

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

H 1380' FNL &amp; 600' FEL

At proposed prod. zone

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

7 miles south/south west of Boomfield, New Mexico

15. DISTANCE FROM PROPOSED\*

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

600'

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

500'

16. NO. OF ACRES IN LEASE

2081.12 801.12

19. PROPOSED DEPTH

6625'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

E/320

20. ROTARY OR CABLE TOOLS

Rotary

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

6094' 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"	4 1/2"	10.5#	6625'	270 Sacks (Stage One)
				305 Sacks (Stage Two)
				410 Sacks (Stage Three)

Surface formation is Nacimiento.

Top of Ojo Alamo sand is at 1126'.

Top of Pictured Cliffs sand is at 1886'.

Top of Point Lookout sand is at 4216'.

Fresh water mud will be used to drill from surface to Total Depth.

It is anticipated that an IES &amp; 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 approvals, rig availability and the weather.

Gas is dedicated.

U.S.G.S. RATIONALE LATER 3/1/80, 1979.

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 slowest penetrator program, if any.

24.

SIGNED

TITLE District Production Manager

DATE 11-19-79

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

SUBJECT TO COOPERATION WITH ATTACHED  
"GENERAL REQUIREMENTS"

NMOCC

30-075-24028

5. LEASE DESIGNATION AND SERIAL NO.

SF-080382

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Frontier "C"

9. WELL NO.

#2E

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

11. SEC., T., R., M., OR BLK.  
AND SURVEY OR AREA

Section 5, T27N, R11W

12. COUNTY OR PARISH 13. STATE

San Juan

New Mexico

All distances must be from the outer boundaries of the Section

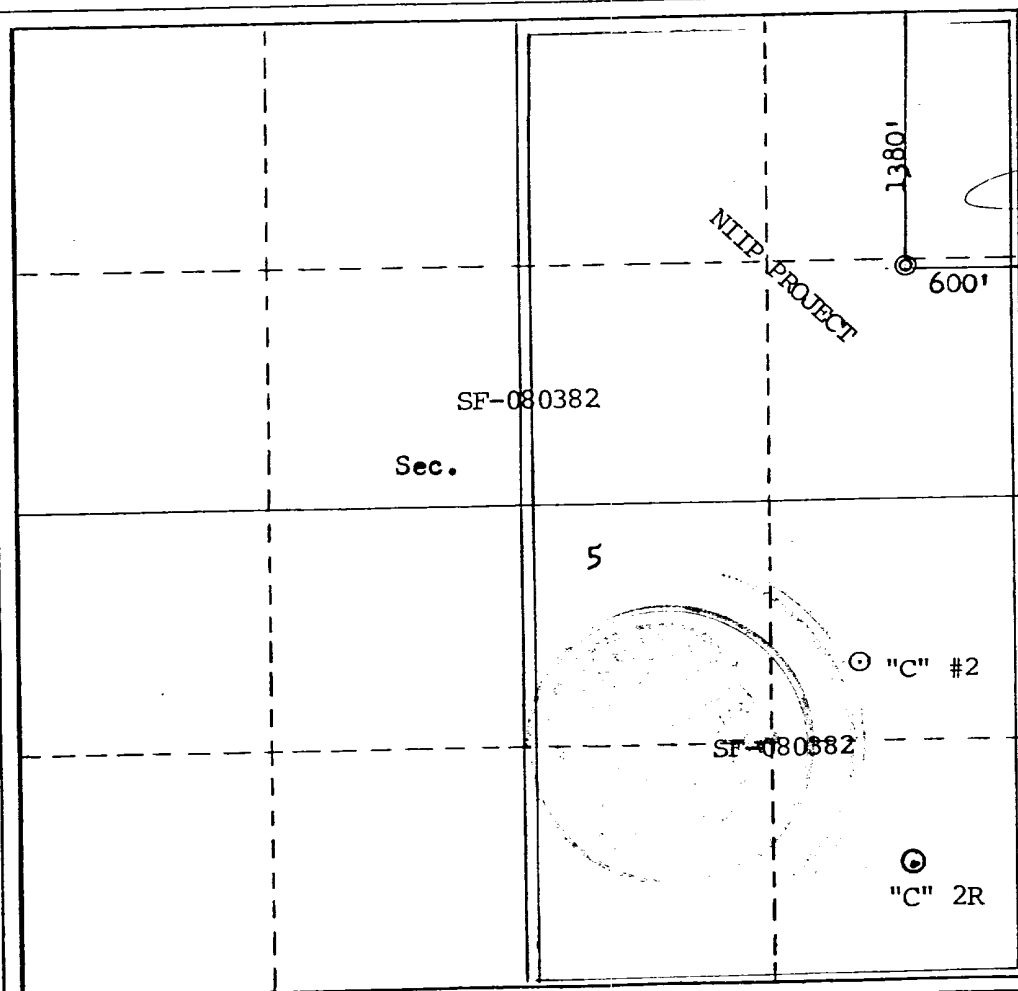
Operator <b>SOUTHLAND ROYALTY COMPANY</b>			Lease <b>FRONTIER "C"</b>		Well No. <b>2-E</b>
Unit Letter <b>H</b>	Section <b>5</b>	Township <b>27N</b>	Range <b>11W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>1380</b> feet from the <b>North</b> line and <b>600</b> feet from the <b>East</b> line					
Ground Level Elev. <b>6094</b>	Producing Formation <b>Dakota</b>		Pool <b>Basin Dakota</b>		Dedicated Acreage: <b>320</b> Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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 16, 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  
**November 10, 1979**  
Registered Professional Engineer  
and/or Land Surveyor  
**Fred B. Kern, Jr.**  
Certificate No. **3950**

