

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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. NAME OF OPERATOR

3. ADDRESS OF OPERATOR

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

At surface

10 FEET FROM THE SOUTH LINE - 100 FT. FROM THE EAST LINE.
At proposed prod. zone SAME AS ABOVE.

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 drig. unit line, if any)

75 FT.

16. NO. OF ACRES IN LEASE

256

17. NO. OF ACRES ASSIGNED
TO THIS WELL

256

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

100 FT.

19. PROPOSED DEPTH

7500 FT.

20. ROTARY OR CABLE TOOLS

STAY

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

1000 FT. SURFACE ELEVATION

22. APPROX. DATE WORK WILL START*

JULY 5, 1971

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
2 1/2"	2 1/2"	21.0	75 FT.	25 BAGS
2 1/2"	2 1/2"	21.0	7500 FT.	2500 G. FT.

THE ABOVE PROPOSED PROGRAM IS TO BE COMPLETED IN THE NEAREST FUTURE AND IN ACCORDANCE WITH THE FOLLOWING CONDITIONS:

1. CASING PROGRAM:

SURFACE 2 1/2", 21.0, 75 FT. SET AT 21.0 FT. CEMENTED TO SURFACE 2 1/2" BACK.
LOCATION 2 1/2", 21.0, 7500 FT. SET AT 7.5, 7500 FT. CEMENT. FOR DEPTH CEMENTED
2 1/2" C. FT. CEMENT. STAGE DOWN AS SET AT APPROX. 7500 FT. UNDER
CONVENTION AND CEMENTED 2 1/2" CO. FT. CEMENT. STAGE DOWN AS SET UNDER
CONVENTION 2 1/2" AT APPROX. 7500 FT. AND CEMENTED 2 1/2" CO. FT. CEMENT.

2. STAY DOWN WELL TO BE USED TO DRILL DOWN TO TOTAL DEPTH.

3. RETURNED LINES AND KNOTS SHALL BE CARED PROPERLY TO PREVENT PRODUCTION.

4. LINES 2 1/2" 21.0 7500 FT. CEMENTED BACKEN SHALL BE SET AT APPROX. 7500 FT. CEMENT.

5. 2 1/2", 21.0, 7500 FT. 7500 FT. TO BE USED TO DRILL DOWN TO APPROX. 7500 FT. CEMENT.

6. 2 1/2", 21.0, 7500 FT. 7500 FT. TO BE USED TO DRILL DOWN TO APPROX. 7500 FT. CEMENT.

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. Original signed by
SIGNED GILBERT D. NOLAND, JR. TITLE DATE

(This space for Federal or State office use)

PERMIT NO. APPROVAL DATE

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

Instructions

General: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

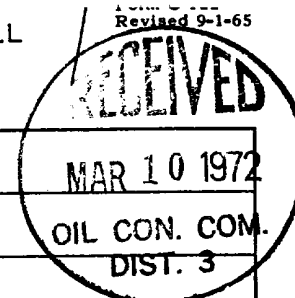
Item 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

