

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-078764
1b. TYPE OF WELL GAS	6. IF INDIAN, ALL. OR TRIBE NAME
2. OPERATOR MERIDIAN OIL INC.	7. UNIT AGREEMENT NAME ROSA UNIT
3. ADDRESS & PHONE NO. OF OPERATOR P O BOX 4289 FARMINGTON, NM 87499	8. FARM OR LEASE NAME ROSA UNIT
4. LOCATION OF WELL 1205' FNL 1765' FEL	9. WELL NO. 321
10. FIELD, POOL, OR WILDCAT BASIN FRUITLAND COAL	11. SEC. T. R. M OR BLK. 15 SEC. 20 T31N R05W NMPM
14. DISTANCE IN MILES FROM NEAREST TOWN 25 MILES NORTH GOBERNADOR	12. COUNTY RIO ARRIBA
	13. STATE NM
15. DISTANCE FROM PROPOSED LOCATION 1205' TO NEAREST PROPERTY OR LEASE LINE.	16. ACRES IN LEASE 2507.30
	17. ACRES ASSIGNED TO WELL 320.00
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL DR. 1000' COMPL., OR APPLIED FOR ON THIS LEASE.	19. PROPOSED DEPTH 3428'
	20. ROTARY OR CABLE TOOLS ROTARY
21. ELEVATIONS (DF, FT, GR, ETC.) 6553' GL	22. APPROX. DATE WORK WILL START

23. PROPOSED CASING AND CEMENTING PROGRAM

*SEE OPERATIONS

RECEIVED

OCT 9 1990

24. AUTHORIZED BY: *[Signature]* REG. DRILLING ENGR. OIL CON. DIV. DIST. 3 DATE 7/26/90

PERMIT NO. _____ APPROVAL DATE _____ AS AM...
APPROVED BY _____ TITLE _____ DATE OCT 03 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

RECEIVED
OCT 11 1990
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 Meridian Oil Inc.		Lease Rosa Unit (SF-078764)		Well No. 321
Unit Letter D	Section 20	Township 31 North	Range 5 West	County Rio Arriba
Actual Footage Location of Well: 1205 feet from the North line and 1765 feet from the East line				
Ground level Elev. 6553'	Producing Formation Fruitland Coal		Pool Basin	Dedicated Acreage: 320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hectograph 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 unitization
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, force-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 Meridian Oil Inc.