3950

DRILLING SCHEDULE - FRONTIER "C" #2E

Location: 1380' FNL & 600' FEL, Section 5, T27N, R11W, San Juan County, New Mexico

Field: Basin Dakota

Elevation: 6094' GR

Geology:

Formation Tops:	Ojo Alamo	1126'	Gallup	5476'
	Fruitland	1856'	Graneros	6361'
	Pictured Cliffs	1886'	Dakota	6476'
	Cliff House	3486'	Total Depth	6625'
	Point Lookout	4216'		

Logging Program: IES & GR-Density from surface casing to Total Depth.

Coring Program : NONE

Natural Gauges : NONE

Drilling

Contractor:

Tool Pusher:

SRC Answering Service: 325-1841

Dispatch Number: 325-7391

SRC Representative:

Mud Program: Fresh water mud to 5450'. Mud up at 5450'. Maintain mud weight of 8.9 to 9.4, viscosity of 35 - 40 secs, water loss of 10 - 12 cc. Anticipate losing circulation in Gallup formation at approximately 5850'. Have LCM available on location.

Materials

Casing Program:	Hole Size	Depth	Casing Size	Wt. & Grade
	12 1/4"	200'	8 5/8"	24# H-40
	7 7/8"	6625'	4 1/2"	10.5# K-55

Float Equipment

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

4 1/2" Production Casing: Pathfinder type "A" guide shoe. Pathfinder self-fill, flapper type float collar, run 1 joint from shoe. 5 Pathfinder bow type stabilizers (run every other joint from shoe.) Run Dowell stage tools at 4600' and 2900'. Run 1 cement basket below and 5 Pathfinder rigid stabilizers above each tool.

Wellhead Equipment: 8 5/8" X 10", 2000# casing head with 4 1/2" casing hanger 10", 2000# X 6", 2000# tubing head and tree

Cementing:

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

4 1/2" Production Casing: STAGE ONE - 220 sacks (327 cu. ft.) of 50/50 Poz w/6% gel, 1/4# gel flake/sx, followed by 50 sx Neat w/2%  $\text{CaCl}_2$ . (Volume is 25% excess to cover top of Gallup.)

STAGE TWO - 255 sx (381 cu. ft.) of 50/50 Poz w/6% gel, followed by 50 sx Neat w/2%  $\text{CaCl}_2$ . (Volume is 50% excess to cover top of Cliff House.)

