

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 8740.

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

At surface

F 1665' FNL &amp; 1820' FWL

At proposed prod. zone

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

Approximately 4 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)

1665'

## 18. DISTANCE FROM PROPOSED LOCATION\*

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

300'

## 16. NO. OF ACRES IN LEASE

2258.46

## 19. PROPOSED DEPTH

6680'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

w/ 320/ 160

## 20. ROTARY OR CABLE TOOLS

Rotary

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

5878' GR

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

March 15, 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#	6680'	220 Sacks (Stage One)
				250 Sacks (Stage Two)
				200 Sacks (Stage Three)

RECEIVED

DEC 14 1979

U. S. GEOLOGICAL SURVEY  
FARMINGTON, N. M.

Surface formation is Nacimiento.

Top of Ojo Alamo sand is at 1090'.

Top of Mesa Verde sand is at 3590'.

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

It is anticipated that an IES and GR-Density log will be run at Total Depth.

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

It is expected that this well will be drilled before August 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

*C. C. Parsons*

TITLE

District Engineer

DATE

12-4-79

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*ok Frank*

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

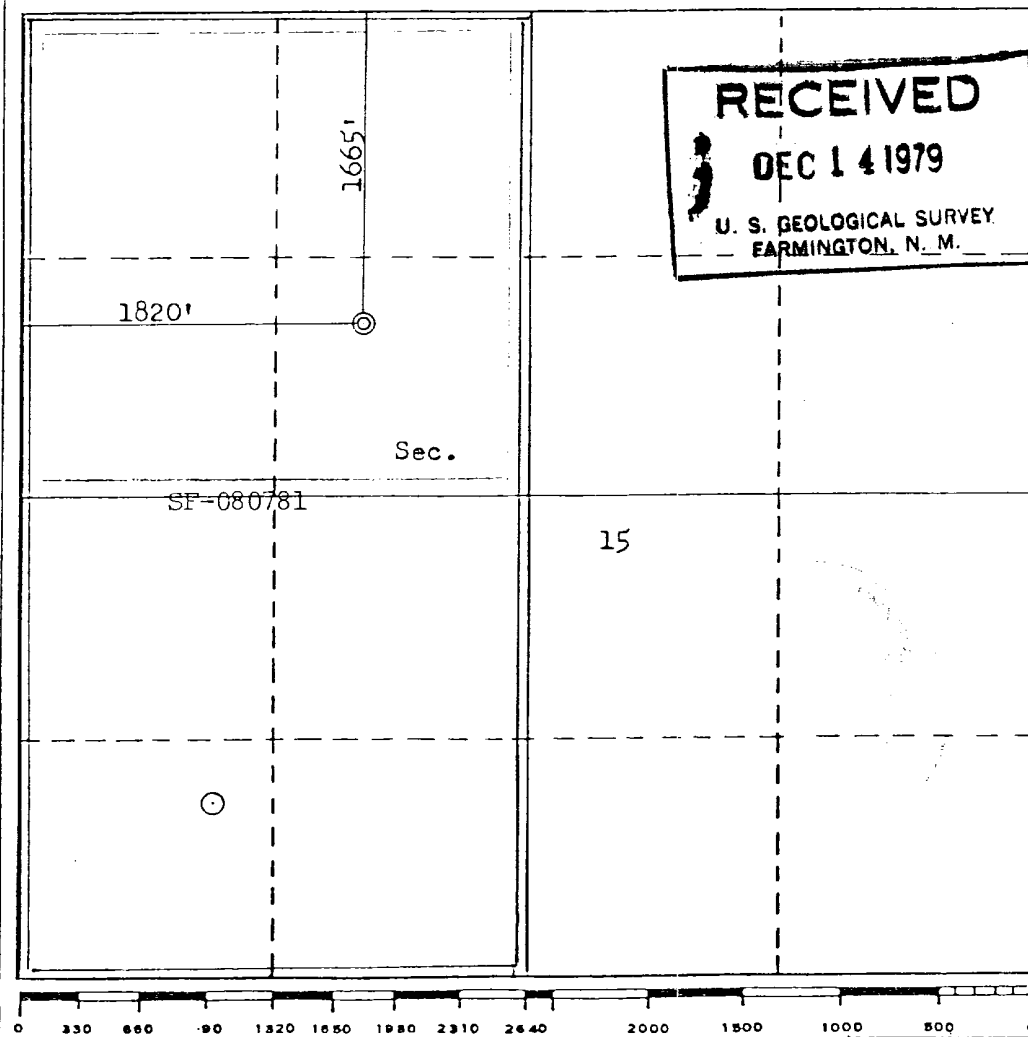
Operator <b>SOUTHLAND ROYALTY COMPANY</b>			Lease <b>CAIN</b>		Well No. <b>10-E</b>
Unit Letter <b>F</b>	Section <b>15</b>	Township <b>28N</b>	Range <b>10W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>1665</b> feet from the <b>North</b> line and <b>1820</b> feet from the <b>West</b> line					
Ground Level Elev. <b>5878</b>	Producing Formation <b>Dakota / Chacra</b>		Pool <b>Basin/ Undesignated W. C.</b>		Dedicated Acreage: <b>320/160</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  
**Curtis C. Parsons**  
Position  
**District Engineer**  
Company  
**Southland Royalty Company**  
Date  
**December 4, 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 29, 1979**  
Registered Professional Engineer and/or Land Surveyor  
**Fred B. Kerro Jr.**  
Certificate No.  
**3950** A.E.R. JR.

