

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 20<sup>th</sup> 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.

(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;

- (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 300 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.

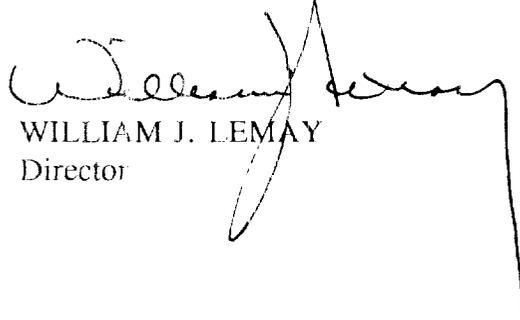
(4) The applicant shall submit copies of said directional surveys to the Santa Fe and Aztec offices of the Division.

(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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