

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

**RECEIVED**

JUN 26 1989

OIL CON. DIV.

1a. TYPE OF WORK DRILL	5. LEASE NUMBER SF-078115
1b. TYPE OF WELL GAS	6. IF INDIAN, ALL. OR TRIBE NAME
2. OPERATOR SOUTHLAND ROYALTY CO.	7. UNIT AGREEMENT NAME
3. ADDRESS & PHONE NO. OF OPERATOR P O BOX 4289 FARMINGTON, NM 87499	8. FARM OR LEASE NAME GRENIER
4. LOCATION OF WELL 1640'N 1790'E	9. WELL NO. 100
14. DISTANCE IN MILES FROM NEAREST TOWN 12 MILES FROM AZTEC	10. FIELD, POOL, OR WILDCAT BASIN FRUITLAND COAL
15. DISTANCE FROM PROPOSED LOCATION 1640' TO NEAREST PROPERTY OR LEASE LINE.	11. SEC. T. R. M OR BLK. G SEC. 6 T31N R11W NMPM
16. ACRES IN LEASE 2439.39	12. COUNTY SAN JUAN
17. ACRES ASSIGNED TO WELL E 320.69	13. STATE NM
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL DR. 300' COMPL., OR APPLIED DRILLING CODES, IF APPLICABLE, ARE FOR ON THIS LEASE. SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"	20. ROTARY OR CABLE TOOLS ROTARY
21. ELEVATIONS (DF, FT, GR, ETC.) 6518'GL	22. APPROX. DATE WORK WILL START
23. PROPOSED CASING AND CEMENTING PROGRAM	

\*SEE OPERATIONS PLAN

24. AUTHORIZED BY: *[Signature]*  
REGULATORY AFFAIRS

6-9-89  
DATE

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED AS AMENDED

NOTE: THIS FORMAT IS ISSUED IN LIEU OF US BLM FORM 3160-3.

JUN 22 1989  
AREA MANAGER

NMOCD

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

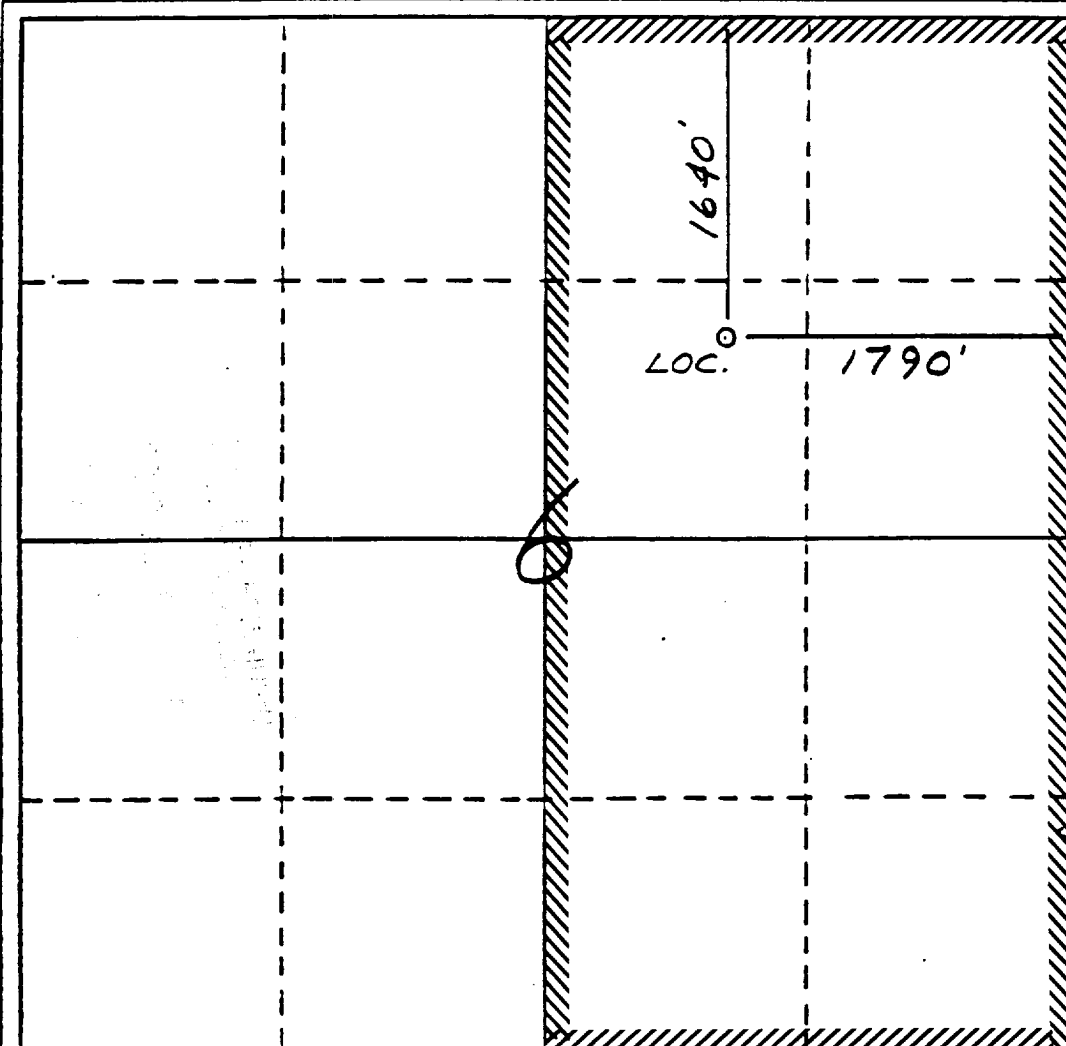
Operator <b>Southland Royalty Company</b>			Lease <b>Grenier (SF-078115)</b>		Well No. <b>100</b>
Unit Letter <b>G</b>	Section <b>6</b>	Township <b>31 North</b>	Range <b>11 West</b>	County <b>San Juan</b>	
Actual Footage Location of Wells <b>1640</b> feet from the <b>North</b> line and <b>1790</b> feet from the <b>East</b> line					
Ground Level Elev. <b>6518</b>	Producing Formation <b>Fruitland Coal</b>		Pool <b>Basin</b>		Dedicated Acreage: <b>320.69</b>

