

Directional Drilling
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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. 9764
Order No. R-9036

APPLICATION OF MERIDIAN OIL, INC. FOR A
HIGHLY-DEVIATED DIRECTIONAL DRILLING PILOT
PROJECT, UNORTHODOX GAS WELL LOCATION AND
AN EXCEPTION TO RULE 2(b) OF THE SPECIAL
RULES GOVERNING THE BLANCO-MESAVERDE
POOL, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on
September 20, 1989, at Santa Fe, New Mexico, before
Examiner David R. Catanach.

NOW, on this 8th day of November, 1989, 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) Division Case Nos. 9764 and 9765 were
consolidated at the time of the hearing for the purpose
of testimony.

(3) The applicant, Meridian Oil, Inc. (Meridian),
seeks authority to initiate a highly-deviated directional
drilling pilot project in Lots 1, 2, 7, 8, 9, 10, 15 and
16 (E/2 equivalent) of Section 14, Township 30 North,
Range 8 West, NMPM, Blanco-Mesaverde Pool, San Juan

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County, New Mexico, forming a 284.20-acre gas spacing and proration unit for said pool, by drilling its Howell "E" Well No. 2R in the following manner:

Commence drilling at an unorthodox surface location 435 feet from the North line and 1555 feet from the East line (Unit B) of said Section 14, drill to a true vertical depth of approximately 3421 feet, then commence a medium radius curve in a southerly direction to encounter the top of the Blanco-Mesaverde Pool at a true vertical depth of approximately 4142 feet at which point the wellbore will be drilled to the base of the Blanco-Mesaverde Pool at a true vertical depth of approximately 5415 feet to a terminus at a standard bottomhole location in the SE/4 of said Section 14 being no closer than 790 feet from the outer boundary of the southern half of the subject proration unit.

(4) The applicant further seeks an exception to Rule 2(b) of the Special Rules and Regulations for the Blanco-Mesaverde Pool as promulgated by Division Order No. R-8170, as amended, allowing a third well to be drilled and produced on an existing proration unit in which are dedicated the Howell "E" Well Nos. 2 and 2A, located respectively, in Units A and P of said Section 14.

(5) At the time of the hearing, the applicant further proposed that the deliverability for the proposed multi-well proration unit, which is utilized in calculating gas allowables in the Blanco-Mesaverde Pool, and which is normally determined by adding the deliverabilities of the two wells on the proration unit, be determined by whichever of the following two methods results in a higher deliverability:

- 1) Multiplying the deliverability of the proposed highly-deviated wellbore by two,
or

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- 2) Adding the deliverability of the proposed highly-deviated wellbore and one of the other two existing wells.

(6) The applicant presented geologic evidence which indicates that there may be gas-containing sand lenses within the Mesaverde formation underlying the subject proration unit which have not been encountered by the two existing wellbores, and therefore have not been produced.

(7) The evidence further indicates that the proposed highly-deviated wellbore will traverse the Mesaverde formation a lateral distance of approximately 2,623 feet.

(8) By exposing a greater amount of the Mesaverde formation to the highly-deviated wellbore and by encountering unproduced sand lenses and/or sand lenses with greater lateral permeability, the applicant hopes to significantly increase the ultimate gas recovery from the Mesaverde formation underlying the subject proration unit.

(9) Testimony indicates that the proposed highly-deviated wellbore, which is experimental in nature, requires an initial capital investment which is approximately three times higher than a conventional wellbore, and that the mechanical risk involved in the drilling of the subject well is also considerably higher than a conventional wellbore.

(10) At no point in its traverse of the Mesaverde formation does the proposed highly-deviated wellbore encroach upon the 790-foot setback required by the Special Rules and Regulations for the Blanco-Mesaverde Pool, as promulgated by said Order No. R-8170, as amended.

(11) No offset operator appeared and objected to the proposed pilot project and the proposal to produce all three of the wells on the proration unit; however, Amoco Production Company, an offset operator, appeared and expressed concern over the applicant's proposed method of determining the deliverability for the subject proration unit.

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(12) Depending on the productivity of the proposed well, which is unknown at this point, both of the applicant's proposed methods of determining deliverability may in fact give the subject proration unit an unfair advantage over offset proration units in the Blanco-Mesaverde Pool.

