

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. Type of Well  
GAS

2. Name of Operator  
MERIDIAN OIL

3. Address & Phone No. of Operator  
PO Box 4289, Farmington, NM 87499 (505) 326-9700

4. Location of Well, Footage, Sec., T, R, M  
1990' FNL, 1100' FEL Sec.24, T-27-N, R-9-W, NMPM

5. Lease Number  
NOG-0651-1131

6. If Indian, All. or Tribe Name  
Navajo

7. Unit Agreement Name

8. Well Name & Number  
Jernigan #3

9. API Well No.  
30-045-11609

10. Field and Pool  
Basin Dakota

11. County and State  
San Juan Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission	Type of Action	
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injunctio
	<input checked="" type="checkbox"/> Other -	

13. Describe Proposed or Completed Operations

It is intended to squeeze the existing Mesa Verde and Dakota intervals and drill a horizontal lateral in the Dakota per the attached procedure.

RECEIVED  
JUN 27 1994  
OIL CON. DIV.  
DIST. 3

070 FARMINGTON, NM  
JUN 21 11:37  
RECEIVED  
BLM

14. I hereby certify that the foregoing is true and correct.

Signed Gregory S. Smith (MP) Title Regulatory Affairs Date 5/27/94

(This space for Federal or State Office use)

APPROVED BY \_\_\_\_\_ Title \_\_\_\_\_

CONDITION OF APPROVAL, if any:

APPROVED  
JUN 22 1994  
REGISTRAR

# MERIDIAN OIL - JERNIGAN #3 RE-ENTRY

## GENERAL WELL DATA

Well Name:	Jerinigan #3	Latitude:	n/a
Location:	24, T27N R09W	Longitude:	n/a
County, State:	San Juan, NM		
Field:	Basin Dakota		
Formation:	Basal Dakota		
Elevation:	5985 ' GL		
AFE #:	n/a		

## GEOLOGY

Surface:	San Jose		
Ojo Alamo:	1110 '		
Kirtland:	1230 '		
Fruitland Coal Top:	1770 '		
Pictured Cliffs:	1995 '		
Mesaverde	3555 '		
Point Lookout	4271 '	TVD	6610 '
Gallup	5455 '	MD	7614 '
Dakota	6425	Whipstock	6252 '

## EXISTING CASING

Hole Size	Casing	Wt	Grade	Thrds	Set at	TOC
12 1/4"	8-5/8"	24#	n/a	n/a	321 '	circ
7-7/8"	5-1/2"	15.5&14#	n/a	n/a	6622 '	5550
				Stage Tool @	4523 '	circ
				Stage Tool @	2125 '	circ

\*\*Note : The records do not indicate setting depths for 14 & 15.5 # csg.

## EXISTING TUBING

Tubing	Wt (#/ft)	Grade	Thrds	Set at
2 3/8"	4.7	J55	EUE	6305

\* Blast jts. @ 4270'-4370'

\* Sliding sleeve @6269'

\* Model "D" pkr. @ 6300'

## LOGGING RECORD

Dual Induction  
Density Neutron

## MERIDIAN OIL - JERNIGAN #3 RE-ENTRY

### PROCEDURE

- 1) Move completion rig on location - rig up.
- 2) Pull top section of wellhead - Rig up 6" (5M psi) BOP's. Pressure test BOP stack to 200 psi for 10 minutes and 3000 psi for 30 minutes using pipe rams. Maximum allowable pressure = 3000 psi.
- 3) TOH laying down 2-3/8" tubing. Blast joints from 4270'-4370'.  
MU & RIH w/ 5-1/2" csg scrapper on 2-7/8" AOH drill pipe to model "D" prod. pkr. @ 6300'. TOH, MU & RIH w/ 5-1/2" RBP to 4400' & set. TOH. MU & RIH w 5-1/2" full bore packer and press. test RBP. Spot sand on plug  
Pull above perms & set pkr. est. inj. rate.
- 4) Squeeze cement Mesaverde as follows:  
**Lead w/ 150 sx Class B w/ 3 pps Gilsonite, 0.3% (Fluid Loss)**  
Volume: 183 cu ft  
Density: 15.34 ppg  
Yield: 1.22 cu ft / sack  
Mix Water: 5.20 gal/sk  
**Tail w/100 sx Class B w/ 2% CaCl**  
Volume: 119 cu ft  
Density: 15.61 ppg  
Yield: 1.19 cu ft / sack  
Mix Water: 5.20 gal/sk
- 5) Drill out cmt. & press test csg to 1000 psi. Retrieve RBP.
- 6) MU & RIH w/ BAKER Packer Plucker and cut out Model "D" prod. Pkr.
- 7) MU & RIH w/ 4-3/4" bit, DC's & DP. Drill float collar, guide shoe and 40' of open hole to 6662'.
- 8) Log well per Geologist, wait for evaluation.

