

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

Southland Royalty Company

3. ADDRESS OF OPERATOR

P. O. Drawer 570, Farmington, NM 87401

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

At surface  
810' FSL & 1825' FEL

At proposed prod. zone

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

Approximately 5 1/2 miles SE of Bloomfield, NM

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any)

810'

16. NO. OF ACRES IN LEASE

2258.46

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

320

/ 60

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

885'

19. PROPOSED DEPTH

6647'

20. ROTARY OR CABLE TOOLS

Rotary

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

5935' GR

22. APPROX. DATE WORK WILL START\*

February 1, 1980

## 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#	200'	140 sacks
7 7/8"	5 1/2"	15.5#	6647'	215 sacks (Stage One)
				370 sacks (Stage Two)
				200 sacks (Stage Three)

Surface formation is Nacimiento.

Top of Fruitland sand is at 1767'.

Top of Pictured Cliffs sand is at 2027'.

Fresh water mud will be used to drill from surface to total depth.

It is anticipated that an IES and a GR-Density log will be run from total depth to surface casing.

No abnormal pressures or poisonous gases are anticipated in this well.

It is expected that this well will be drilled before July 31, 1980. This depends on time required for approval, rig availability and the weather.

Gas is dedicated.

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

TITLE District Production Manager

DATE 11-6-79

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

ak Frank

NMOCC

ADDITIONAL WELL NEEDED PURSUANT TO NEW MEXICO ORDER R-1670-V.  
U.S.G.S. RATIFICATION DATED JUNE 8, 1979.

## OIL CONSERVATION DIVISION

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088  
SANTA FE, NEW MEXICO 87501Form C-102  
Revised 10-1-78

All distances must be from the outer boundaries of the Section

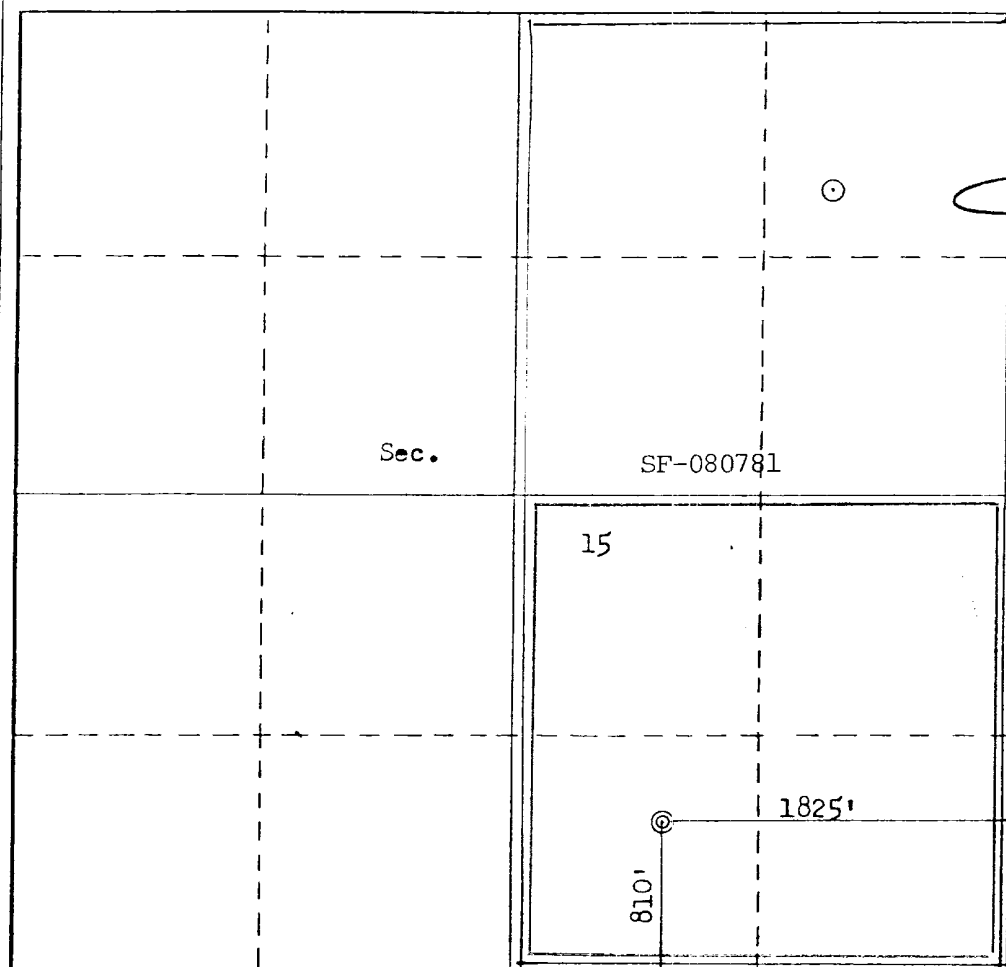
Operator <b>SOUTHLAND ROYALTY COMPANY</b>			Lease <b>Cain</b>		Well No. <b>11-E</b>
Unit Letter <b>0</b>	Section <b>15</b>	Township <b>28N</b>	Range <b>10W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>810</b> feet from the <b>South</b> line and <b>1825</b> feet from the <b>East</b> line					
Ground Level Elev. <b>5935</b>	Producing Formation <b>Dakota - Gallup</b>		Pool <b>Basin - Undesignated</b>		Dedicated Acreage: <b>320</b> <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  
**L. O. Van Ryan**