SOUTHLAND ROYALTY COMPANY - DRILLING SCHEDULE

C A I N # 1 0 E

1665' FNL & 1820' FWL  
Section 15, T28N, R10W  
San Juan County, New Mexico

Field: Basin Dakota/Undes. Chacra

Elevation: 5878' GR

Geology:

Formation Tops:	Ojo Alamo	1090'	Point Lookout	4340'
	Fruitland	1800'	Gallup	5520'
	Pictured Cliffs	2025'	Graneros	6360'
	Chacra	3050'	Dakota	6480'
	Cliff House	3590'	Total Depth	6680'

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

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 weight of 8.9 to 9.4, viscosity of 35 to 40 seconds, water loss of 10 to 12 cc. Anticipate lost circulation in the bottom of the Gallup formation at approximately 5950'. Have LCM available on location.

Materials:

Casing Program:	Hole Size	Depth	Casing Size	Wt. & Grade
	12 1/4"	200'	8 5/8"	24# K-55
	7 7/8"	6680'	5 1/2"	15.5# K-55

Float Equipment:

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

5 1/2" Production Casing: Pathfinder type "A" guide shoe. Self-fill flapper type collar run one joint above shoe. 5 Pathfinder bow-type stabilizers. (Run every other joint above shoe.) Run Dowell stage tools at 4750' and 2250'. Run one cement basket below and 5 Pathfinder rigid stabilizers above each tool.

Wellhead Equipment: 8 5/8" X 10", 2000 psi casing head with 5 1/2" casing hanger 10" 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 per sack and 3%  $\text{CaCl}_2$ . WOC for 12 hours. Test to 600# prior to drilling out. (Volume is 100% excess.)

5 1/2" Production Casing: STAGE ONE: 170 sacks (251 cu. ft.) of 50/50 Poz with 6% gel, 1/4# gel flake per sack, followed by 50 sacks of neat with 2%  $\text{CaCl}_2$ . (Volume is 25% excess to cover top of Gallup.)

STAGE TWO: 200 sacks (301 cu. ft.) of 50/50 Poz with 6% gel followed by 50 sacks of neat with 2%  $\text{CaCl}_2$ . (Volume is 50% excess to cover top of Cliff House.)

