. RONALD & BIDSON 3239 GARY SEDSON 12641		Monald + Endron 6/08/01
Certificate No. RONALD J. SIDSON 3239 GARY BIDSON 12641		04-14-0725
		Certificate No. RONALD & BIDSON 3239 CARY RESSON 12844

VICINITY MAP



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

 SURVEY
 N.M.P.M.
 EDDY

COUNTY EDDY
DESCRIPTION 2310' FNL & 2060' FWL
ELEVATION 2891'
OPERATOR ARCO PERMIAN
LEASE WEST BRUSHY FEDERAL "8"

## LOCATION VERFICATION MAP



SCALE: 1" = 2000'

- 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"

U.S.G.S. TOPOGRAPHIC MAP RED BLUFF, N.M. ROSS RANCH, N.M. CONTOUR INTERVAL: 20' & 10' RED BLUFF, N.M. ROSS RANCH, N.M.

				Energy,	Minerals and Natural	Resources Department			
DISTRICT I P.0. Box 1950, Hobbe DISTRICT II	, NM 55241-1	<b>9</b> 80	011	_		-	Submit	Fo Revised Februa t to Appropriate Dis	-
P.O. Drewer DD, Arts	ania, NM 88211	-0719	OIL	CON	P.0. Box 2	ON DIVIS	ION	State Lease Fee Lease	- 4 Copies - 3 Copies
DISTRICT III 1000 Rio Brazos I	Rd., Aztec, N	<b>M 87410</b>		Santa F	e, New Mexic	o 87504–2088			
DISTRICT IV P.O. BOX 2006, SANT	A FE, N.M. 87	504-2088	WELL LO	DCATION	AND ACREA	GE DEDICATI	ON PLAT		D REPORT
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0060	190		<u> </u>		ARCO PERM			2892	2'
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## 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

Formation	TVD
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

Interval, TVD	Pressure Control Equipment
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

	Hole	Interval	Casing	Weight &
	<u>Size</u>	<u>M.D.</u>	<u>Size</u>	<u>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>	Mud Type	Weight ppg	Funnel <u>Viscosity</u>	Water <u>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 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 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.

- Β. 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

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

hild MARA

Johnny Shields UDrilling Coordinator

124/01

## **BOP** Schematic

(EXHIBIT 1)



- 1. All BOP equipment shall be fluid and/or mechanically operated.
- 2. BOP's and all fittings will be in good working condition.

EXHIBIT 3

- 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. <u>8</u> TWP.<u>26–S</u> RGE.<u>29–E</u> SURVEY <u>N.M.P.M.</u> COUNTY <u>EDDY</u> DESCRIPTION <u>2280' FNL & 2010' FWL</u> ELEVATION <u>2892'</u> OPERATOR <u>ARCO PERMIAN</u> LEASE <u>WEST BRUSHY FEDERAL "8"</u>





SCALE: 1" = 2000'

SEC. 8TWP. <u>26-S_</u> RGE. <u>29-E</u>					
SURVEYN.M.P.M.					
COUNTYEDDY					
DESCRIPTION 2280' FNL & 2010' FWL					
ELEVATION 2892'					
OPERATOR ARCO PERMIAN					
LEASE WEST BRUSHY FEDERAL "8"					
U.S.G.S. TOPOGRAPHIC MAP RED BLUFF, N.M. ROSS RANCH, N.M.					

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

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