

**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. 10923
Order No. R-10083**

**APPLICATION OF MARATHON OIL COMPANY FOR A HIGH ANGLE/
HORIZONTAL DIRECTIONAL DRILLING PILOT PROJECT, SPECIAL
OPERATING RULES THEREFOR, AND AN UNORTHODOX PRODUCING
INTERVAL, EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 3, 1994, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 15th day of March, 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, Marathon Oil Company, seeks authority to initiate a high angle/horizontal directional drilling pilot project in the Indian Basin-Upper Pennsylvanian Gas Pool underlying all of Section 26, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico.

(3) The applicant further seeks authority to utilize its existing Indian Basin "C" Well No. 1, located at a standard surface location 1650 feet from the North and West lines (Unit F) of Section 26, and horizontally drill in the following unconventional manner:

Squeeze perforations from 7,366 feet to 7,416 feet. Mill casing from a depth of 7,332 feet to 7,382 feet. Set cement plug and kick off from the vertical at a depth of approximately 7,362 feet and drill in a south direction building angle to approximately 90 degrees so as to penetrate the upper portion of the Pennsylvanian formation at a depth of 7,407 feet. Continue drilling horizontally a distance of approximately 500 feet so as to bottom said wellbore at an unorthodox bottom-hole location 2175 feet from the North line and 1610 feet from the West line (Unit F) of Section 26.

(4) The applicant further seeks the adoption of special operating provisions and rules within the pilot project area including a provision limiting the horizontal or producing portion of the wellbore such that it cannot be located closer than 1500 feet from the North and West lines, nor closer than 1650 feet from the South and East lines of Section 26.

(5) The proposed well is located within the Indian Basin-Upper Pennsylvanian Gas Pool which is currently governed by Special Rules and Regulations as promulgated by Division Order No. R-2440, as amended, which require standard 640-acre spacing and proration units with wells to be located no closer than 1650 feet from the outer boundary of the spacing unit nor closer than 330 feet from any quarter-quarter section line or subdivision inner boundary.

(6) In addition, the Indian Basin-Upper Pennsylvanian Gas Pool is a prorated gas pool governed by the General Rules and Regulations for the Prorated Gas Pools of Northwest and Southeast New Mexico, as contained within Division Order No. R-8170, as amended.

(7) The evidence presented indicates that the Indian Basin "C" Well No. 1 was originally drilled and completed in the Indian Basin-Upper Pennsylvanian Gas Pool in 1963. The subject well is currently capable of producing approximately 2 MMCFG per day and has cumulatively produced (as of 1-1-93) over 35 BCF of gas.

(8) According to applicant's evidence and testimony, the subject well is beginning to experience a substantial increase in water production. This increase in water production is due in part to the natural water encroachment within the reservoir, and also due to water channeling which is occurring behind the production casing.

(9) Applicant testified that wells within the subject pool which experience water encroachment such as being experienced by the Indian Basin "C" Well No. 1 typically produce for a relatively short period of time before "watering out".

(10) Through its evidence and testimony, the applicant demonstrated that the proposed high angle wellbore, which is experimental in nature, is designed to penetrate the Pennsylvanian formation at a structurally higher position above the gas-water contact, which may extend the producing life of the well prior to "watering out", thereby resulting in the recovery of a greater amount of gas from the subject proration unit, thereby preventing waste.

(11) According to applicant's testimony, a directional survey has been run on the Indian Basin "C" Well No. 1. This survey indicates that the bottomhole location of the subject well is approximately 1630 feet from the North line and 1610 feet from the West line of Section 26.

(12) The setback distances from the outer boundary of Section 26, as proposed by the applicant, will provide flexibility in the direction and horizontal extent of the wellbore and will not violate correlative rights, inasmuch as all of the affected offset acreage is operated by Marathon Oil Company.

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

(14) In the interest of conservation and prevention of waste, the application of Marathon Oil Company for a high angle/horizontal directional drilling project should be approved.

(15) The applicant should be required to conduct a directional survey on the lateral portion of the wellbore during or after completion of drilling operations in order to verify that the bottomhole location is in compliance with the terms of this order.

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

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

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Marathon Oil Company, is hereby authorized to initiate a high angle/horizontal directional drilling pilot project in the Indian Basin-Upper Pennsylvanian Gas Pool underlying all of Section 26, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico.

(2) The applicant is further authorized to utilize its existing Indian Basin "C" Well No. 1, located at a standard surface location 1650 feet from the North and West lines (Unit F) of Section 26, and horizontally drill in the following unconventional manner:

Squeeze perforations from 7,366 feet to 7,416 feet. Mill casing from a depth of 7,332 feet to 7,382 feet. Set cement plug and kick off from the vertical at a depth of approximately 7,362 feet and drill in a south direction building angle to approximately 90 degrees so as to penetrate the upper portion of the Pennsylvanian formation at a depth of 7,407 feet. Continue drilling horizontally a distance of approximately 500 feet so as to bottom said wellbore at an unorthodox bottomhole location 2175 feet from the North line and 1610 feet from the West line (Unit F) of Section 26.

(3) The horizontal or producing portion of the wellbore shall be located no closer than 1500 feet from the North and West lines nor closer than 1650 feet from the South and East lines of Section 26.

(4) The applicant shall conduct a directional survey on the lateral portion of the wellbore during or after completion of drilling operations in order to verify that the bottomhole location is in compliance with the terms of this order.

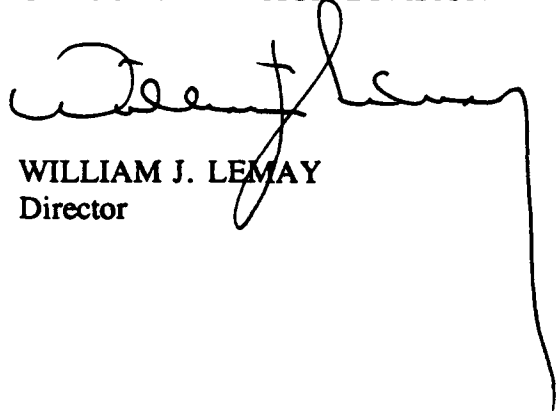
(5) The applicant shall notify the supervisor of the Artesia district office of the Division of the date and time of conductance of any directional surveys in order that the same may be witnessed.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A handwritten signature in black ink, appearing to read 'William J. Lemay', is written over the printed name and title. The signature is fluid and cursive, with a long, sweeping line extending from the end of the name down towards the bottom right of the page.

WILLIAM J. LEMAY
Director

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