STAGE THREE: 200 sacks (301 cu. ft.) of 50/50 Poz with 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 Rayan  
District Production Manager



**Southland Royalty Company**

December 4, 1979

United States Geological Survey  
Mr. James Sims  
P. O. Box 959  
Farmington, NM 87401

Dear Sir:

Enclosed please find a map showing existing roads and planned access roads to Southland Royalty Company's East #10E 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.

There will be no camps or airstrips.

Also, enclosed is a location layout showing approximate location of rig, pits and pipe racks.

Water supply will be the Blanco Wash.

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,

Curtis C. Parsons  
District Engineer

CCP/ke



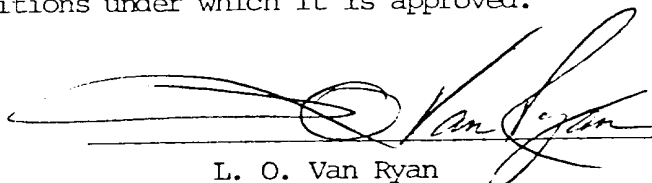
**Southland Royalty Company**

United States Geological Survey  
Mr. James Sims  
P. O. Box 595  
Farmington, NM 87401

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 will 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: December 4, 1979



L. O. Van Ryan  
District Production Manager

LOVR/ke



**Southland Royalty Company**

December 4, 1979

United States Geological Survey  
Mr. James Sims  
P. O. Box 959  
Farmington, NM 87401

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 pressure.

