

**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. 10953
Order No. R-10108**

**APPLICATION OF AMOCO PRODUCTION COMPANY
FOR A HIGH ANGLE/HORIZONTAL DIRECTIONAL
DRILLING PILOT PROJECT, SAN JUAN COUNTY,
NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on April 14, 1994, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 29th day of April, 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, Amoco Production Company, seeks authority to initiate a high angle/horizontal directional drilling pilot project in the Blanco-Mesaverde Pool on an existing 320-acre gas spacing and proration unit comprising the E/2 of Section 28, Township 30 North, Range 8 West, NMPM, San Juan County, New Mexico. Said unit is currently dedicated to the applicant's Gartner "A" Well Nos. 2 and 2A located, respectively, in Units G and J of Section 28.

(3) The applicant proposes to drill its Gartner "A" Well No. 2R as a replacement well for its Gartner "A" Well No. 2 from a standard surface location 790 feet from the North line and 1850 feet from the East line (Unit B) of Section 28 in the following unconventional manner:

Drill vertically to a depth of approximately 4,300 feet, kick off from the vertical at this depth and drill in a southeast direction building angle to approximately 90 degrees so as to penetrate the upper portion of the Cliff House formation at a true vertical depth of approximately 4,673 feet. Continue drilling horizontally a distance of approximately 1,100 feet to 1,700 feet depending on the exact azimuth drilled.

(4) The applicant further seeks the adoption of special operating provisions and rules within the pilot project area including the designation of a prescribed area limiting the horizontal displacement of said well's producing interval such that it can be no closer than 790 feet from the outer boundary of the spacing unit.

(5) The proposed well is located within the boundaries of the Blanco-Mesaverde Pool and is therefore subject to the Special Rules and Regulations for said pool and the General Rules for the Prorated Gas Pools of New Mexico, both contained within Division Order No. R-8170, as amended.

(6) The targeted productive zone in the subject wellbore is the Cliff House member of the Mesaverde formation. The Cliff House interval is characterized by natural fractures oriented in a northeast-southwest direction.

(7) The applicant's evidence indicates that there are some producing wells in this area that exhibit significantly greater producing rates and ultimate gas recoveries than others. Applicant contends that such difference in rates and recoveries is due primarily to some wells intersecting natural fracture systems within the Mesaverde formation.

(8) Through its evidence and testimony, the applicant demonstrated that the proposed horizontal wellbore should encounter a substantially greater number of natural fractures within the Cliff House interval than would a conventional wellbore, which should substantially increase the productivity of the subject well and which should ultimately result in the recovery of a significantly greater amount of gas from the proposed project area, thereby preventing waste.

(9) Through October, 1993, the Gartner "A" Well Nos. 2 and 2A have recovered 5.80 BCFG and 2.79 BCFG, respectively. The Gartner "A" Well Nos. 2 and 2A are currently producing at rates of approximately 200 MCFGD and 500 MCFGD, respectively.

(10) The applicant proposes to drill the Gartner "A" Well No. 2R as a replacement well for the Gartner "A" Well No. 2; however, at the time of the hearing the applicant testified that it may seek authorization at a later time to simultaneously produce all three wells within the subject proration unit.

(11) The proposed project area is a single Federal lease owned jointly and equally by Amoco Production Company and Conoco Inc.

(12) Meridian Oil Inc., the only offset operator, was notified of the application in this case but did not appear at the hearing in opposition.

(13) No other offset operator and/or interest owner appeared at the hearing in opposition to the application.

(14) In the interest of conservation, prevention of waste, and protection of correlative rights, the application of Amoco Production Company for a high angle/horizontal directional drilling project should be approved.

(15) Based on precedent established by the New Mexico Oil Conservation Commission in Case No. 9765 and in order to assure that the correlative rights of offset operators and/or operators in the Blanco-Mesaverde Pool are being adequately protected, the deliverability of the subject gas proration unit, for the purpose of calculating gas allowable, should be determined by whichever of the following three methods results in a higher calculated deliverability:

- a) If the horizontal wellbore is completed in and produces from both quarter-quarter sections in the proration unit, the sum of the deliverability of the deviated well plus the deliverability of either of the vertical wells should be utilized; or
- b) If the horizontal wellbore is not completed in and producing from both quarter-quarter sections in the proration unit, the sum of the deliverability of the deviated well should be added to the deliverability of a vertical well in the other quarter section of the proration unit; or
- c) Utilize the sum of the deliverabilities of the two existing vertical wellbores.