STAGE THREE - 410 sx (606 cu. ft.) of 50/50 Poz w/6% gel. (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



**Southland Royalty Company**

November 19, 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 Frontier "C" #2E 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**

November 19, 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

FRONTIER "C" #2E

DRILLING NIPPLE

FLOW LINE

ROTATING BOP  
3000 PSI WORKING PRESSURE

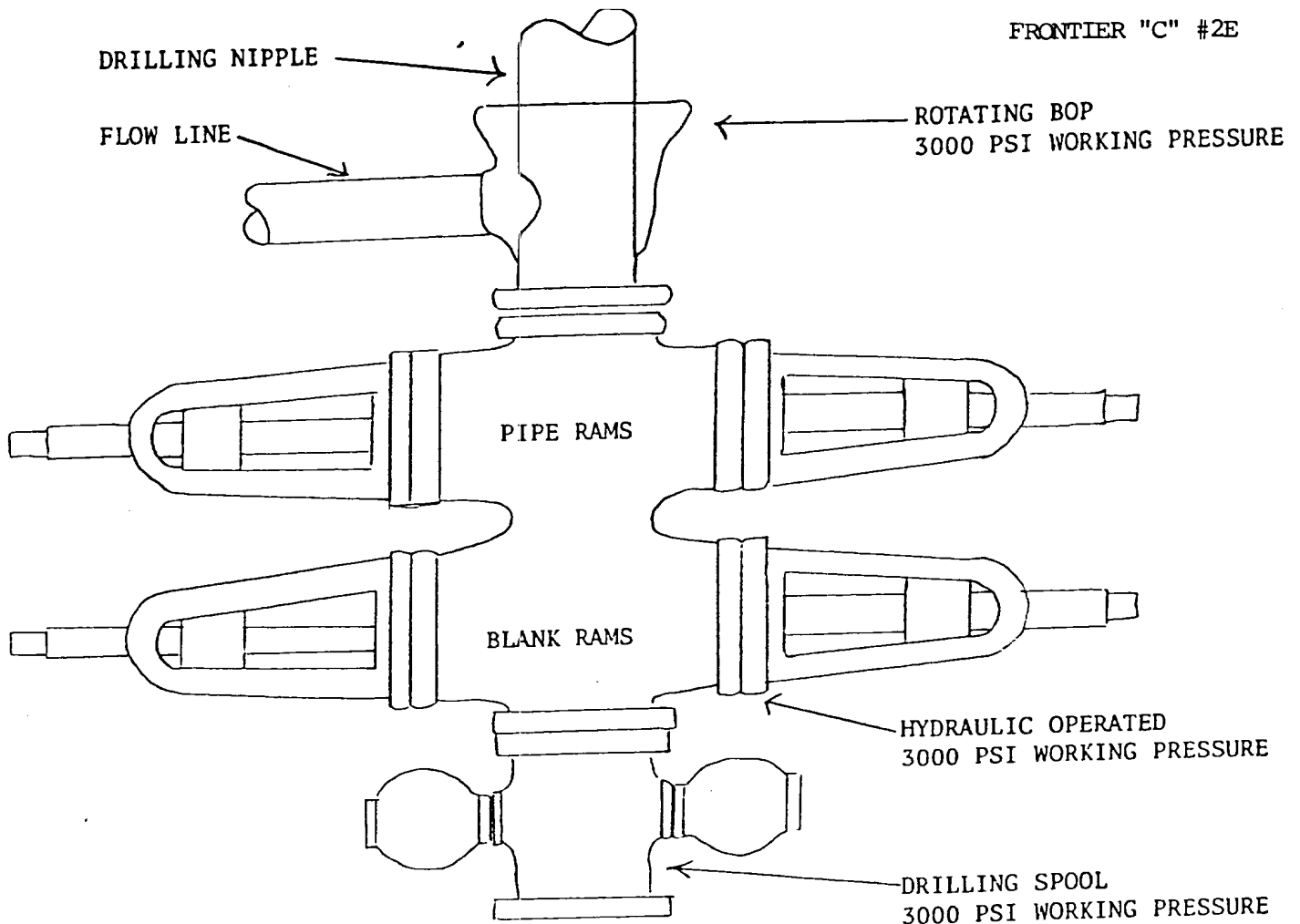
PIPE RAMS

BLANK RAMS

HYDRAULIC OPERATED  
3000 PSI WORKING PRESSURE

DRILLING SPOOL  
3000 PSI WORKING PRESSURE