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,

Curtis C. Parsons  
District Engineer

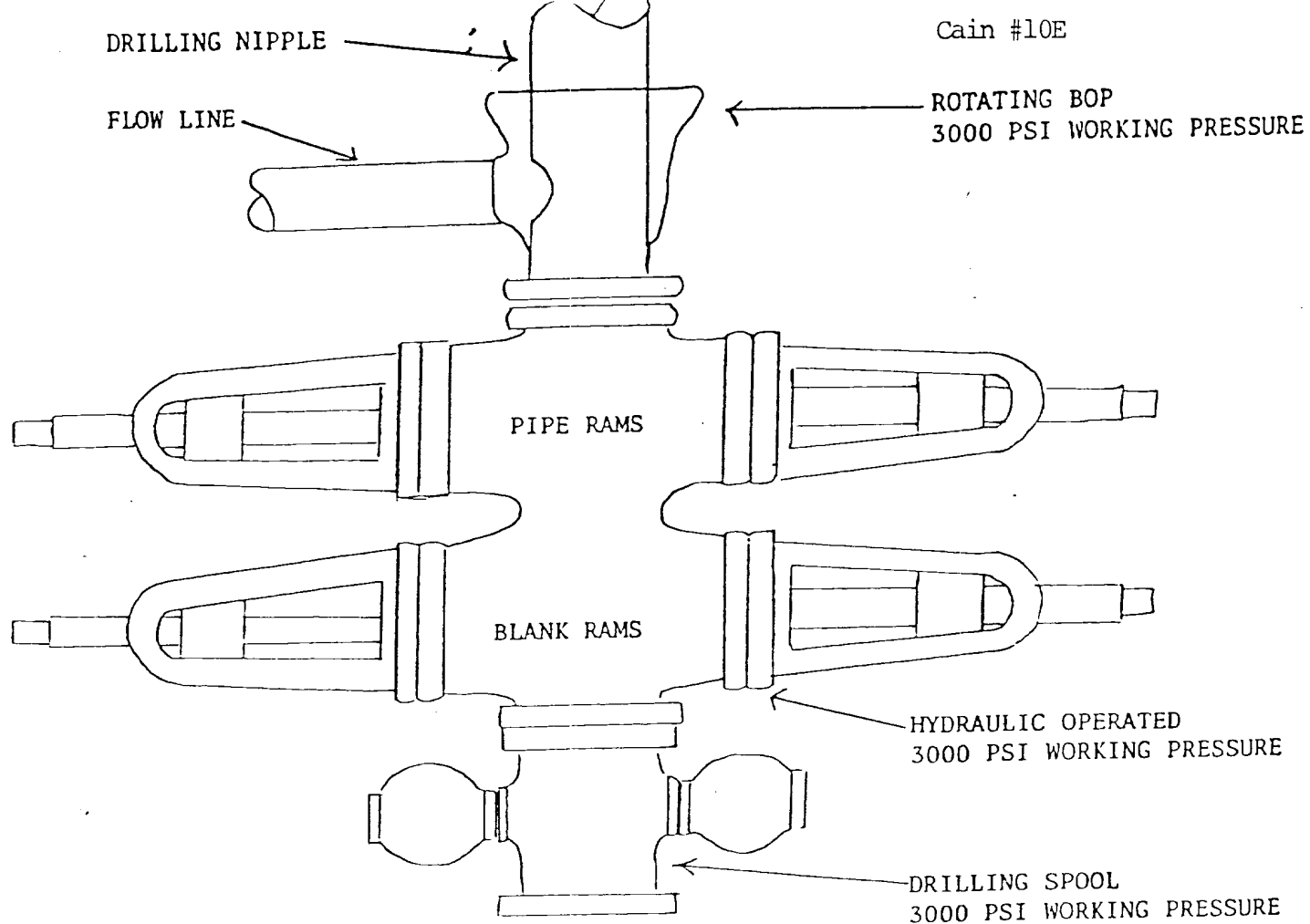
CCP/ke

Cain #10E

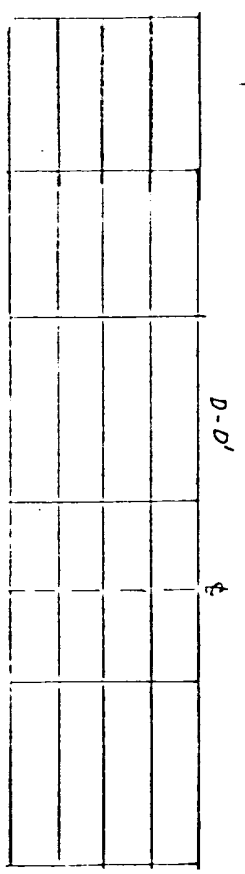