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 work 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 Division.



CERTIFICATION

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

*Neale C. Edwards*

Name \_\_\_\_\_

Regulatory Affairs

Position \_\_\_\_\_

Southland Royalty (

Company \_\_\_\_\_

6-9-89

Date \_\_\_\_\_

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

*Neale C. Edwards*

Date Surveyed \_\_\_\_\_

12-1-88

Registered Professional Engineer and/or Land Surveyor

Neale C. Edwards

Certificate No. \_\_\_\_\_

6857

0 320 640 960 1280 1600 1920 2240 2560 2880 3200 1500 1000 500 0

Well Name: 100 GRENIER  
 Sec. 6 T31N R11W  
 BASIN FRUITLAND COAL

1640'N 1790'E  
 SAN JUAN NEW MEXICO  
 Elevation 6518'GL

Formation tops: Surface- SAN JOSE  
 Ojo Alamo- 1385  
 Kirtland- 1410  
 Fruitland- 2635  
 Fruitland Coal Top- 2975  
 Fruitland Coal Base- 3155  
 Intermediate TD- 2963  
 Total Depth- 3160  
 Pictured Cliffs- 3167

Logging Program: Mud logs from intermediate to total depth.

Mud Program:	Interval	Type	Weight	Visc.	Fl. Loss
	0 - 200	Spud	8.4 - 8.9	40-50	no control
	200 - 2963	Non-dispersed	8.4 - 9.1	30-60	no control
	2963 - 3160	Formation Water	8.4		no control

Casing Program:	Hole Size	Depth Interval	Csg. Size	Weight	Grade
	12 1/4"	0 - 200	9 5/8"	32.3#	H-40
	8 3/4"	0 - 2963	7"	20.0#	K-55
	6 1/4"	2913 - 3160	5 1/2"	15.5#	K-55
Tubing Program:		0 - 3160	2 7/8"	6.5#	J-55

Float Equipment: 9 5/8" surface casing - saw tooth guide shoe.

7" intermediate casing - guide shoe and self-fill insert float valve. Three centralizers run every other joint above shoe. Run insert float one joint above the guide shoe.

5 1/2" production casing - float shoe on bottom and a pre-drilled liner run to the 7" casing with a minimum 50' overlap. Liner hanger is a double slip grip type.

Wellhead Equipment: 9 5/8" x 7" x 2 7/8" x 11" 3000 psi xmas tree assembly.

#### Cementing:

9 5/8" surface casing - cement with 106 sacks of class "B" cement with 1/4# flocele/sack and 3% calcium chloride (125 cu ft. of slurry, 100% excess to circulate to surface). WOC 12 hours. Test casing to 600 psi for 30 minutes.

7" intermediate casing - lead with 185 sacks of 65/35 class "B" poz with 6% gel, 2% calcium chloride and 1/2 cu ft. Perlite/sack (10.3 gallons of water/sack) tail with 100 sacks of class "B" with 2% calcium chloride. 474 cu ft. of slurry, 100% excess to cover the Ojo Alamo. Run temperature survey at 8 hours. WOC 12 hours. Test casing to 1500 psi for 30 minutes.

5 1/2" liner - do not cement.

BOP and Tests:

Surface to intermediate TD - 11" 3000 psi double gate BOP stack (Reference Figure #1). Prior to drilling out surface casing, test rams to 600 psi for 30 minutes.

Intermediate TD to TD - 7 1/16" 3000 psi double gate BOP stack (Reference Figure #2). Prior to drilling out intermediate casing, test rams to 2500 psi for 30 minutes.

Pipe rams will be actuated at least once each day and blind rams actuated once each trip to test proper functioning.

Addition Information:

The Fruitland coal formation will be completed.  
This gas is dedicated.  
The E/2 of Section 6 is dedicated to this well.

BLM ROW

32N, R 11 W

Section 31: S E S W

31N, R 12 W

Section 12: N W N E

N 2 NW	400'
N 2 NE	2400'
N 2 NW	2000'
N 2 NE	1500'
N 2 NW	100'
N 2 NE	1800'
N 2 NW	600'

SKENNER 100

Applied  
For ROW

T 32 N

T 31 N

Fee  
Lands

State Lands

FEE  
LANDS

BLM  
ROW

R 12 W

R 11 W

BLM  
ROW

SFO 78115

