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JUN 26 1990

OIL CON. DIV.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

30-645-21926

DIST. 3 APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL	5. LEASE NUMBER SF-079634
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 MCCLANAHAN
4. LOCATION OF WELL 1230' FSL 1400' FWL	9. WELL NO. 550
10. FIELD, POOL, OR WILDCAT BASIN FRUITLAND COAL	11. SEC. T. R. M OR BLK. SEC. 14 T28N R10W NMPM
12. COUNTY SAN JUAN	13. STATE NM
14. DISTANCE IN MILES FROM NEAREST TOWN 4 MILES SW OF BLANCO	15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE. 1230'
16. ACRES IN LEASE 2040	17. ACRES ASSIGNED TO WELL 320.00
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL DR. COMPL., OR APPLIED FOR ON THIS LEASE. 300'	19. PROPOSED DEPTH 1929'
20. ROTARY OR CABLE TOOLS ROTARY	21. ELEVATIONS (DF, FT, GR, ETC.) 5800' GL
22. APPROX. DATE WORK WILL START	23. PROPOSED CASING AND CEMENTING PROGRAM

*SEE OPERATIONS PLAN

24. AUTHORIZED BY: [Signature]
REG. DRILLING ENGR.

5/4/90
DATE

PERMIT NO. _____ APPROVAL DATE _____
APPROVED BY _____ TITLE _____ DATE _____

APPROVED

JUN 21 1990

AREA MANAGER

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

NMOCD

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 Mc Clanahan (SF-079634)		Well No. 550
Unit Letter N	Section 14	Township 28 North	Range 10 West	County San Juan	
Actual Footage Location of Well: 1230 feet from the South line and 1400 feet from the West line					
Ground level elev. 5800'		Producing Formation Fruitland Coal		Pool Basin	Dedicated Acreage: 320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or because 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
4-19-90

Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes, 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.

