

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IS TRIPLICATE\*  
(Other instructions on  
reverse side)

30-045-27929  
Form approved.  
Budget Bureau No. 1004-0136  
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. SF - 080917	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME NONE	
2. NAME OF OPERATOR ARCO Oil and Gas Company		7. UNIT AGREEMENT NAME -----	
3. ADDRESS OF OPERATOR P.O. Box 1610, Midland, Texas 79702		8. FARM OR LEASE NAME Atlantic Fruitland 5	
4. LOCATION OF WELL (Report clearly and in accordance with any State requirements.) At surface 1103' FSL & 1091' FWL At proposed Prod. zone Approximately the same		9. WELL NO. 2	
13. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE 4 miles NE of Aztec, New Mexico		10. FIELD AND POOL, OR WILDCAT Basin-Fruitland Coal Gas Pool	
15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. line, if any) 1103'		11. SEC., T., M., OR BLK. AND SURVEY OR AREA Sec 5, T30N-R10W	
16. NO. OF ACRES IN LEASE 2538.18		12. COUNTY San Juan	
17. NO. OF ACRES ASSIGNED TO THIS WELL 322.12 320 5/2		13. STATE NM	
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 378'		20. ROTARY OR CABLE TOOLS Rotary	
19. PROPOSED DEPTH 2932'		22. APPROX. DATE WORK WILL START Spud 6/90	
21. ELEVATIONS (Show whether GR or KB) 6241.0' GR			

23. PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24#	300' 50'	250 cuft 384
7-7/8"	5-1/2"	15.5#	2932'	1200 cuft 1316

It is proposed to drill a 12-1/4" hole to 300' using fresh water spud mud. After setting surface casing, the shoe will be drilled out with a 7-7/8" bit, continueing to TD. A low solids, fresh water gel/polymer mud system will be utilized. A water loss of less than 20cc will be maintained and a mud weight of 9.5 ppg will be used to balance the 1600 psi Fruitland pore pressure. At TD, open-hole logs consisting of GR/CAL/FDC will be run and 5-1/2" production casing will be set and cemented to surface.

Pursuant to the " Onshore Oil and Gas Order #1" attachments are as follows:

1. Certified Location Plat
2. Drilling Plan with attachments
3. Surface Use Plan with attachments

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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 Ken W. Gosnell 915 688-5672 TITLE Regulatory Coordinator DATE 5-2-90  
(This space for Federal or State Use)

PERMIT NO. **RECEIVED** APPROVAL DATE \_\_\_\_\_  
APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

JUN 27 1990

OIL CON. DIV

\*See Instructions On Reverse Side

APPROVED

JUN 22 1990

Ken Townsend  
FOR AREA MANAGER

03711230

OFF COPIES  
100

Submit to Appropriate  
District Office  
State Leases - 4 copies  
Fee Lease - 3 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

OIL CONSERVATION DIVISION

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

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator <b>Arco Oil &amp; Gas Company</b>		Lease <b>Atlantic Fruitland 5</b>		Well No. <b>2</b>
Unit Letter <b>M</b>	Section <b>5</b>	Township <b>30 N.</b>	Range <b>10 W.</b>	County <b>San Juan</b>
Actual Footage Location of Well: <b>1103'</b> feet from the <b>South</b> line and <b>1091'</b> feet from the <b>West</b> line				
Ground level Elev. <b>6241</b>	Producing Formation <b>Fruitland</b>	Pool <b>Basin-Fruitland Coal Gas Pool</b>		Dedicated Acreage: <b>5/2 320<sup>322/12</sup> Acres</b>
<p>1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.</p> <p>2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).</p> <p>3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.? <input type="checkbox"/> Yes <input type="checkbox"/> No If answer is "yes" type of consolidation _____</p> <p>If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____</p> <p>No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.</p>				
<p><b>5270.76</b> <b>S 89° 53' W</b></p> <p><b>Sec 5</b></p> <p><b>Amoco Prod. #14 BLS.</b> <b>1470' FS &amp; 1180' FW</b></p> <p><b>1091'</b> <b>1103'</b></p> <p><b>RECEIVED</b> <b>JUN 27 1990</b> <b>OIL CON. DIV.</b> <b>DIST. 3</b></p> <p><b>0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0</b></p>				
<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein in true and complete to the best of my knowledge and belief.</p> <p>Signature: <b>Joel Talley</b></p> <p>Printed Name: <b>Joel Talley</b></p> <p>Position: <b>Drilling Engineer</b></p> <p>Company: <b>ARCO Oil &amp; Gas</b></p> <p>Date: <b>3-9-90</b></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 supervision, and that the same is true and correct to the best of my knowledge and belief.</p> <p>Date Surveyed: <b>3-9-90</b></p> <p>Signature &amp; Seal of Professional Surveyor: <b>ROY A. RUSH</b> <b>NEW MEXICO</b> <b>8894</b></p> <p>Certificate No.: <b>8894</b></p>	

**EXHIBIT 4A**  
**EXISTING ROADS**

AZTEC QUADR  
EW MEXICO-SAN  
NUTE SERIES (TU  
Peaks