Position  
**District Production Manager**

Company  
**Southland Royalty Company**

Date  
**November 6, 1979**

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 28, 1979**

Registered Professional Engineer and/or Land Surveyor  
**Fred B. Kerr Jr.**

Certificate No. **3950**

DRILLING SCHEDULE - CAIN #11E

LOCATION: 810' FSL & 1825' FEL, Section 15, T28N, R10W, San Juan County, New Mexico

FIELD: Basin Dakota/ Gallup

ELEVATION: 5935' GR

TD: 6647'

GEOLOGY:

Formation Tops:

Ojo Alamo	1352'	Gallup	5517'
Fruitland	1767'	Graneros	6337'
Pictured Cliffs	2027'	Dakota	6447'
Chacra	3150'		
Cliff House	3597'		
Point Lookout	4382'		

Logging Program: IES and GR-Density from TD to surface.

Coring Program:

Natural Gauges:

DRILLING:

Contractor:

Tool Pusher:

SRC Representative:

SRC Answering Service: 325-1841  
Dispatch Number: 325-7391

Mud Program: Fresh water to 5500'. Mud up at 5500'. Maintain mud wgt of 8.9 - 9.4; vis of 35 - 40 sec; water loss of 10 - 12 cc.

MATERIALS:

Casing Program:	Hole Size	Depth	Casing Size	Wt. & Grade
	12-1/4"	200'	8-5/8"	24# K-55
	7-7/8"	6647'	5-1/2"	15.5# K-55

FLOAT EQUIPMENT:

8-5/8" Surface Casing: Pathfinder guide shoe.

5-1/2" Production Casing: Pathfinder guide shoe and Howco self-fill insert valve. Run 5 centralizers every other joint above shoe. Run Dowell stage tool at 4780' and 2130'. Run cement basket 1 joint below and 5 centralizers above each tool.

Wellhead Equipment: 8-5/8" X 10", 2000# Casing head with 5-1/2" casing hanger. 10" X 6", 2000# tubing head and tree.

DRILLING SCHEDULE - CAIN #11E

Page two

Cementing Program:

8 5/8" Surface Casing - 140 sacks (165 cu. ft.) of Class "B" w/1/4# gel flake per sack & 3%  $\text{CaCl}_2$ . WOC 12 hours. Test to 600# prior to drilling out. (Volume is 100% excess.)

5 1/2" Production String - STAGE ONE - 165 sacks (245 cu. ft.) of 50/50 Poz w/6% gel, 1/4# gel flake/sx, followed by 50 sacks of Neat w/2%  $\text{CaCl}_2$ . (Volume is 25% excess to cover top of Gallup.)<sup>2</sup>

STAGE TWO - 320 sacks (476 cu. ft.) of 50/50 Poz w/6% gel, followed by 50 sacks of Neat w/2%  $\text{CaCl}_2$ . (Volume is 50% excess to cover top of Chacra.)