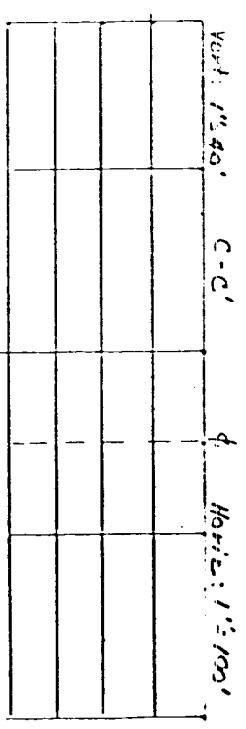
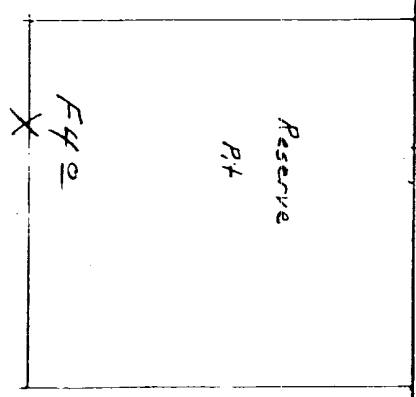
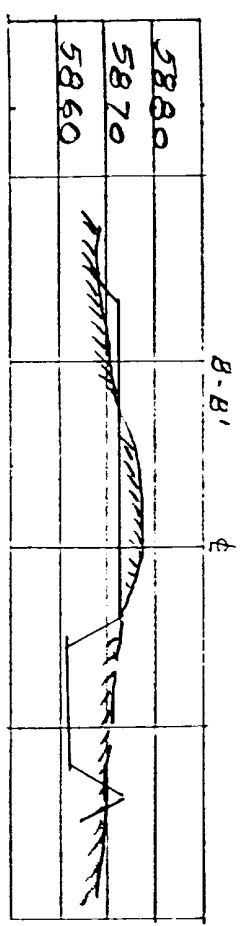
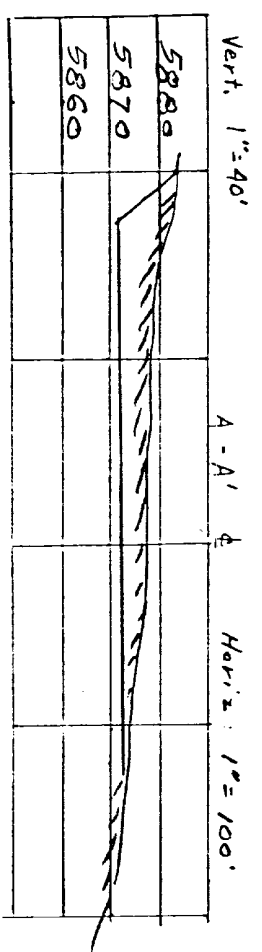
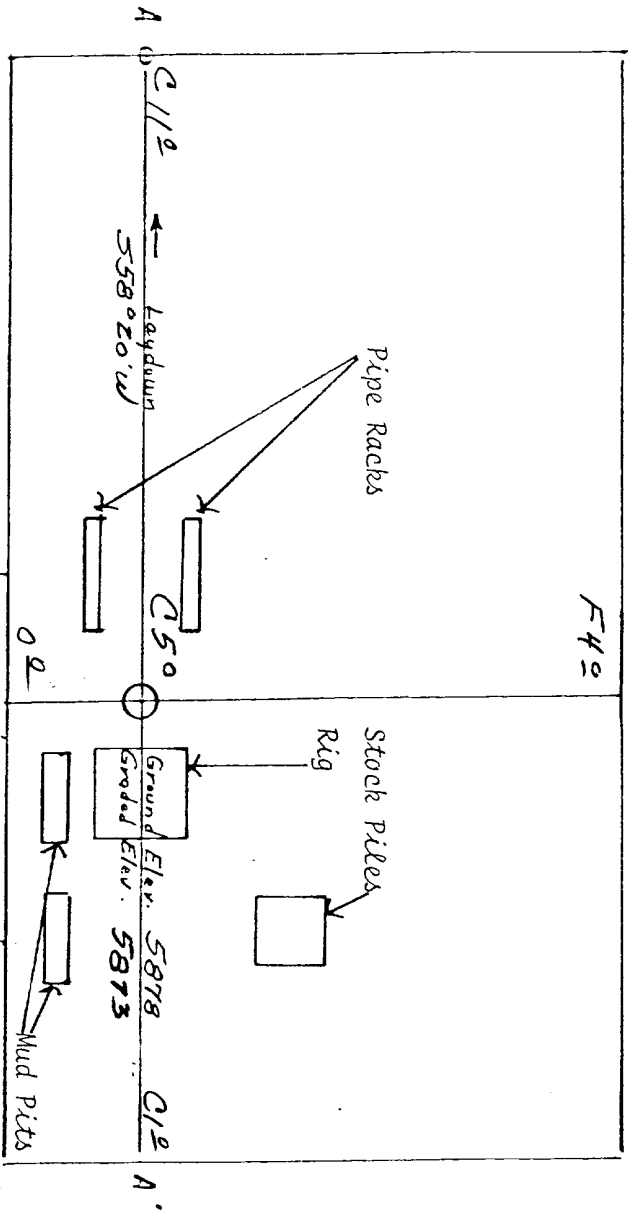
DRILLING NIPPLE