(13) In order to assure that the correlative rights of offset operators and/or operators in the Blanco-Mesaverde Pool are being protected and until further data is available regarding the productivity and drainage characteristics of a well such as proposed, the deliverability of the subject gas proration unit, for purposes of calculating gas allowable, should be determined by whichever of the two following methods results in a higher deliverability:

- 1) Utilize the deliverability of the proposed highly deviated well, or
- 2) Utilize the sum of the deliverabilities of the two existing vertical wellbores.

(14) Approval of the proposed pilot project should result in the recovery of an additional amount of gas from the subject proration unit which would not otherwise be recovered by the two existing wells, thereby preventing waste, and will not violate correlative rights provided that the deliverability of the subject proration unit is calculated by one of the two methods described in Finding No. (13) above.

(15) Provided that the deliverability of the subject proration unit is determined as described in Finding No. (13) above, the applicant gains no advantage over offset operators in terms of gas allowable assigned to the subject proration unit, and therefore its request to be allowed to produce all three of the wells on the subject proration unit should be approved.

(16) The applicant should be allowed to produce the gas allowable assigned to the subject proration unit from the three subject wells in any proportion.

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(17) The applicant should be required to conduct one or more directional surveys on the proposed highly-deviated wellbore in order that the direction, extent, and terminus of said wellbore may be determined and verified to be in compliance with the proposed bottomhole location.

(18) The applicant should further be required to submit copies of said directional survey(s) to the Santa Fe and Aztec offices of the Division.

(19) The applicant should 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 Meridian Oil, Inc., for a highly deviated directional drilling pilot project in Lots 1, 2, 7, 8, 9, 10, 15 and 16 (E/2 equivalent) of Section 14, Township 30 North, Range 8 West, NMPM, Blanco-Mesaverde Pool, San Juan County, New Mexico, is hereby approved.

(2) The applicant is further authorized to drill its Howell "E" Well No. 2R at the following location and in the following manner:

Commence drilling a vertical hole at an unorthodox surface location 435 feet from the North line and 1555 feet from the East line (Unit B) of said Section 14, to a true vertical depth of approximately 3421 feet, then commencing a medium radius curve in a southerly direction to encounter the top of the Blanco Mesaverde Pool at a true vertical depth of approximately 4142 feet from which point the wellbore will be drilled to the base of the Blanco-Mesaverde Pool at a true vertical depth

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of approximately 5415 feet to a terminus at a standard bottomhole location in the SE/4 of said Section 14 being no closer than 790 feet from the outer boundary of the southern half of the subject proration unit.

(3) Lots 1, 2, 7, 8, 9, 10, 15 and 16 (E/2 equivalent) of Section 14, Township 30 North, Range 8 West, NMPM, forming a 284.20-acre gas spacing and proration unit, shall be simultaneously dedicated to the above described well and to the existing Howell "E" Well Nos. 2 and 2A located, respectively, in Units A and P of said Section 14.

(4) The applicant shall be allowed to produce the gas allowable assigned to the subject proration unit from any of the three subject wells in any proportion.

(5) The applicant shall be required to conduct one or more directional surveys on the above-described highly deviated wellbore in order that the direction, extent, and terminus of said wellbore may be determined and verified to be in compliance with the approved bottomhole location.

(6) 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.

(7) The applicant shall submit copies of said directional survey(s) to the Santa Fe and Aztec offices of the Division upon completion.

(8) The deliverability of the subject gas proration unit, for purposes of calculating gas allowable, shall be determined by whichever of the two following methods results in a higher deliverability:

- 1) Utilize the deliverability of the proposed highly-deviated well, or

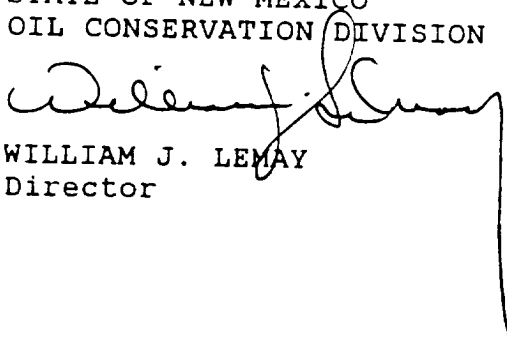
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2) Utilize the sum of the deliverabilities of the two existing vertical wellbores.

(9) 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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