

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL	5. LEASE NUMBER SF-077651
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 RICHARDSON
4. LOCATION OF WELL 1870'N 1300'E	9. WELL NO. 101
10. FIELD, POOL, OR WILDCAT BASIN FRUITLAND COAL	11. SEC. T. R. M OR BLK. H SEC. 10 T31N R12W NMPM
12. COUNTY SAN JUAN	13. STATE NM
14. DISTANCE IN MILES FROM NEAREST TOWN 7 MILES FROM AZTEC	15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE. 1300'
16. ACRES IN LEASE 2400	17. ACRES ASSIGNED TO WELL 320.00
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL DR. 400'	19. PROPOSED DEPTH 2567'
20. ROTARY OR CABLE TOOLS ROTARY	21. ELEVATIONS (DF, FT, GR, ETC.) 6173'GL
22. APPROX. DATE WORK WILL START	23. PROPOSED CASING AND CEMENTING PROGRAM

*SEE OPERATIONS PLAN

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

24. AUTHORIZED BY: [Signature] 4-10-89
REGULATORY AFFAIRS 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.
APR 18 1989
[Signature] AREA MANAGER

OPERATIONS PLAN

DATE: APR 7, 1989

Well Name: 101 RICHARDSON 1870'N 1300'E
Sec. 10 T31N R12W SAN JUAN NEW MEXICO
BASIN FRUITLAND COAL Elevation 6173'GL

Formation tops: Surface- NACIMIENTO
Ojo Alamo- 893
Kirtland- 913
Fruitland- 2195
Fruitland Coal Top- 2423
Fruitland Coal Base- 2562
Intermediate TD- 2420
Total Depth- 2567
Pictured Cliffs- 2572

Logging Program: Mud logs from intermediate to total depth.

Mud Program: Low solid non-dispersed mud from surface to total depth.

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 - 2420	7"	20.0#	K-55
	6 1/4"	2370 - 2567	5 1/2"	15.5#	K-55
Tubing Program:		0 - 2567	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 liner - 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 177 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. 459 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.

The Fruitland coal formation will be completed.

A 3000 psi WP and 6000 psi test double gate preventer equipped with blind and pipe rams will be used for blow out prevention on this well. This gas is dedicated.

The E/2 of Section 10 is dedicated to this well.

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

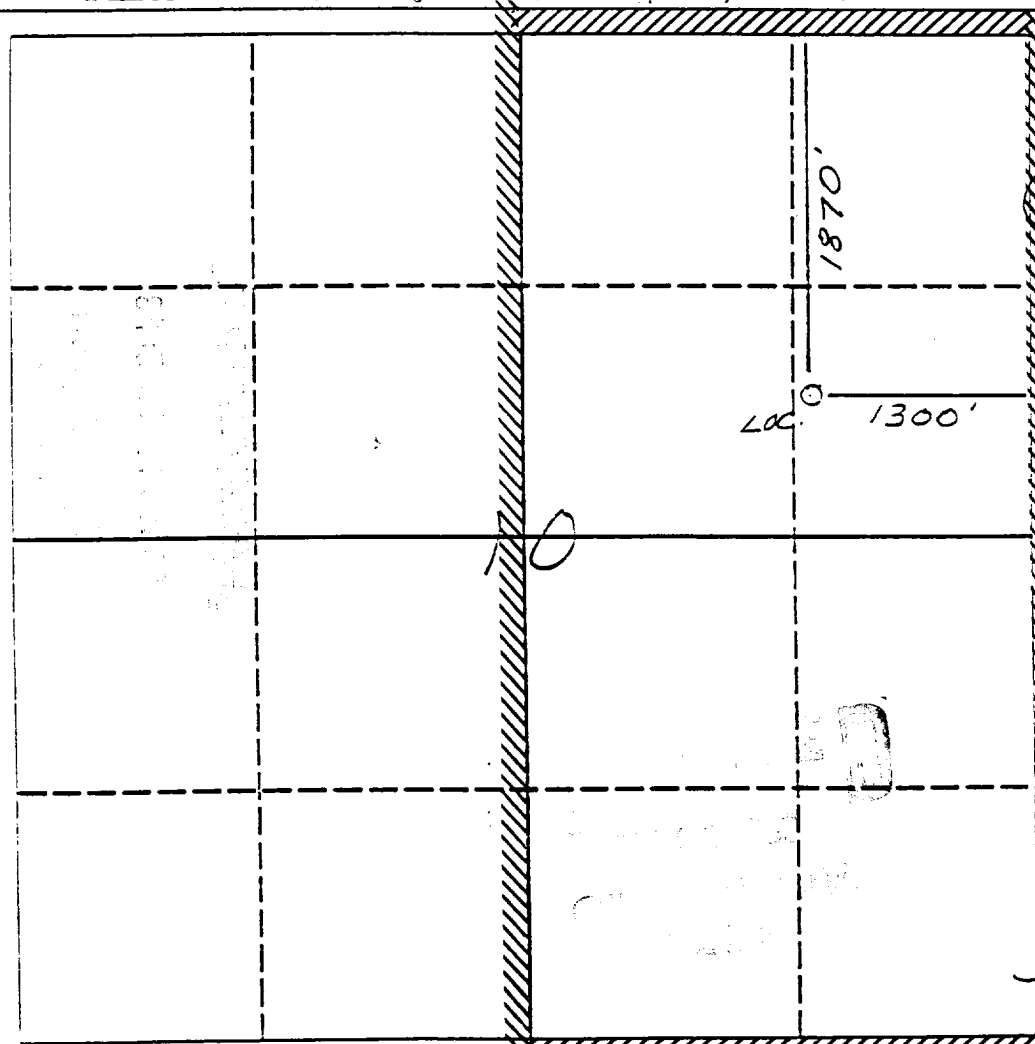
All Distances must be from the outer boundaries of the section