**\*\*NOTE:** The log evaluation will determine if the project continues or if the well will be plugged and abandoned. If it is abandoned a supplemental procedure will be provided

- 9) TIH open ended and spot cmt. plug from new TD @ 6662' to bottom existing Dakota perms @ 6511'  
**Plug w/25 sx Class G**  
Volume: 29 cu ft  
Density: 15.77 ppg  
Yield: 1.15 cu ft / sack  
Mix Water: 5.00 gal/sk
- 10) Pull tubing up to +/- 6510 and reverse out excess cmt.
- 11) RU electric line and set cmt. retainer 1' above the closest csg. collar to KOP @ 6252'

## MERIDIAN OIL - JERNIGAN #3 RE-ENTRY

- 12) MU & RIH w/ cmt stinger, sting into cmt retainer, est. inj. rate.
- 13) Squeeze Dakota as follows:  
**Lead w/ 150 sx Class G w/0.3% HALAD -344 (Fluid Loss)**  
Volume: 173 cu ft  
Density: 15.75 ppg  
Yield: 1.15 cu ft / sack  
Mix Water: 5.00 gal/sk  
**Tail w/50 sx Class G**  
Volume: 58 cu ft  
Density: 15.77 ppg  
Yield: 1.15 cu ft / sack  
Mix Water: 5.00 gal/sk
- 14) MU & RIH w/ 5-1/2" Whipstock. Rig up & run multishot gyro to surface. Use gyro and orient whipstock South 10 deg. West and set.
- 15) A-Z Grant will conduct the window cutting operation - providing the W.S., starting mill, window mill, watermelon mill, and ditch magnets as required. Insure ditch magnets are properly installed prior to window cutting. Verify fluid viscosity is sufficient for proper metal cuttings removal

### ANGLE BUILD SECTION

- \*\*NOTE:** The KOP is based on a planned build rate of 16 degrees / 100'.  
The BHA is expected to reach 90 degrees at the top of the Basal Dakota
- 16) MU & RIH w/ angle build assembly. At KOP install wireline wet connect system. est. circ., orient tools, start drilling
  - 17) Build angle @ 16 deg./100' to 90 degrees in the pay zone @ 6610' TVD  
Continue horizontal @ 6610' for 800' (7614' MD)
  - 18) Circulate hole clean, POOH & lay down DP & BHA
  - 19) Pick up 2-3/8" tubing and stage in the hole displacing with N2.  
land tbg. in open hole section
  - 20) Rig down, move out

Jernigan # 3  
Well File 020289

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 10965  
ORDER NO. R-10119

APPLICATION OF SOUTHLAND ROYALTY COMPANY FOR A HIGH  
ANGLE/HORIZONTAL DIRECTIONAL DRILLING PILOT PROJECT AND  
SPECIAL OPERATING RULES THEREFOR, SAN JUAN COUNTY, NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on May 12, 1994, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 20th day of May, 1994 the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant in this matter, Southland Royalty Company ("Southland"), owns and operates the Jernigan Well No. 3 (API No. 30-045-11609), located at a standard gas well location 1990 feet from the North line and 1100 feet from the East line (Unit H) of Section 24, Township 27 North, Range 9 West, NMPM, San Juan County, New Mexico. Said well is currently dually completed in both the Blanco-Mesaverde and Basin-Dakota Pools, in which is dedicated a standard 320-acre gas spacing and proration unit comprising the E/2 of said Section 24; however, said well has been shut-in since July, 1990.

(3) At this time the applicant seeks to initiate a high angle/horizontal directional drilling pilot project within said 320-acre standard gas spacing and proration unit in the Basin-Dakota Pool, by recompleting the Jernigan Well No. 3 with a medium radius horizontal bore hole.

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*Order No. R-10119*  
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(4) Further, the applicant seeks special rules and provisions within the project area including authorization to cross quarter-quarter section lines and the designation of a prescribed area limiting the horizontal displacement of the producing portion of the wellbore within the allowed 790 foot setback requirements from the outer boundary of the subject proration unit.