STAGE THREE - 200 sacks (294 cu. ft.) of 50/50 Poz w/6% gel. (Volume is 50% excess to cover top of Ojo Alamo.)

WOC and circulate between stages as required by well conditions.

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L. O. Van Ryan  
District Production Manager

BJM/ke



**Southland Royalty Company**

November 6, 1979

United States Geological Survey  
P. O. Box 959  
Farmington, New Mexico

Attention: James Sims

Dear Sir:

Enclosed please find a map showing existing roads and planned access roads to Southland Royalty Company's Cain #11E well. The locations of tank batteries and flow lines will be on location with well. A burn pit will be provided for disposal of trash. Cuttings, drilling fluid and produced fluids will be put into the reserve pit and properly disposed of depending on amount and type of fluids.

Contractor will furnish restroom facilities on location.

There will be no air strips or camps.

Also, enclosed is a location layout showing approximate location of rig, pits and pipe racks and cut required to build this location.

Water supply will be San Juan River.

The location will be restored according to Bureau of Land Management standards. This work will begin when all related construction is finished.

Mr. Ross Lankford will be Southland Royalty Company's field representative supervising these operations.

Yours truly,

L. O. Van Ryan  
District Production Manager

LOVR/dg



**Southland Royalty Company**

United States Geological Survey  
P. O. Box 959  
Farmington, New Mexico 87401

Attention: James Sims

Dear Sir:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein be performed by Southland Royalty Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Date: November 6, 1979

Name: 

Title: District Production Manager



**Southland Royalty Company**

November 6, 1979

United States Geological Survey  
P. O. Box 959  
Farmington, New Mexico

Attention: James Sims

Re: Blowout Preventer Plan

Dear Sir:

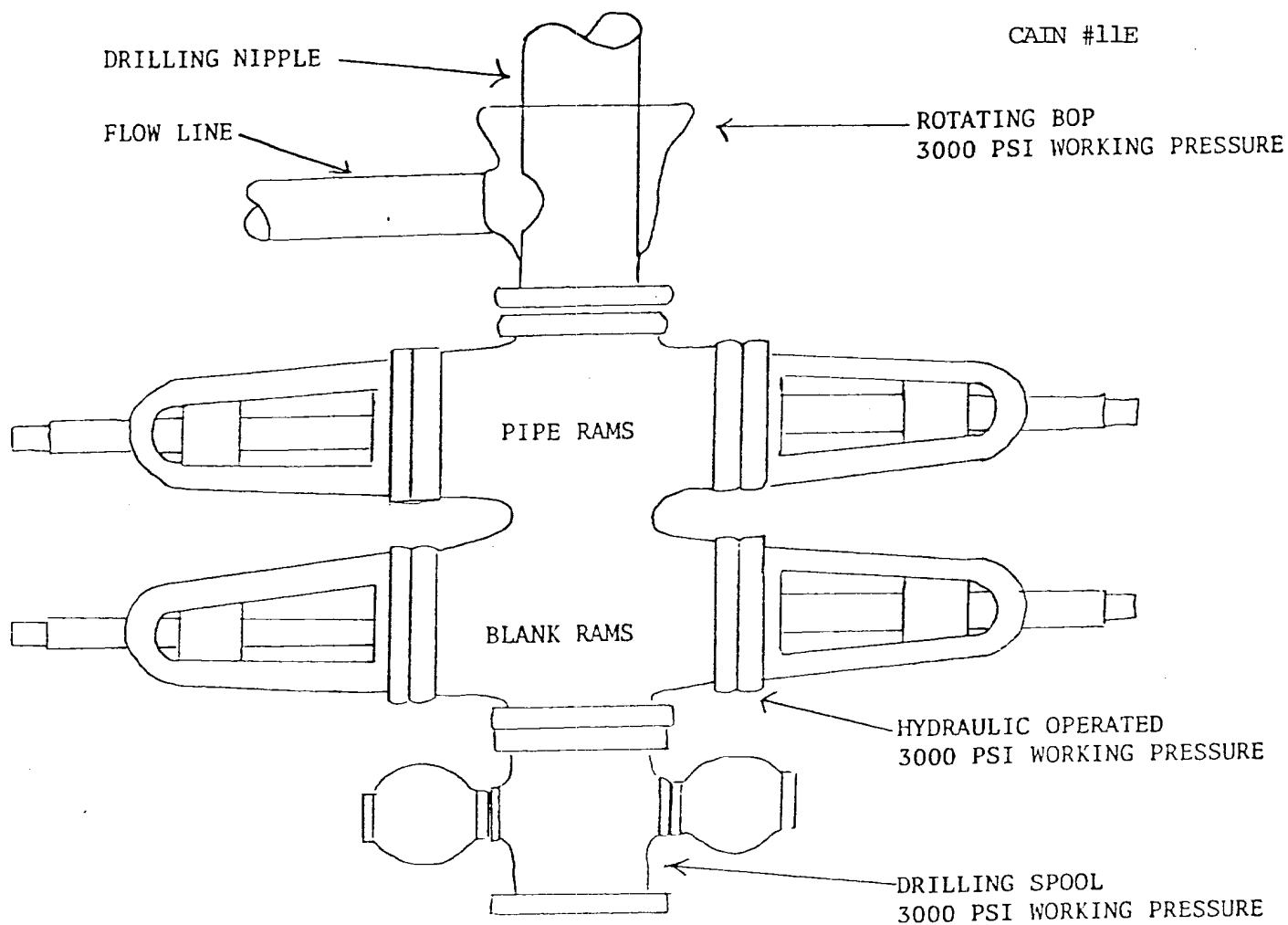
All drilling and completion rigs will be equipped with 6" or larger double hydraulic blowout preventers and a hydraulic closing unit with steel lines.