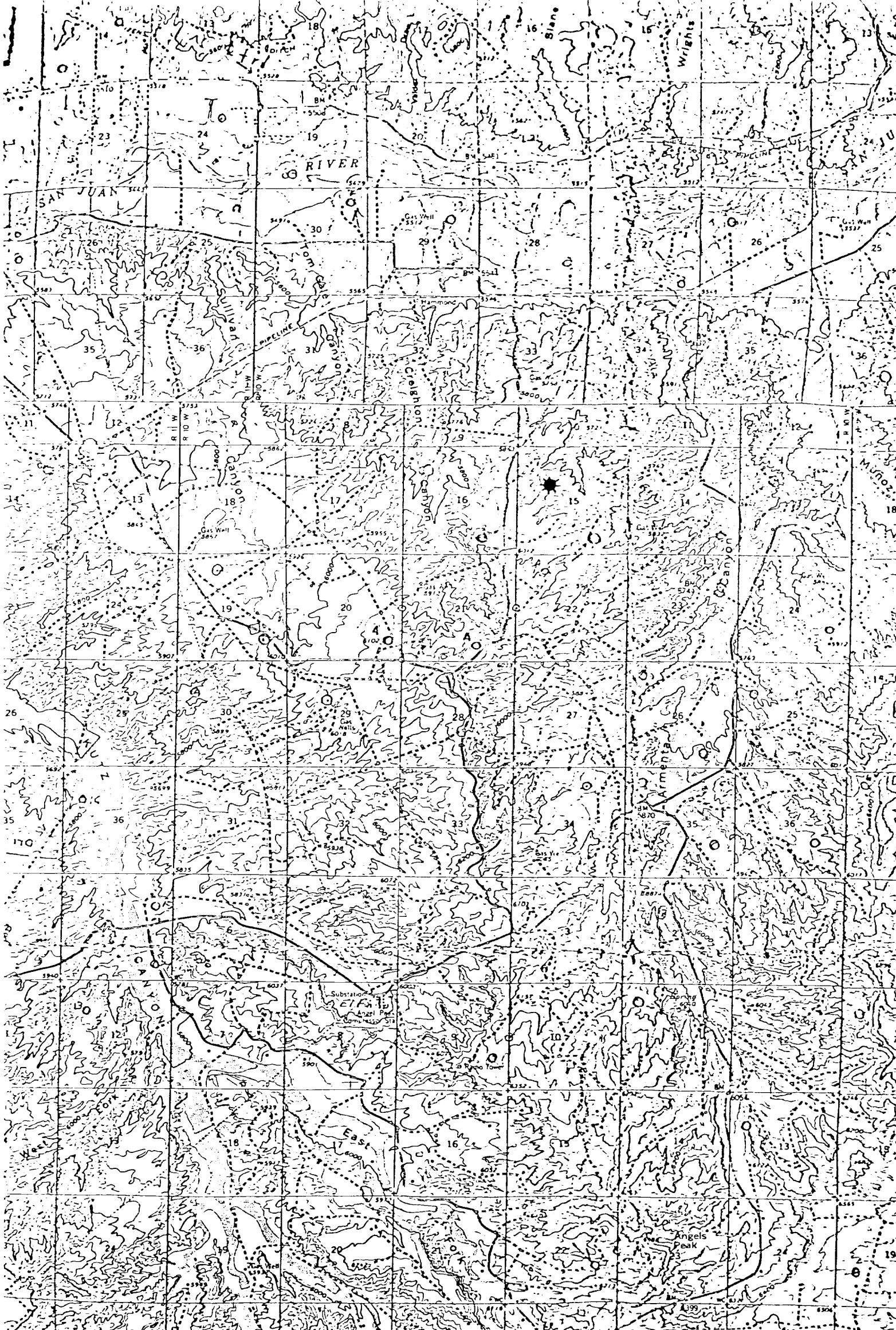
FLOW LINE

ROTATING BOP  
3000 PSI WORKING PRESSURE



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





- Proposed Location
- Existing Locations
- Proposed Road
- Existing Roads

Vicinity Map for  
SOUTHLAND ROYALTY CO. #10E CAIN  
1665' FNL 1820' FWL Sec 15-T28N-R10W  
SAN JUAN COUNTY, NEW MEXICO