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





**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.

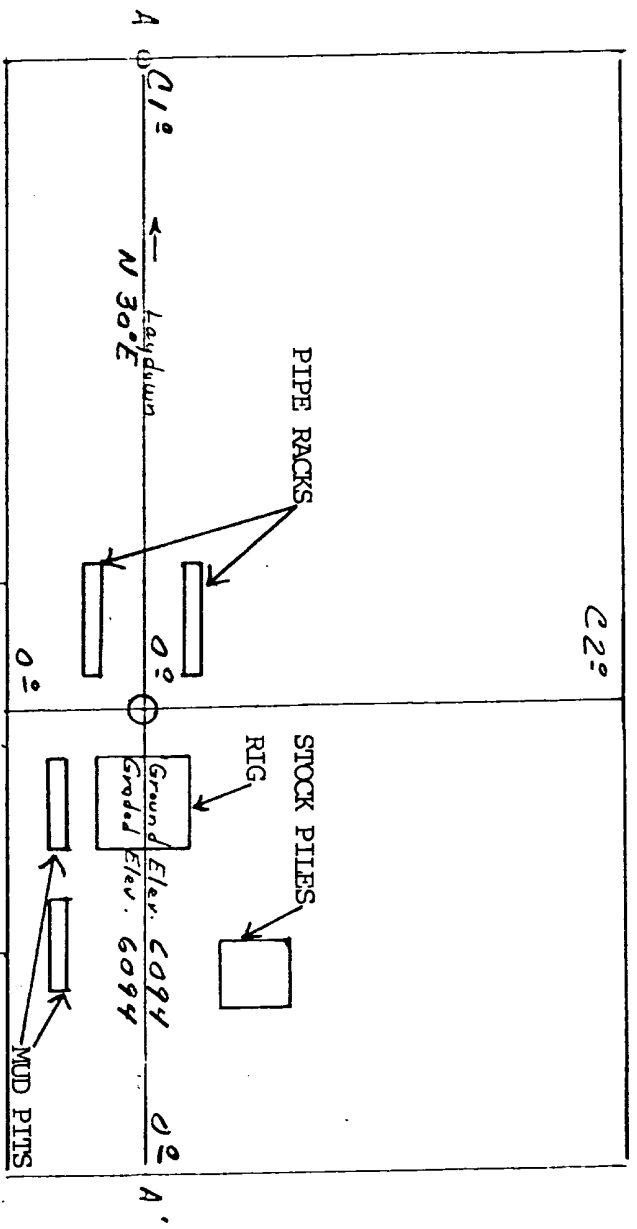
Date: November 19, 1979

Name: 

Title: District Production Manager



Location Profile for  
 SOUTHLAND ROYALTY COMPANY #2-E FRONTIER "C"  
 1380' FNL 600' FEL Sec 5-T27N-R11W SAN JUAN COUNTY, NEW MEXICO

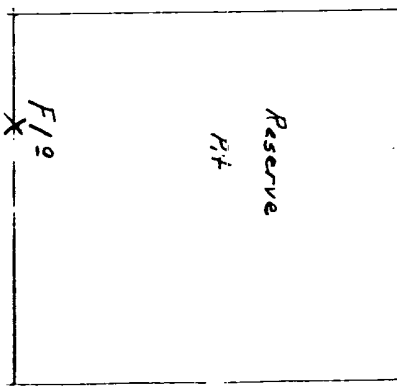


Vert. 1"=40'      A-A'      Horiz. 1"=100'

6100			
6090			
6080			

B-B'      Horiz. 1"=100'

6100			
6090			
6080			



Vert. 1"=40'      C-C'      Horiz. 1"=100'


D-D'      Horiz. 1"=100'