(16) The applicant should be required to determine the actual location of the kick-off point prior to commencing directional drilling operations. Also, the applicant should be required to conduct a directional survey on the lateral portion of the wellbore during or after completion of drilling operations.

(17) The applicant should notify the supervisor of the Aztec district office of the Division of the date and time of conductance of any directional surveys in order that the same may be witnessed.

(18) The applicant should be required to submit copies of all directional surveys conducted on the subject well to both the Santa Fe and Aztec offices of the Division.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Amoco Production Company, is hereby authorized to initiate a high angle/horizontal directional drilling pilot project in the Blanco-Mesaverde Pool on an existing 320-acre gas spacing and proration unit comprising the E/2 of Section 28, Township 30 North, Range 8 West, NMPM, San Juan County, New Mexico, by drilling its Gartner "A" Well No. 2R as a replacement well for its Gartner "A" Well No. 2 from a standard surface location 790 feet from the North line and 1850 feet from the East line (Unit B) of Section 28 in the following unconventional manner:

Drill vertically to a depth of approximately 4,300 feet, kick off from the vertical at this depth and drill in a southeast direction building angle to approximately 90 degrees so as to penetrate the upper portion of the Cliff House formation at a true vertical depth of approximately 4,673 feet. Continue drilling horizontally a distance of approximately 1,100 feet to 1,700 feet depending on the exact azimuth drilled.

PROVIDED HOWEVER THAT, no portion of the horizontal portion of the wellbore shall be located closer than 790 feet from the outer boundary of the project area.

(2) The E/2 of Section 28 shall be dedicated to the above-described well and to the existing Gartner "A" Well No. 2A located in Unit J.

(3) The deliverability of the subject gas proration unit, for the purpose of calculating gas allowable, shall be determined by whichever of the following three methods results in a higher calculated deliverability:

- a) If the horizontal wellbore is completed in and produces from both quarter-quarter sections in the proration unit, the sum of the deliverability of the deviated well plus the deliverability of either of the vertical wells should be utilized; or

- b) If the horizontal wellbore is not completed in and producing from both quarter-quarter sections in the proration unit, the sum of the deliverability of the deviated well should be added to the deliverability of a vertical well in the other quarter section of the proration unit; or
- c) Utilize the sum of the deliverabilities of the two existing vertical wellbores.

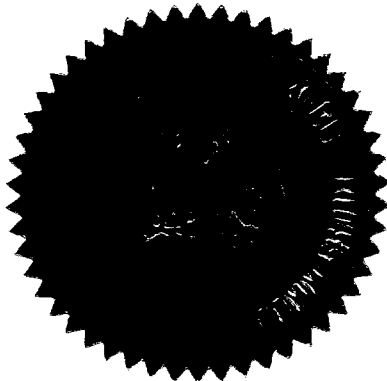
(4) The applicant shall determine the actual location of the kick-off point prior to commencing directional drilling operations. Also, the applicant shall conduct a directional survey on the lateral portion of the wellbore during or after completion of drilling operations.

(5) The applicant shall notify the supervisor of the Aztec district office of the Division of the date and time of conductance of any directional surveys in order that the same may be witnessed.

(6) The applicant shall submit copies of all directional surveys conducted on the subject well to both the Santa Fe and Aztec offices of the Division.

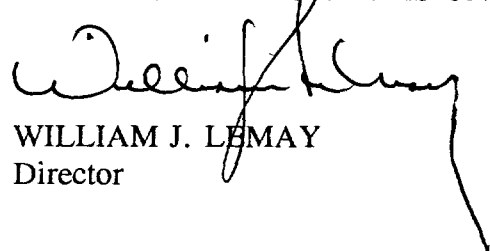
(7) Jurisdiction of this cause is hereby retained for the entry of such further orders as the Division may deem necessary.

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



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STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


WILLIAM J. LEMAY
Director