The preventer is 3000# working pressure and 6000# test.

All crews will be thoroughly trained in the operation of this preventer. The preventer will be tested frequently enough to insure proper operation.

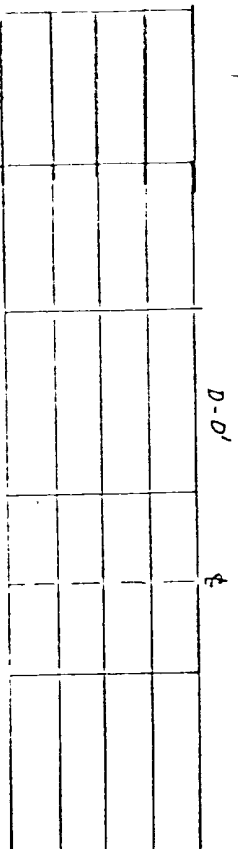
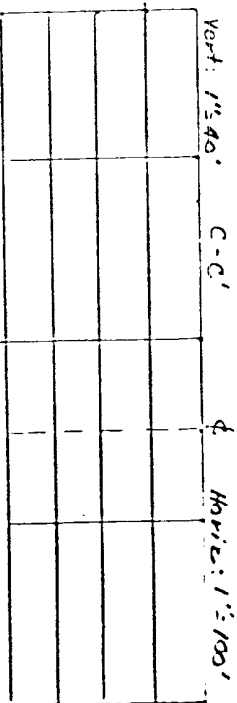
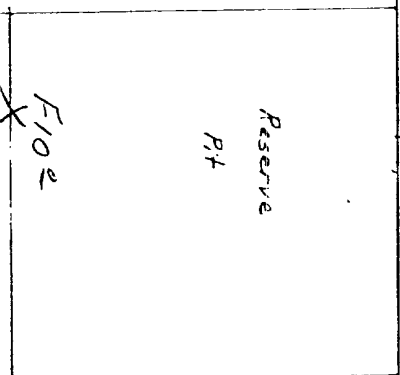
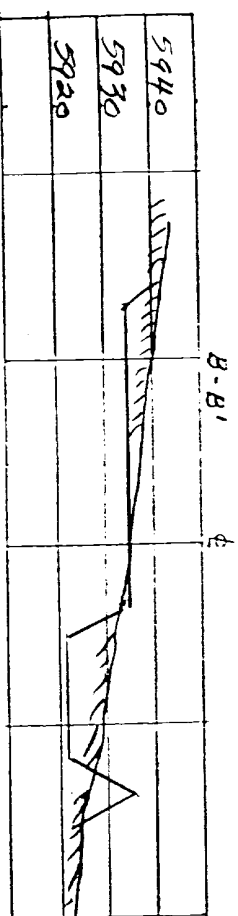
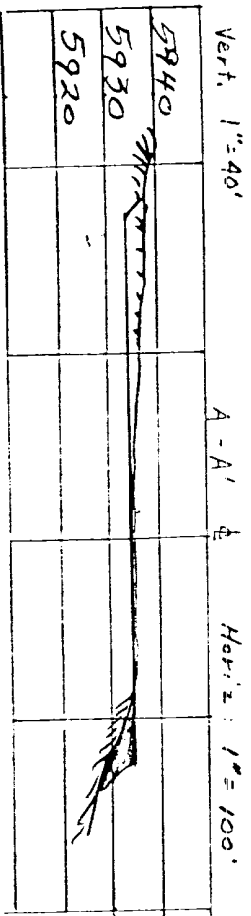
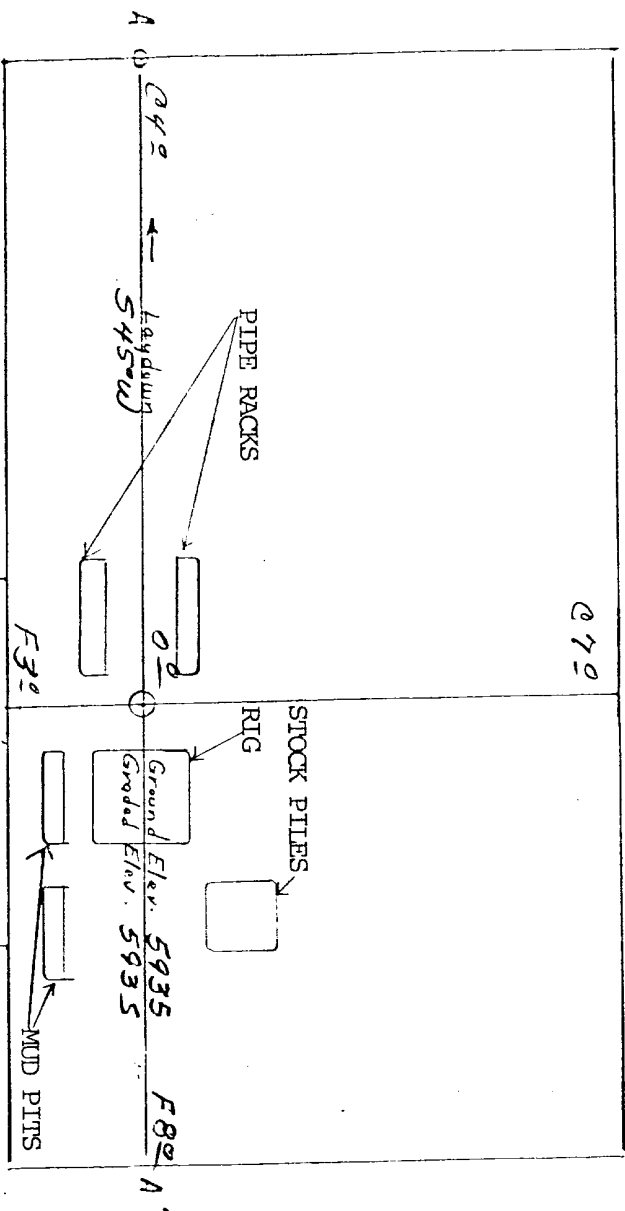
Yours truly,