Items 15 and 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

Item 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Revised 9-1-65



Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 2-20-72	
Company Continental Oil Company				Connection Unconnected	
Pool Otero				Formation Chacra	
Completion Date 2-20-72		Total Depth 5325' KB		Plug Back TD 5259' KB	
				Elevation 6674' GR	
Farm or Lease Name AXI Apache "J"					
Csg. Size 5.5	Wt. 14#	d 5.012	Set At 5324' RB	Perforations: From 3726' To 3748' RB	
Well No. 24					
Thg. Size 1.66"	Wt. 2.40	d 1.380	Set At 3745' GR	Perforations: From To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Gas-Gas Dual				Packer Set At 4930' GR	
Producing Thru Tubing		Reservoir Temp. °F 96° @ 3737' RB		Mean Annual Temp. °F 50°	
				Baro. Press. - P _a 12.2	
L 3745		H 3745	G _g .680	% CO ₂ ---	% N ₂ ---
				% H ₂ S ---	3/4" Choke Nipple
COUNTY Rio Arriba					
STATE New Mexico					
FLOW DATA					
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w
SI					
1.	3/4" Choke Nipple		45		50
2.					
3.					
4.					
5.					
TUBING DATA					
	Press. p.s.i.g.	Temp. °F			
	615				
	45	50			
CASING DATA					
	Press. p.s.i.g.	Temp. °F			
	650				
	311				
Duration of Flow SI 7 Days 3 Hrs.					
RATE OF FLOW CALCULATIONS					
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g
1	9.604		57.2	1.010	1.213
2.					
3.					
4.					
5.					
NO.	P _r	Temp. °R	T _r	Z	
1.					
2.					
3.					
4.					
5.					
Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.					
A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.					
Specific Gravity Separator Gas .680 X X X X X X X X					
Specific Gravity Flowing Fluid X X X X X .680					
Critical Pressure _____ P.S.I.A. P.S.I.A.					
Critical Temperature _____ R R					
$P_c = 662.2$ $P_c^2 = 438.5$ (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.3129$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.2265$					
NO.	P _w	P _w ²	P _c ² - P _w ²		
1	323.2	104.5	334.0		
2					
3					
4					
5					
$ADP = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 827$					
Absolute Open Flow 827 Mcfd @ 15.025 Angle of Slope 0 Slope, n .75					
Remarks:					
Approved By Commission:		Conducted By: E. B. Errett		Calculated By: E. B. Errett	
				Checked By: D. B. Barnes	

NMOCC(Aztec)3, BEA, File, Humble Oil

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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 ☐

2. NAME OF OPERATOR
SOUTHERN UNION PRODUCTION COMPANY

3. ADDRESS OF OPERATOR
P. O. Box 808, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface
975 FEET FROM THE SOUTH LINE & 1640 FT. FROM THE EAST LINE.
At proposed prod. zone SAME AS ABOVE.

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
15 MILES NORTHEAST OF COUNSELBORO, NEW MEXICO

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any) 975 FT.

16. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 2600 FT.

17. NO. OF ACRES IN LEASE 2560

18. NO. OF ACRES ASSIGNED TO THIS WELL 168

19. PROPOSED DEPTH 7547 FT.

20. ROTARY OR CABLE TOOLS ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
6787 FT. UNGRADED GROUND LEVEL

22. APPROX. DATE WORK WILL START*
JULY 5, 1971

5. LEASE DESIGNATION AND SERIAL NO.
CONTRACT #145

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
JICARILLA APACHE

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
JICARILLA K

9. WELL NO.
16

10. FIELD AND POOL, OR WILDCAT
SOUTH CLIFFS PICTURED CLIFFS

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
SEC. 17, T-29N, R-3E, N.M.P.B.

12. COUNTY OR PARISH
RIO ARriba

13. STATE
NEW MEXICO

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	24.00	300 FT.	250 BAGS
7-7/8	5-1/2	15.50	7547 FT.	2500 CU. FT.

WE PROPOSE TO DRILL A WELL TO BE FULLY COMPLETED IN THE PICTURED CLIFFS AND DAKOTA FORMATIONS. ANTICIPATED TOTAL DEPTH 7547 FT. P.K.D.

1. CASING PROGRAM:

SURFACE: 8-5/8, 24.00, K-55 SET AT 300 FT. CEMENTED TO SURFACE 8/25 BACKO.
PRODUCTION: 5-1/2, 15.50, K-55 SET AT T.D. 7547 FT. P.K.D. 1ST STAGE CEMENTED 8/600 CU. FT. CEMENT. STAGE COLLAR SET AT APPROX. 5600 FT. UNDER DESAVETHE AND CEMENTED 8/500 CU. FT. CEMENT. STAGE COLLAR SET UNDER PICTURED CLIFFS AT APPROX. 3400 FT. AND CEMENTED 8/1400 CU. FT. CEMENT.