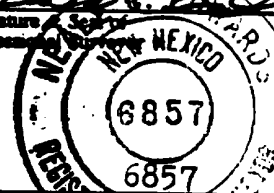
Date 7-26-90

SURVEYOR CERTIFICATION

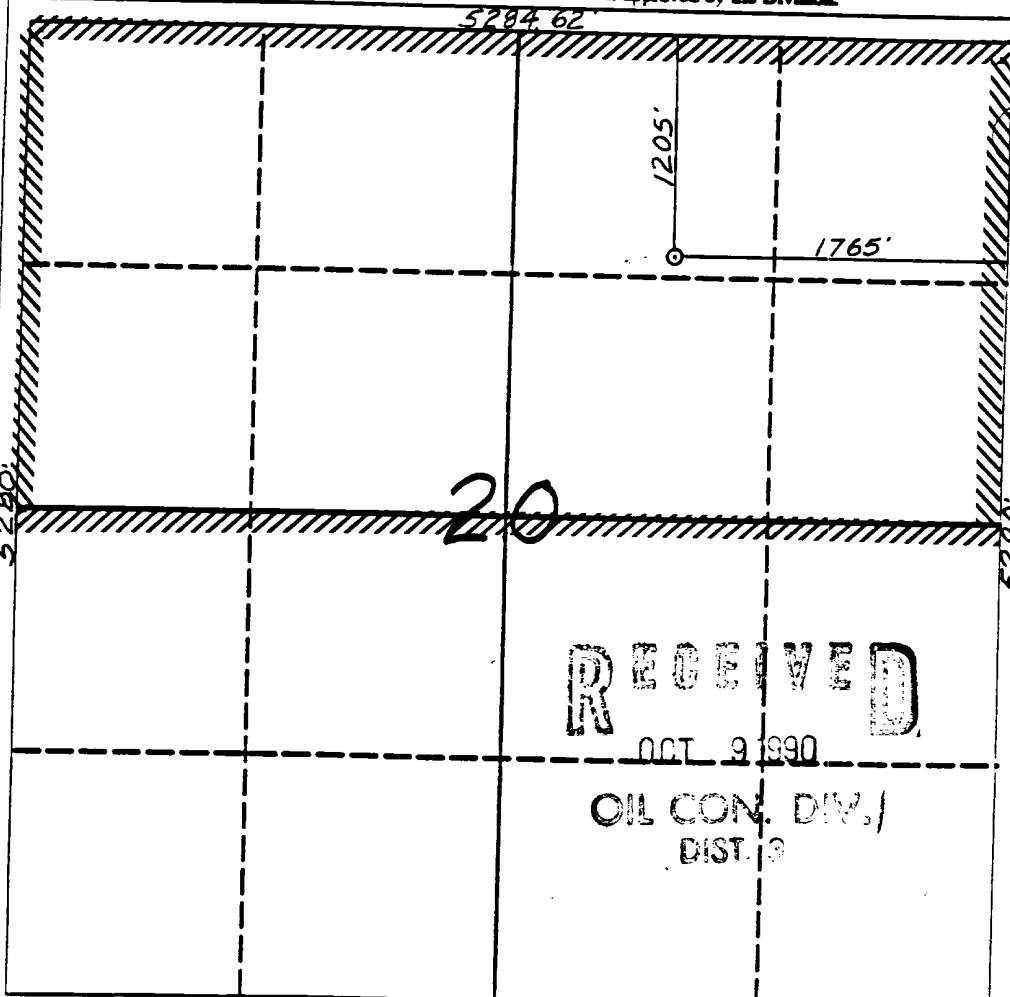
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief. 5-18-90

Date Surveyed 5-18-90

Signature Neale C. Edwards
Professional Surveyor



Certificate No. 6857
Neale C. Edwards



RECEIVED

OCT 9 1990

OIL CON. DIV.
DIST. 3

0 330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280

Well Name: 321 ROSA UNIT
 Sec. 20 T31N R05W
 BASIN FRUITLAND COAL

1205'FNL 1765'FEL
 RIO ARRIBA NEW MEXICO
 Elevation 6553'GL

Formation tops: Surface- SAN JOSE

Ojo Alamo-	2705		
Kirtland-	2810		
Fruitland-	3265		
Fruitland Coal Top-	3300	Intermediate TD-	3265
Fruitland Coal Base-	3425	Total Depth-	3428
Pictured Cliffs-	3435		

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 - 3265	Non-dispersed	8.4 - 9.1	30-60	no control
	3265 - 3428	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 - 3265	7"	20.0#	K-55
	6 1/4"	3215 - 3428	5 1/2"	15.5#	K-55
Tubing Program:		0 - 3428	2 7/8"	6.5#	J-55

Float Equipment: 9 5/8" surface casing - saw tooth guide shoe. Centralizers will be run in accordance with Onshore Order #2.

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. Two turbolizing type centralizers - one below and one into the base of the Ojo Alamo @ 2810'. Standard centralizers thereafter every fourth joint up to the base of the surface pipe.

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 160 sacks of class "B" cement with 1/4# flocele/sack and 3% calcium chloride (189 cu ft. of slurry, 200% excess to circulate to surface). WOC 12 hours. Test casing to 600 psi for 30 minutes.

7" intermediate casing - lead with 478 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. 1041 cu ft. of slurry, 110% excess to circulate to surface. If hole conditions permit, a 600 ft spacer will be run ahead of the cement slurry to avoid mud contamination of the cement. WOC 12 hours. If cement does not circulate to surface, a temperature log will be run after 8 hours to determine TOC.

