

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

30-045-27523
Form approved.
Budget Bureau No. 1004-0138
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL ☒ DEEPEN ☐ PLUG BACK ☐
b. TYPE OF WELL
OIL WELL ☐ GAS WELL ☒ OTHER ☐
SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. OPERATOR: ARCO Oil and Gas Company
A Division of Atlantic Richfield

3. ADDRESS: P. O. 1610
CITY: Midland STATE: Texas ZIP: 79702

4. LOCATION OF WELL (Report clearly and in accordance with any State regulations.)
At surface 1095' FNL & 1740' FEL
At proposed Prod. zone Approximately the same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE
Approximately 11 miles Southwest of Ignacio, Colorado

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. line, if any) 1095'

16. NO. OF ACRES IN LEASE
2047.19

17. NO. OF ACRES AND/OR DRILLING UNIT ASSIGNED TO THIS WELL
320.88

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 562'

19. PROPOSED DEPTH
3500'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
6558' GR

22. APPROX. DATE WORK WILL START
October 1989

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	GENERAL QUANTITY OF CEMENT, R ³
12-1/4"	8-5/8"	24#	500'	415
7-7/8"	5-1/2"	15.5#	3500'	1400

It is proposed to drill a 12-14" hole to 500' using fresh water spud mud. After setting surface casing, the shoe will be drilled out with a 7-7/8" bit, continuing to TD. A low solids, fresh water gel/polymer mud system will be utilized. A water loss of less than 20cc will be maintained to minimize hole heave 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/CNL/FDL will be run and 5-1/2" production casing will be set and cemented to surface. Completion operations will consist of perforating approximately 50' of coal followed by 2 stimulation stages. The first stage will be a 2000 gal acid breakdown, the second will be a hydraulic fracture treatment consisting of 150,000 gals of 35 ppt cross-linked gel carrying 214,000# 12/20 mesh sand. After cleanup, gas lift equipment will be run on 2-7/8" production tubing with a retrievable packer set 50' above the top perf.

IN THE ABOVE SPACE DISCRIBE 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 surface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Ken W. Gosnell TITLE Engr. tech. 915 688-5672 DATE 9-1-89
(This space for Federal or State Use)

PERMIT NO. _____ APPROVAL DATE _____ EXPIRATION DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

APPROVED
DATE
AS AMENDED

OCT 23 1989
AREA MANAGER

NMOCB