

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

(Other instructions on  
reverse side)

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☐DEEPEN ☐

## b. TYPE OF WELL

OIL  
WELL ☒GAS  
WELL ☐OTHER ☐SINGLE  
ZONE ☐MULTIPLE  
ZONE ☐

## 2. NAME OF OPERATOR

ARCO Oil and Gas Company, Division of Atlantic Richfield Company

## 3. ADDRESS OF OPERATOR

P.O. Box 5540, Denver, Colorado 80217

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

At surface

890' FSL &amp; 700' FWL SW SW Unit M

At proposed prod. zone

API #30-039-21959

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

9-1/2 miles from Lindrith, New Mexico

## 15. DISTANCE FROM PROPOSED\*

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

1100'

## 16. NO. OF ACRES IN LEASE

1465.76

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

160

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

300'

## 19. PROPOSED DEPTH

7675'

## 20. ROTARY OR CABLE TOOLS

Completion Unit

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

6933' GL

## DRILLING OPERATIONS AUTHORIZED ARE

SUBJECT TO COMPLIANCE WITH ATTACHED

GENERAL REQUIREMENTS AND CEMENTING PROGRAM

## 22. APPROX. DATE WORK WILL START\*

When approved

This action is subject to administrative  
appeal pursuant to 30 CFR 290.

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
	CASING SET	ON ORIGINAL COMPLETION IN 1978		

Propose to ~~recomplete~~ <sup>perforate</sup> this well ~~to~~ <sup>in</sup> the Gallup and commingle with existing Dakota production as per the attached procedure.

Commingle - as per State of New Mexico Case #4703, Order R-4314 for the West Lindrith-Gallup/Dakota

~~New dedication plat attached.~~

No additional surface disturbance will be required.

**RECEIVED**  
FEB 21 1984  
OIL CON. DIV.  
DIST. 3

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

*W.A. Walther, Jr.*  
W.A. Walther, Jr.

TITLE

Operations Manager

DATE February 13, 1984

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

MICO  
OPERATOR

**APPROVED**  
FEB 17 1984  
M. MILLENBACH  
AREA MANAGER  
*W.A. Walther*

[illegible]

PROCEDURE TO RECOMPLETE

- 1) MURU, Kill well w/2% KCl water
- 2) ND Christmas Tree, NU 3000 psi WP BOPs. Test BOPs to 2500 psi for 15 minutes. Pull 2-3/8", 4.7#, J-55, EUE tubing, NU lubricator & run 5-1/2" EZ Drill Bridge Plug to 7000' on wireline. Set bridge plug @ 7000' & POOH w/wireline.
- 3) Pressure test casing to 3000 psi for 15 minutes.
- 4) Run 4" hollow carrier perforating gun to 6650', perforating an interval 2 ft in length w/4 shots @ 90° phasing. (Each shot 6 inches lower than the previous shot above it). Trip out perforating gun & ND lubricator.
- 5) Run in hole w/2-3/8" tubing and set 5-1/2" Baker Model "C" Full-Bore retrievable cement packer approximately 100' above perforations. Block squeeze interval w/low water loss cement. (Dowell - Class "B", 1% D-60 or comparable).
- 6) Release packer and reverse circulate excess cement out of hole. Trip three (3) stands out of the hole and set packer\*. Note: If needed, hold pressure on squeeze to prevent back flow of cement. WOC overnight.  
\*May need to reverse circulate again before setting packer to assure no cement behind Baker packer.
- 7) Pressure test squeeze to 2000 psi for 15 minutes.
- 8) Release Model "C" packer and set it @ 6100'. NU lubricator & run in hole w/1-9/16" through tubing hollow carrier perforating gun. Perforate an interval 2 ft in length w/4 shots @ 90° phasing @ 6200'. (Each shot 6" lower than the previous shot above it). Trip gun out of hole & ND lubricator.
- 9) Block squeeze interval w/low water loss cement (Dowell - Class "B", 1% D-60 or comparable). Release packer & reverse circulate excess cement out of the hole. Trip approximately three (3) stands out of the hole & set packer\*. Note: If needed, hold pressure on squeeze to prevent back flow of cement. WOC (time to be determined by AOGC Drilling Supervisor).  
\*May need to reverse circulate again before setting packer to assure no cement behind Baker packer.
- 10) Release Baker Model "C" packer and TOOH. RIH w/2-3/8" tubing and 4-3/4" NT bit and drill out top cement plug. Close pipe rams & test squeeze w/2000 psi for 15 minutes. If squeeze holds, proceed to Step 11; if not, repeat Steps 5 & 6.

*J.R. 10/26/83*

*K.L.P. 10-26-83*

*J.M. McBeath 10/27/83*

- 11) Run 4-3/4" MT bit in hole & tag bottom plug. Drill out cement plug, close pipe rams & test squeeze w/2000 psi for 15 minutes. If squeeze holds, proceed to Step 12; if not repeat Steps 5 & 6.
- 12) Trip 2-3/8" tubing & 4-3/4" MT bit out of the hole. Run CEL/CCL log on wireline. If cement-pipe bond acceptable, proceed; if not, re-squeeze zone(s) as need be to make job acceptable for fracturing.
- 13) Run 5-1/2" EZ Drill Bridge Plug into hole and set @ 6600', just above bottom squeeze. TIE w/3-1/2", 9.2#, N-80 frac tubing & 5-1/2" R-3 DG standard bore retrievable packer, pressure testing 3-1/2" frac tubing to 6000 psi while TIE. Do not exceed burst rating of 10,160 psi. Set Baker R-3 DG packer @ 6240'.
- 14) Pressure test casing and bridge plug to 3000 psi for 15 minutes.
- 15) NU lubricator & TIE w/2-3/4" through tubing hollow carrier perforating gun. Perforate Gallup (6299-6563') w/1 SPGF, for a total of 44 shots. Note: Charges should be placed so not to perforate casing collars. TOOH w/gun & ND lubricator.
- 16) NU frac service company & pressure up on back side to 2000 psi. Frac Gallup as specified by AOGC Engineering.
- 17) Clean out frac sand, swab & unload well, test for rate.
- 18) TOOH w/3-1/2" tubing & packer, RIE w/2-3/8" tubing & 4-3/4" MT bit and drill out bridge plugs @ 6600' & 7000'.
- 19) Pull tubing & 4-3/4" MT bit, RIE w/2-3/8" tubing open-ended to clean & kill well w/2% KCl water.
- 20) Set 2-3/8" tubing open-ended @ 7210'. ND BOPs, landing tubing in tubinghead, NU Christmas Tree & swab both zones.
- 21) Clean wellsite & move out.