2. ROTARY TOOLS WILL BE USED TO MUD DRILL WELL FROM SURFACE TO TOTAL DEPTH.

3. PICTURED CLIFFS AND DAKOTA WILL BE SAND FRACED TO STIMULATE PRODUCTION.

4. PACKER 5-1/2 DOWEL "D" PRODUCTION PACKER WILL BE SET AT APPROX. 7200 FT. P.K.D.

5. 1-1/2, E.U.E., 2.90, YOO-55 TUBING WILL BE RUN TO DAKOTA AND SET AT APPROX. 7400 FT. P.K.D.

6. 1-1/2, 2.76, YOO-55 INTEGRAL JOINT TUBING WILL BE SET TO PICTURED CLIFFS AT APPROX. 3100 FT. P.K.D.

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24. Original signed by
SIGNED GILBERT D. NOLAND, JR.
GILBERT D. NOLAND, JR. TITLE DRILLING SUPERINTENDENT DATE JUNE 23, 1971
(This space for Federal or State office use)

PERMIT NO. APPROVAL DATE
APPROVED BY DATE
CONDITIONS OF APPROVAL, IF ANY: TITLE

*See Instructions On Reverse Side

U. S. GEOLOGICAL SURVEY

JUN 28 1971

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACERAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section.

11 NORTH 1040 1640
PICTURED CLIFFS SOUTH BLANCO PICTURED CLIFFS SE/4 160 PICTURED CLIFF
DAKOTA BASIN DAKOTA E/2 320 DAKOTA

1. One acre of land is hereby dedicated to the well located at the following location:
2. The well is located at the following location:
3. If more than one acre of land is dedicated to the well, the well is located at the following location:

4. The well is located at the following location:

5. The well is located at the following location:

6. The well is located at the following location:



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Original signed by
GILBERT D. NOLAND, JR.

GILBERT D. NOLAND, JR.

DRILLING SUPERINTENDENT

SOUTHERN UNION PRODUCTION

JUNE 23, 1971

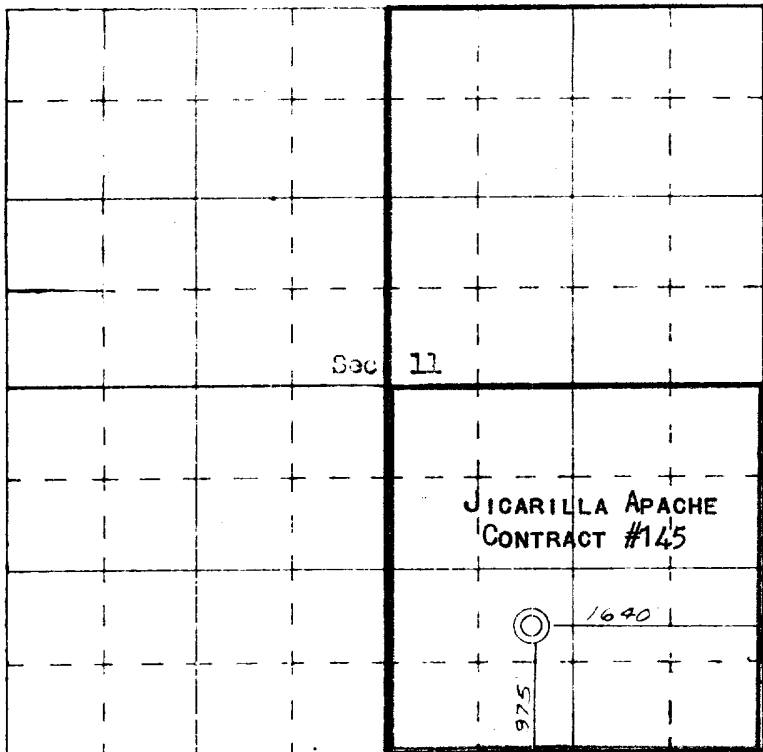
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

10 June, 1971

JAMES T. LUTHER

1460

DEDICATED DAKOTA ACERAGE
DEDICATED PICTURED CLIFFS ACERAGE



SCALE—1 INCHES EQUALS 1 MILE

SAN JUAN ENGINEERING COMPANY, FARMINGTON, N. M.

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