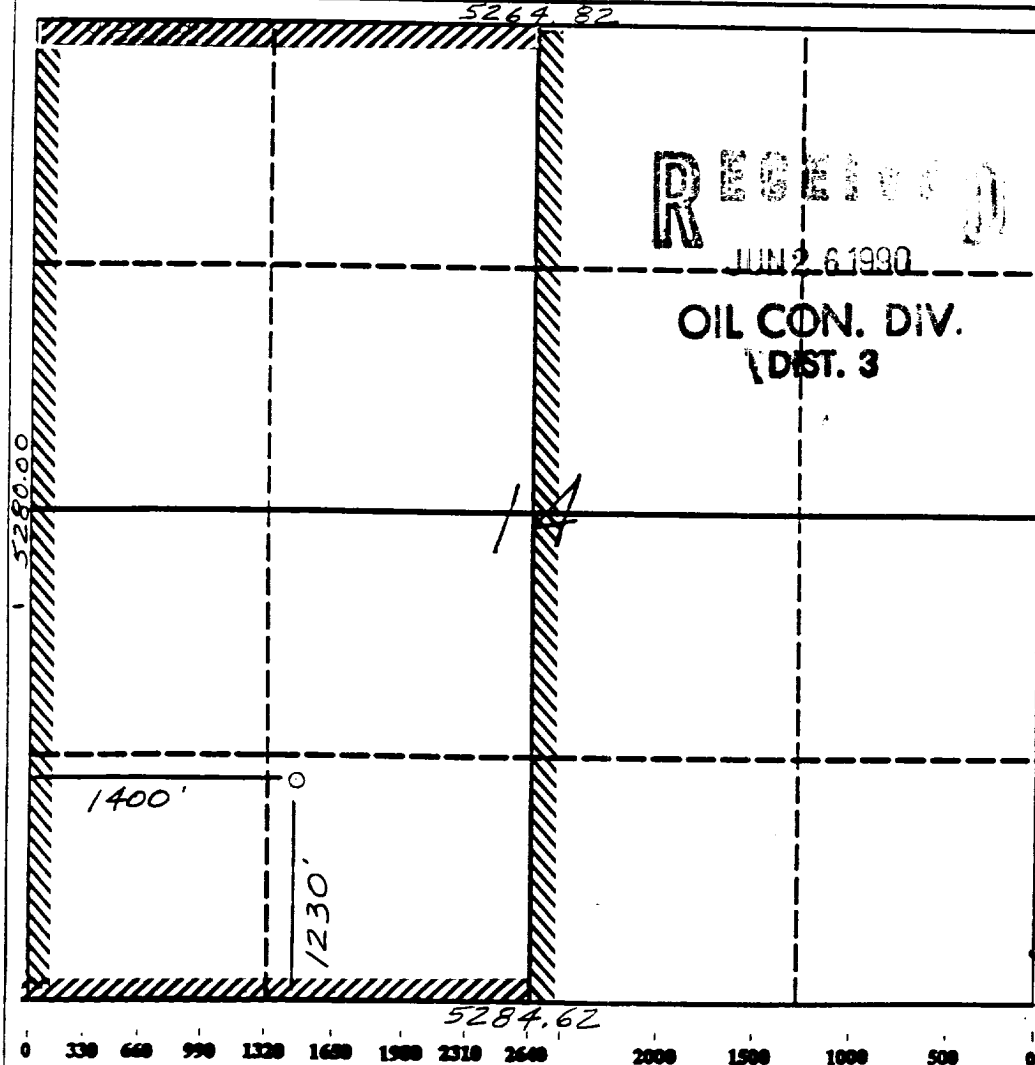
Date Surveyed
1-28-90

Signature of Surveyor
Needle C. Edwards

Professional Surveyor
857

REGISTERED LAND SURVEYOR

Certificate No.
6857



Well Name: 550 MCCLANAHAN
 Sec. 14 T28N R10W
 BASIN FRUITLAND COAL

1230' FSL 1400' FWL
 SAN JUAN NEW MEXICO
 Elevation 5800' GL

Formation tops: Surface- NACIMIENTO
 Ojo Alamo- 868
 Kirtland- 972
 Fruitland- 1640
 Fruitland Coal Top- 1780
 Fruitland Coal Base- 1928
 Total Depth- 1929
 Pictured Cliffs- 1931

Logging Program: Mud logs from 1640 to total depth.

Mud Program:	Interval	Type	Weight	Visc.	Fl. Loss
	0 - 200	Spud	8.4 - 8.9	40-50	no contro
	200 - 1929	Non-dispersed	8.4 - 9.5	30-60	no contro

Casing Program:	Hole Size	Depth Interval	Csg. Size	Weight	Grade
	12 1/4"	0 - 200	8 5/8"	24.0#	K-40
	7 7/8"	0 - 1929	5 1/2"	15.5#	K-55
Tubing Program:		0 - 1929	2 3/8"	4.7#	J-55

Float Equipment: 8 5/8" surface casing - saw tooth guide shoe. Centralizers will be run in accordance with Onshore Order #2.

5 1/2" production casing - float shoe on bottom.

Three centralizers run every other joint above shoe and four centralizers run every other joint across Ojo Alamo.

Wellhead Equipment: 8 5/8" x 5 1/2" x 2 3/8" x 11" 3000 psi xmas tree assembly

Cementing:

8 5/8" surface casing - cement with 211 sacks of class "B" cement with 1/4# flocele/sack and 3% calcium chloride (248 cu ft. of slurry, 200% excess to circulate to surface). WOC 12 hours. Test casing to 600 psi for 30 minutes.

5 1/2" production casing - lead with 289 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. 676 cu ft. of slurry, 100% excess to circulate to surface. WOC 12 hours.

BOP and Tests:

Surface to TD - 11" 2000 psi(minimum) double gate BOP stack (Reference Figure #1 and #2). Prior to drilling out surface casing, test rams to 600 psi for 30 minutes.

Completion - 6" 2000 psi(minimum) double gate BOP stack (Reference Figure #2). Prior to completion operations, test rams to 3000 psi for 15 minutes.

From surface to TD - choke manifold (Reference Figure #3).

Pipe rams will be actuated at least once each day and blind rams actuated once each trip to test proper functioning. A kelly cock valve and drill string safety valves to fit each drill string will be maintained and available on the rig floor.

Additional Information:

The Fruitland coal formation will be completed.
Anticipated Fruitland pore pressure is 319 psi.
This gas is dedicated.
The W/2 of Section 14 is dedicated to this well.
New casing will be utilized.

BLM ROW
McClanahan # 550

T28N, R10W

Section 22: NENE 200'
S2NE 2100'
NWSE 1300'

SFO 79634

Existing or
Applied for ROW
MAP #1

