

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

Merland Resources, Inc.

## 3. ADDRESS OF OPERATOR

402 Fina Bldg., 736 8th Ave. SW, Calgary, Alberta, Canada T2P1H4

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

At surface

1600' FSL &amp; 1540' FWL

At proposed prod. zone

same

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

10 miles northwest of Shiprock, New Mexico

## 15. DISTANCE FROM PROPOSED\*

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

1540

## 16. NO. OF ACRES IN LEASE

2534

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.

none

## 19. PROPOSED DEPTH

6950

## 20. ROTARY OR CABLE TOOLS

rotary

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

4889 GL

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

11-1-77

## 23.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17"	13 3/8	48#	125'	180 sacks class "A" + 2% CaCl <sub>2</sub>
11"	8 5/8	24#	2700'	600 sacks 65-35 Poz + 4% gel + 1/4# per sack flocc followed by
7 7/8	4 1/2	10.5 & 11.6	6950	200 200 sacks, class "B"

Move in - rig up. Drill 12 1/4" hole to 125' and ream to 17" - set 125' new 13 3/8" 48# H-40 casing at 125' and cement as indicated above. WOC 12 hours. Install 10" series 900 hydraulic BOP with drilling head. BOP to be pressure tested prior to drilling out surface casing. BOP to be tested daily to insure sound mechanical operations. Drill 11" hole to 2700'. Set new 8 5/8" 24.0# K-55 casing at 2700' and cement as above. WOC 18 hours. Drill 7 7/8" hole to total depth 6950. DST will be taken as warranted. No cores will be taken. No abnormal pressure or temperatures are expected. Well will be drilled with native mud to 5500'. A gel chem mud system will be employed from 5500 to TD with mud characteristic of 9.6-10.5# per gallon, 10.0 cc water loss and 35-60 viscosity. Upon reaching TD open hole logs consisting of DILL, GR-FDC-CNL will be run. 4 1/2" casing will be run and cemented as above if commercial. If well is non-commercial same will be plugged and abandoned in accordance with U.S.G.S. specifications. Gas from lease is not dedicated.

See reverse side for estimated formation tops.

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

Jack D. Cook

TITLE

Agent

DATE

October 27, 1977

(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

## 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.

★ U.S. GOVERNMENT PRINTING OFFICE: 1974-781-025/VIII-239

### Estimated Formation Tops

Greenhorn	980
Dakota	1145
Todilto	2330
Entrada	2340
Chinle	3050
Cutler	4390
Hermosa	5810
Ismay	6560
Desert Creek	6800

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-128  
Effective 1-1-65

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

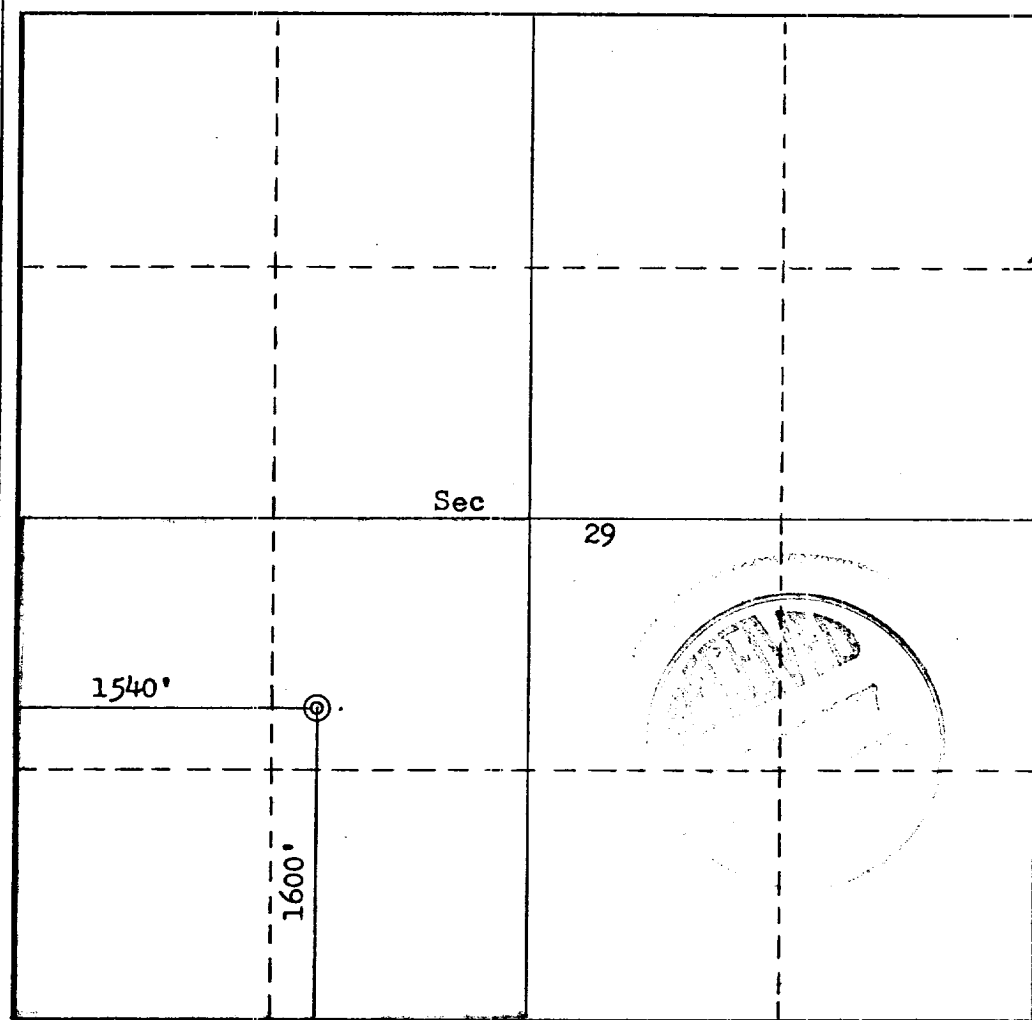
Operator <b>Merland Resources, Inc.</b>			Lease <b>Merland Renaissance Navajo</b>		Well No. <b>1</b>
Unit Letter <b>K</b>	Section <b>29</b>	Township <b>31N</b>	Range <b>18W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>1600</b> feet from the <b>South</b> line and <b>1540</b> feet from the <b>West</b> line					
Ground Level Elev. <b>4889</b>	Producing Formation <b>Desert Creek</b> <i>Rensselaer</i>		Pool <b>Wildcat</b>	Dedicated Acreage: <b>160</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
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).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

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 interests, has been approved by the Commission.



**CERTIFICATION**

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

Name  
**Jack D. Cook**  
Position  
**Agent**  
Company  
**Merland Resources, Inc.**  
Date  
**October 27, 1977**

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.

Date Surveyed  
**October 10, 1977**  
Registered Professional Engineer and/or Land Surveyor  
*Fred B. Kerr Jr.*  
**Fred B. Kerr Jr.**

Certificate No.

**3950**