(5) The applicant proposes to plug all of the existing Mesaverde and Dakota perforations in the Jernigan Well No. 3 and kick-off from the vertical in a southerly direction by milling a window in the existing casing at a depth of approximately 6252 feet, drill a medium radius curve hole to approximately 90 degrees so as to encounter the Basal sandstone portion of the Dakota formation (as indicated on the well log from a depth of 6605 feet to 6620 feet) and continue drilling horizontally a distance of approximately 800 feet in this thin section.

(6) According to the applicant's geologic and technical testimony a horizontal wellbore within the Basal Dakota section of said pool in this general area that is drilled in a direction that parallels the fracture trend where formation water tends to be prevalent should serve to avoid encountering these water trends. Also, evidence was presented that indicates a conventionally drilled vertical wellbore in the Basal Dakota interval must be hydraulically fractured to be productive, this process often causes communication with a water bearing interval directly below this section in the Burro Canyon formation. By attempting to complete this well in the above-described manner the applicant is attempting to decrease the probability of encountering water, which may ultimately result in the recovery of a greater amount of gas.

(7) No offset operator and/or interest owner appeared at the hearing in opposition to the proposed horizontal directional drilling pilot project.

(8) The application, as proposed, exhibits sound engineering practices, promotes the conservation of gas underlying the unit, and serves to prevent waste and protect correlative rights. This application should therefore be approved provided however that:

- (a) no part of the horizontal wellbore should be located closer than 790 feet from the outer boundary of the project area;

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- (b) the applicant be required to conduct a directional survey on the vertical portion of the wellbore prior to commencing directional drilling operations, and on the horizontal portion of the wellbore during or subsequent to completion of directional drilling operations in order that direction, extent and terminus of said wellbore may be determined to be in compliance with the terms of this order;
- (c) the applicant further be required to submit copies of said directional surveys to the Santa Fe and Aztec offices of the Division; and,
- (d) the applicant notify the supervisor of the Aztec District Office of the Division of the date and time of commencement of directional drilling operations and of the conductance of any directional surveys on the proposed well in order that these operations may be witnessed.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Southland Royalty Company for a high angle/horizontal directional drilling pilot project within an existing standard 320-acre gas spacing and proration unit in the Basin-Dakota Pool comprising the E/2 of Section 24, Township 27 North, Range 9 West, NMPM, San Juan County, New Mexico, is hereby approved.

(2) The applicant, after plugging all of the existing Mesaverde and Dakota perforations in its Jernigan Well No. 3 (API No. 30-045-11609), located at a standard gas well location 1990 feet from the North line and 1100 feet from the East line (Unit H) of said Section 24, is hereby authorized to kick-off from vertical in a southerly direction by milling a window in the existing casing at a depth of approximately 6252 feet, drill a medium radius curve hole to approximately 90 degrees so as to encounter the Basal sandstone portion of the Dakota formation (as indicated on the well log from a depth of 6605 feet to 6620 feet) and continue drilling horizontally a distance of approximately 800 feet in this thin section.

**PROVIDED HOWEVER**, no portion of the horizontal displacement of said well's producing interval be closer than 790 feet from the outer boundary of the subject proration unit.

(3) The applicant shall conduct a directional survey on the vertical portion of the wellbore prior to commencing directional drilling operations, and on the horizontal portion of the wellbore during or subsequent to completion of directional drilling operations in order that direction, extent and terminus of said wellbore may be determined to be in compliance with the terms of this order.

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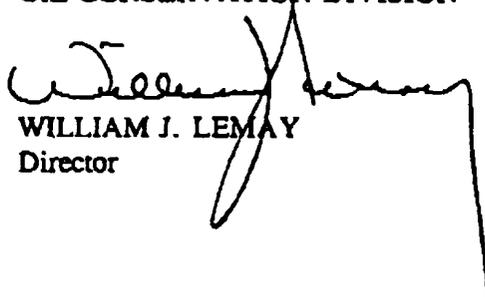
(4) The applicant shall submit copies of said directional surveys to the Santa Fe and Aztec offices of the Division.

(5) The applicant shall notify the supervisor of the Aztec District Office of the Division of the date and time of commencement of directional drilling operations and of the conductance of any directional surveys on the proposed well in order that these operations may be witnessed.

(6) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director

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*W. J. ...*

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# JERNIGAN #3

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DAKOTA

070 FARMINGTON, NM

UNIT H, SEC 24, T27N-R09W  
SAN JUAN COUNTY, NEW MEXICO