Operator Southland Royalty Company			Lease Richardson (SF-077651)		Well No. 101
Unit Letter H	Section 10	Township 31 North	Range 12 West	County San Juan	
Actual Footage Location of Well: 1870 feet from the North line and 1300 feet from the East line					
Ground level Elev. 6173	Producing Formation Fruitland Coal		Pool Basin	Dedicated Acreage: 320.0 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 interest 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 interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Signature
Peggy Bradfield
Printed Name
Peggy Bradfield

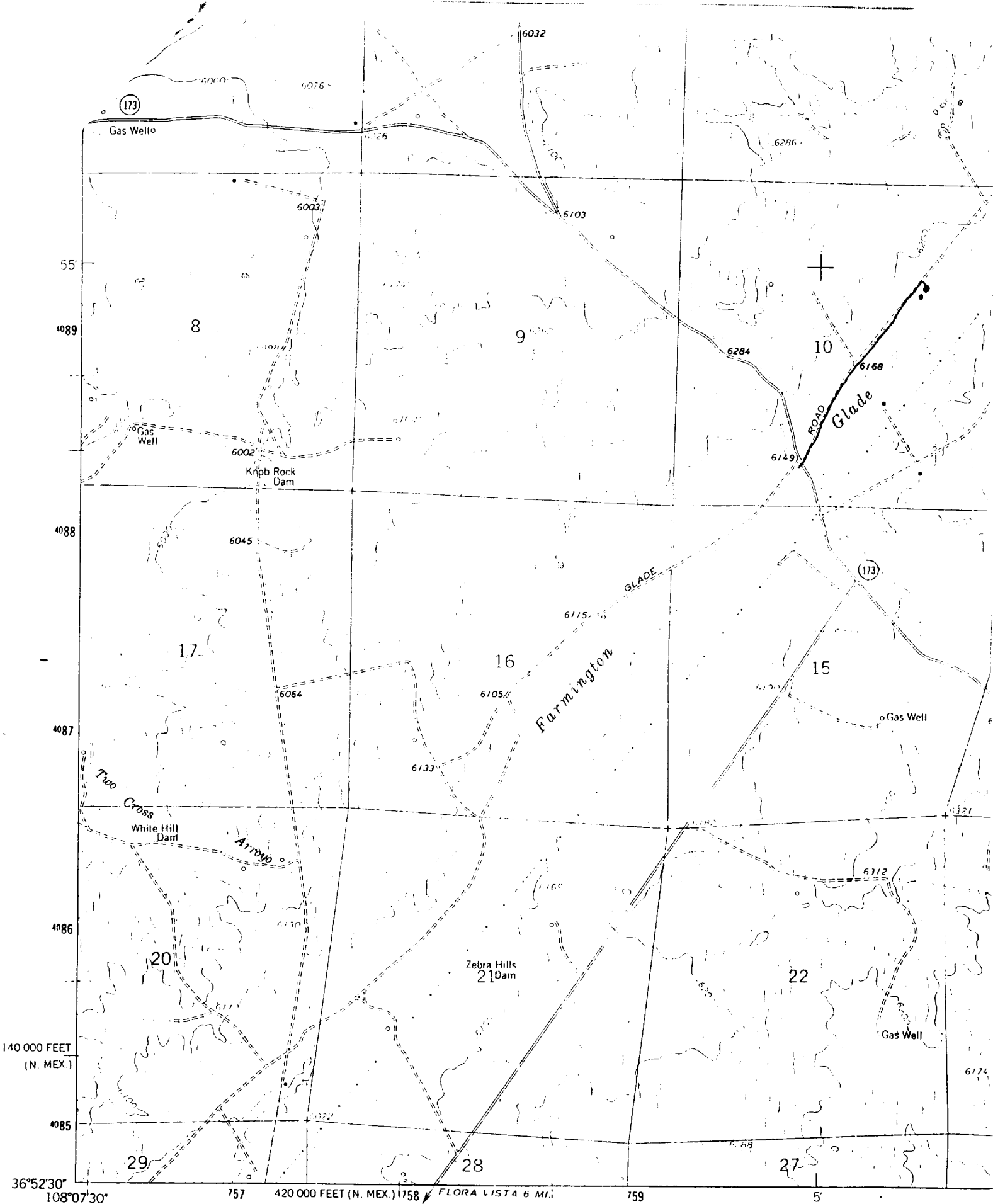
Position
Regulatory Affairs
Company
Southland Royalty Co
Date
4-10-89

SURVEYOR CERTIFICATION

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
1-31-89
Neale C. Edwards
Signature & Seal of
Professional Surveyor

Certificate No.
6857
NEALE C. EDWARDS
NEW MEXICO
REGISTERED LAND SURVEYOR



Mapped, edited, and published by the Geological Survey

Control by USGS, NOS/NOAA, and U. S. Bureau of Reclamation

Topography by photogrammetric methods from aerial photographs taken 1958 and 1962. Field checked 1963

Polyconic projection. 1927 North American datum

10,000 foot grid based on New Mexico coordinate system, west zone

~~DATES~~