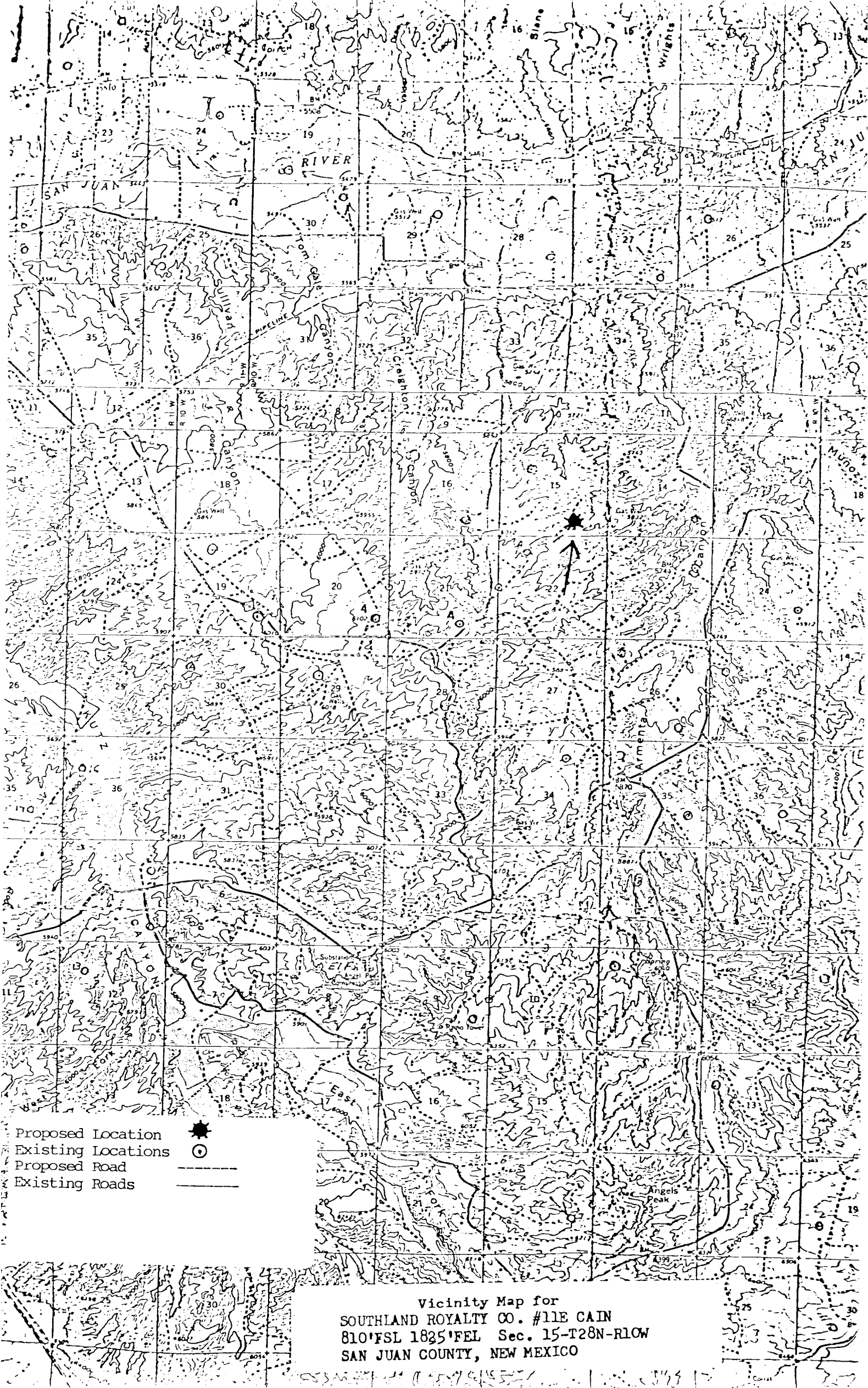
L. O. Van Ryan  
District Production Manager



PREVENTERS AND SPOOLS ARE TO HAVE  
THROUGH BORE OF 6" - 3000 PSI OR LARGER







Vicinity Map for  
SOUTHLAND ROYALTY CO. #11E CAIN  
810'FSL 1825'FEL Sec. 15-T28N-R10W  
SAN JUAN COUNTY, NEW MEXICO