# 7.5 MINUTE SERIES (TOPOGRAPHIC)

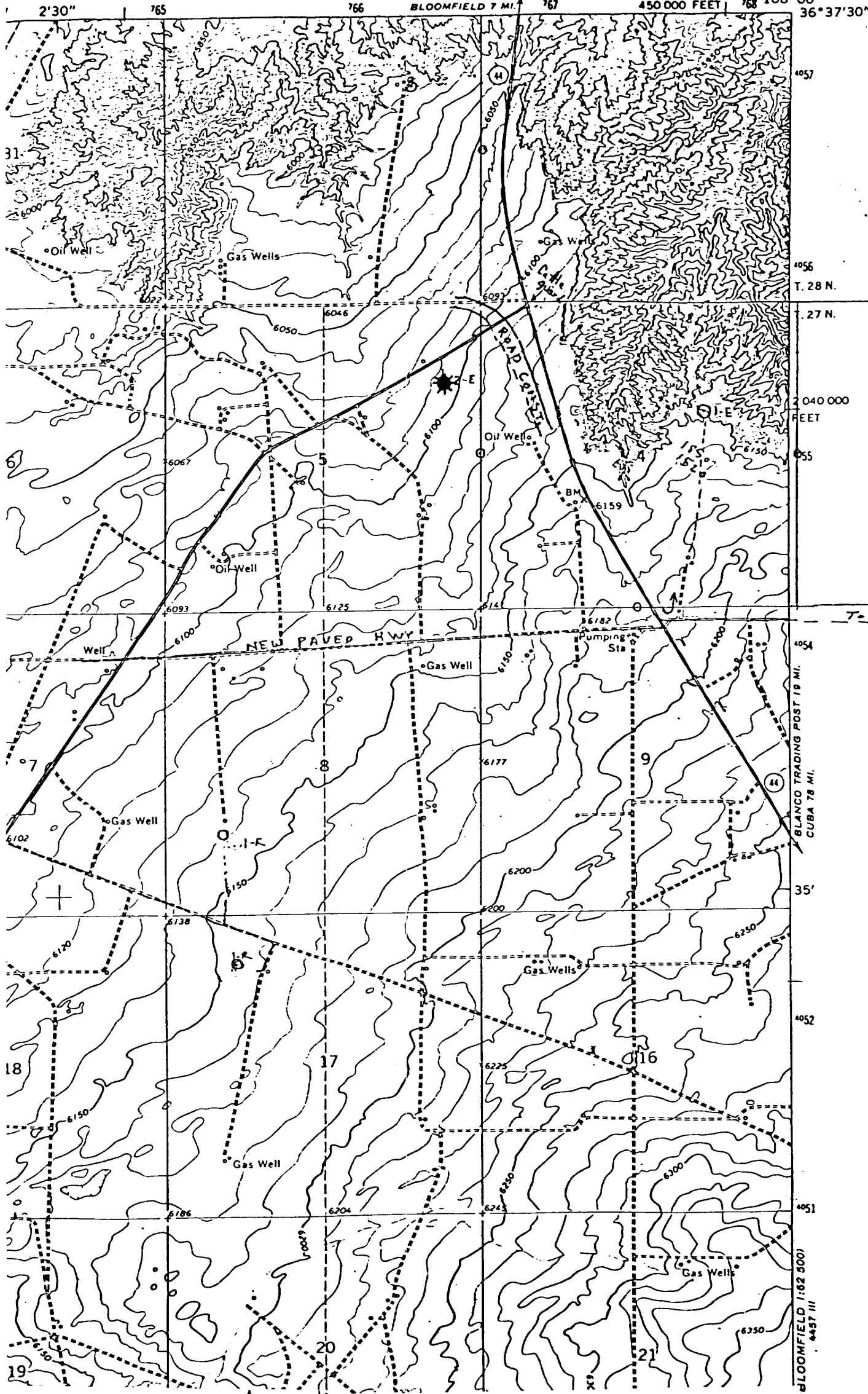
AZTEC 14 MI.

BLOOMFIELD 7 MI.

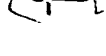
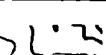
450 000 FEET

108°00'

36°37'30"



PROPOSED LOCATION  
EXISTING LOCATIONS  
PROPOSED ROAD  
EXISTING ROADS



Vicinity Map for  
SOUTHLAND ROYALTY CO. #2-E FRONTIER "C"  
1380'FNL 600'FEL Sec 5-T27N-R11W  
SAN JUAN COUNTY, NEW MEXICO