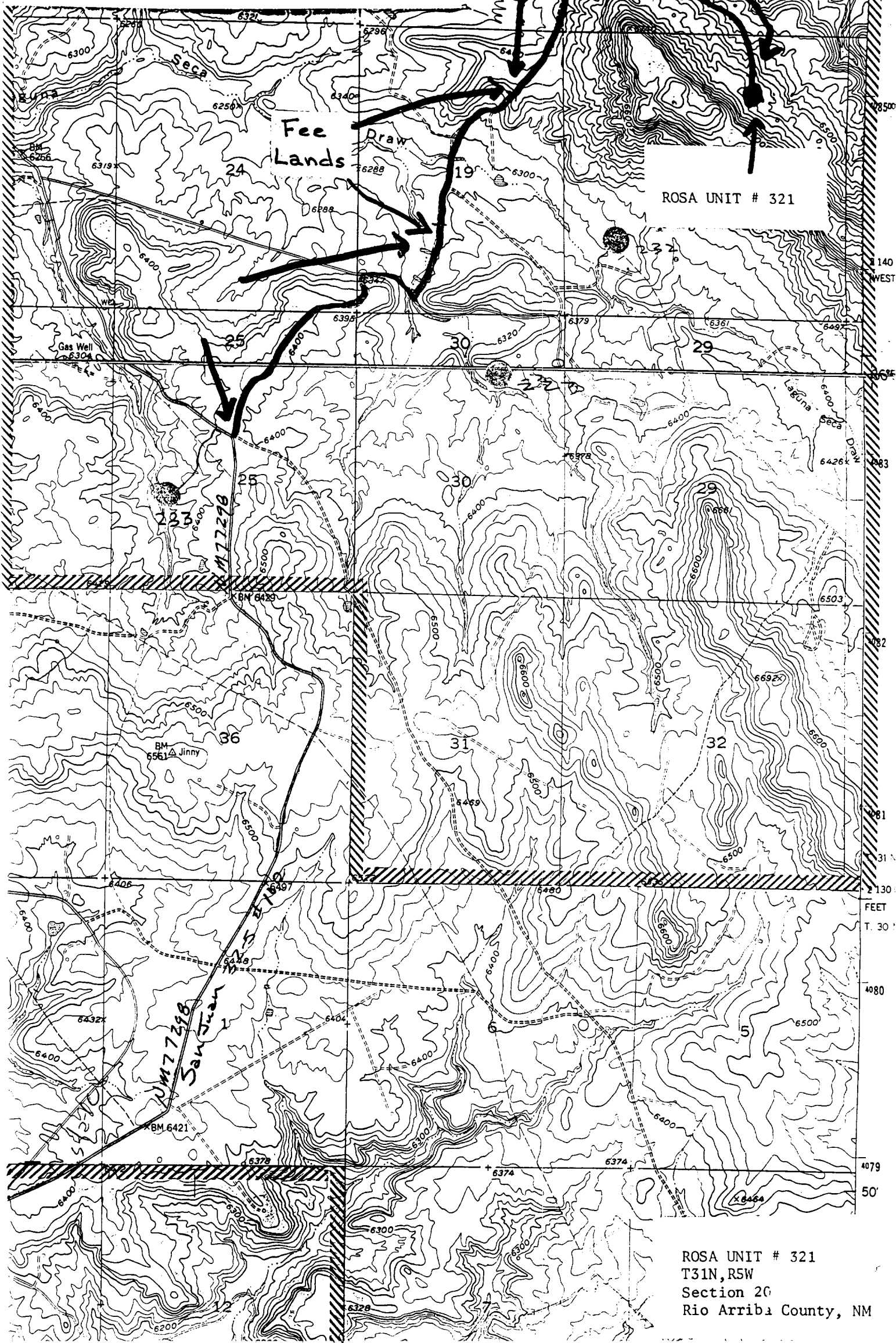
5 1/2" liner - do not cement.

MAP #7

ROSA UNIT #321

1000' NEW CONSTRUCTION

9600' EXISTING ROADS WITHIN UNIT BOUNDARIES



ROSA UNIT # 321
T31N, R5W
Section 20
Rio Arriba County, NM