

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. 9954  
Order No. R-9050-B

APPLICATION OF MARATHON OIL COMPANY  
FOR AN ADDENDUM TO DIVISION ORDER  
NO. R-9050-A, TO INCLUDE A PROVISION  
FOR DUAL COMPLETION AND AN UNORTHODOX  
GAS WELL LOCATION IN THE UNDESIGNATED  
INDIAN BASIN-MORROW GAS POOL, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on May 30, 1990, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 15th day of August, 1990, 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) By Order No. R-9050-A, issued in De Novo Case No. 9802 on January 18, 1990, the Division authorized Marathon Oil Company to drill its North Indian Basin Unit Well No. 8, subject to a production penalty, at an unorthodox gas well location 330 feet from the South line and 1650 feet from the West line (Unit N) of Section 9, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico, to test the Indian Basin-Upper Pennsylvanian Gas Pool.

(3) The applicant, Marathon Oil Company, seeks an addendum to said Order No. R-9050-A, to include authorization for an unorthodox gas well location for said North

-2-

Case No. 9954

Order No. R-9050-B

Indian Basin Unit Well No. 8 within the Undesignated Indian Basin-Morrow Gas Pool. In addition, the applicant seeks authority to dually complete said well in such a manner as to permit production of gas from the Undesignated Indian Basin-Morrow Gas Pool through a string of 2 7/8-inch tubing and the production of gas from the Indian Basin-Upper Pennsylvanian Gas Pool through the 5 1/2-inch casing-tubing annulus.

(4) All of said Section 9 is to be dedicated to the Morrow production from said well to form a standard 640-acre gas spacing and proration unit as provided by the Special Rules and Regulations governing the Indian Basin-Morrow Gas Pool.

(5) The evidence and record in this case indicates that the subject well, which was spudded on April 4, 1990 subsequent to the issuance of said Order No. R-9050-A, has been drilled to a depth sufficient to test the Morrow formation and has encountered commercial gas production from the Basal "A" Sand within the Indian Basin-Morrow Gas Pool as well as the Indian Basin-Upper Pennsylvanian Gas Pool.

(6) Oryx Energy Company (Oryx), the owner of the affected diagonal offset acreage in Section 17, Township 21 South, Range 23 East, NMPM, appeared at the hearing in opposition to the unorthodox Morrow location and in support of a production penalty to be assessed against the subject well within the Indian Basin-Morrow Gas Pool.

(7) The applicant presented geologic and engineering evidence and testimony in its attempt to demonstrate that:

- a) The Basal "A" Sand, which is interpreted as a "beach" type deposit, is present over a large area; however, due to the gas-water contact, effective porosity limits, and facies changes, the potentially productive portion of the reservoir is essentially limited to portions of Sections 9, 16 and 17.
- b) The potential for gas production from Section 17 is limited to a portion of the NE/4 due to the absence of effective porosity.
- c) Recoverable gas reserves from the subject Morrow reservoir are approximately 1.3 BCF,

-3-

Case No. 9954

Order No. R-9050-B

with some 85% of said reserves underlying Marathon-operated acreage in Sections 9 and 16, and the remaining 15% essentially underlying Section 17.

- d) The amount of possible recoverable gas reserves underlying Oryx's acreage (approximately 200 MMCF) does not economically justify the drilling of a Morrow well within said Section 17 to produce said reserves.

(8) The applicant proposed, in view of its geologic and engineering evidence, that no production penalty be assessed against the subject well within the Indian Basin-Morrow Gas Pool.

(9) Oryx also presented geologic and engineering evidence and testimony which differs from the applicant's in the following respects:

- a) The Basal "A" Sand has been interpreted as a "channel" type deposit and the extent of said Basal "A" Sand with effective porosity underlies a substantial portion of Section 17.
- b) Based on its geologic interpretation, gas reserves underlying Section 17 are estimated to be approximately 3.0 BCF.

(10) According to evidence and testimony, Oryx is currently evaluating the possibility of drilling a Morrow well in Section 17.

(11) In order to secure the protection of its correlative rights, Oryx has proposed that the subject well be allowed to drain only that area of Section 17 which would normally be drained by a well located at a standard location in Section 9. This proposal is to be accomplished by limiting the subject well's production to 55% (45% penalty), thereby reducing its area of drainage to 349 acres.

(12) Due to the highly subjective nature of geologic interpretation and due to limited well control in Section 17, it is difficult to correctly ascertain at this time the amount of gas reserves underlying Oryx's acreage.

-4-

Case No. 9954

Order No. R-9050-B

(13) Although the estimates differ, both the applicant and Oryx agree that there are gas reserves underlying Section 17 and, therefore, Oryx should be afforded some protection against drainage from the subject well.

(14) The 45% production penalty proposed by Oryx is excessive in that assuming 640-acre radial drainage, the subject well will drain an estimated 42 acres in Section 17, 10.35 acres of which would be legally allowed by a well at a standard location. Therefore, the total additional impact would be 32 acres, or 5% of a standard 640-acre unit comprising said Section 17.

(15) In addition, any penalty imposed on the subject well by the Division will be ultimately ineffective if Oryx chooses not to drill a well to recover its gas reserves in Section 17.

(16) A production penalty based upon the distance the subject well encroaches toward the corner point of Sections 8, 9, 16 and 17 is reasonable and equitable and should be utilized in this case.

(17) The calculated distance from the above-described corner point to a standard well location in Section 9 is 2,333 feet. The calculated distance from the above-described corner point to the actual well location is 1,683 feet.

(18) By calculation, the subject well is 27.9% closer ( $[2,333' - 1,683'] / 2,333'$ ) to said corner point than a well located at a standard location in Section 9.

(19) Approval of the subject unorthodox Morrow location and dual completion will afford the applicant the opportunity to produce its just and equitable share of the gas in the affected pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The application of Marathon Oil Company for an addendum to Division Order No. R-9050-A to include authorization for an unorthodox gas well location for its North Indian Basin Unit Well No. 8, located 330 feet from the South line and 1650 feet from the West line (Unit N) of

-5-

Case No. 9954

Order No. R-9050-B

Section 9, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico, within the Indian Basin-Morrow Gas Pool is hereby approved.

(2) The applicant is further authorized to dually complete said well in such a manner as to permit production of gas from the Undesignated Indian Basin-Morrow Gas Pool through a string of 2 7/8-inch tubing and the production of gas from the Indian Basin-Upper Pennsylvanian Gas Pool through the 5 1/2-inch casing-tubing annulus.

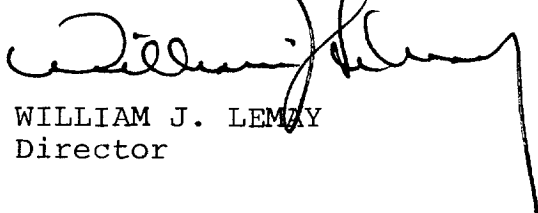
(3) All of said Section 9 is to be dedicated to the Undesignated Indian Basin-Morrow Gas Pool production from said well to form a standard 640-acre gas spacing and proration unit.

(4) The above-described well and gas proration unit shall be assigned a 27.9% penalty, or an allowable equal to 72.1% (.721) of the normal monthly allowable assigned to a standard gas proration unit in the Indian Basin-Morrow Gas Pool.

(5) 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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