

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. 10226  
Order No. R-9501

APPLICATION OF BIRD CREEK RESOURCES  
FOR SPECIAL POOL RULES, EDDY COUNTY,  
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on February 21, 1991, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 10th day of May, 1991, 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, Bird Creek Resources, seeks an order promulgating special rules and regulations for the East Loving-Delaware Pool, Eddy County, New Mexico, including a provision for a limiting gas-oil ratio of 5000 cubic feet of gas per barrel of oil.

(3) At the time of the hearing, the applicant requested that the proposed gas-oil ratio of 5000:1 be adopted for a temporary period of one year.

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(4) The East Loving-Delaware Pool was created and defined by Division Order No. R-8562 dated December 4, 1987, and currently comprises all or portions of Sections 10, 11, 14, 15, 22, 23, 24, 26, 27, and 34, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico. The subject pool is currently governed by General Statewide Rules and Regulations including a top unit allowable of 142 barrels of oil and 284 MCF casinghead gas per day at a gas-oil ratio of 2000 cubic feet of gas per barrel of oil.

(5) According to Division records, there are currently 55 producing wells in the subject pool operated by seven different operators.

(6) Oryx Energy Company (Oryx), an operator in the subject pool, appeared at the hearing and presented evidence and testimony in opposition to the application.

(7) In addition, various other operators including Parker & Parsley Petroleum Company, RB Operating Company and Pogo Producing Company appeared at the hearing and voiced various concerns regarding the application.

(8) Applicant's evidence indicates that approximately 50% of the wells in the subject pool are currently producing at a gas-oil ratio in excess of 2000 cubic feet of gas per barrel of oil, and that there are several wells producing at a gas-oil ratio in the range of 3000-8000 cubic feet of gas per barrel of oil.

(9) The evidence further indicates that eight of the wells operated by the applicant are currently shut-in or are being curtailed by the Division due to high gas-oil ratios and overproduction of casinghead gas. All of the eight wells are capable of producing top unit oil allowable.

(10) Both the applicant and Oryx presented engineering and geologic evidence and testimony in this case, and, based upon such evidence and testimony, the following conclusions concerning the East Loving-Delaware Pool can be ascertained:

- 1) the East Loving-Delaware Pool consists of several distinct producing sand members which appear to be correlatable across the entire field;
- 2) the drive mechanism within the subject reservoir is solution gas with no apparent initial gas cap; the initial solution gas-oil ratio is approximately 1100 cubic feet of gas per barrel of oil and the bubble point pressure is approximately 2850 psi;

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- 3) there does not appear to be a correlation between geologic structure and wells producing at a high gas-oil ratio.

(11) The applicant contends that discontinuous gas bearing sands within the Delaware pay section are the source of the extraneous gas being produced in its high gas-oil ratio wells, and that production at a gas-oil ratio of 5000:1 will not harm the reservoir and will not cause a reduction in ultimate oil recovery.

(12) Oryx disputes the existence of gas bearing sands and contends that the reservoir was at or below bubble point pressure at the time of discovery and, as a result of pressure drawdown, a gas cap or caps have formed within the reservoir.

(13) The evidence presented by the applicant in this case is insufficient to demonstrate the existence of gas bearing sands within the reservoir.

(14) The applicant presented results of a short term rate sensitivity test conducted on four wells in the pool which show that the producing gas-oil ratio is largely unaffected by increased rate of oil production.

(15) Said rate sensitivity tests appear to be too short in duration to allow the subject wells to properly stabilize between increased oil producing rates.

(16) Utilizing known field parameters, Oryx has constructed a reservoir simulation model which was submitted as evidence in this case.

(17) The results of the reservoir simulation indicate that approval of a permanent gas-oil ratio of 5000:1 will accelerate the depletion of reservoir energy and will cause a reduction in ultimate oil recovery from the pool by approximately 12 percent.

(18) Further testimony by Oryx indicates that approval of the application, even on a temporary one year basis, may cause irreparable damage to the subject reservoir resulting in decreased ultimate oil recovery.

(19) The evidence available at the present time demonstrates that approval of the application will cause excessive depletion of reservoir energy which in turn will decrease ultimate oil recovery, thereby causing waste, and may violate correlative rights by denying the operators in the pool the opportunity to maximize their ultimate oil recovery.

(20) The application should be denied.

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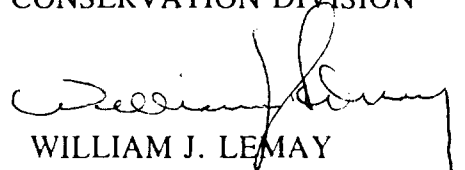
IT IS THEREFORE ORDERED THAT:

(1) The application of Bird Creek Resources for the promulgation of special rules and regulations for the East Loving-Delaware Pool, Eddy County, New Mexico, including a provision for a temporary limiting gas-oil ratio of 5000 cubic feet of gas per barrel of oil is hereby denied.

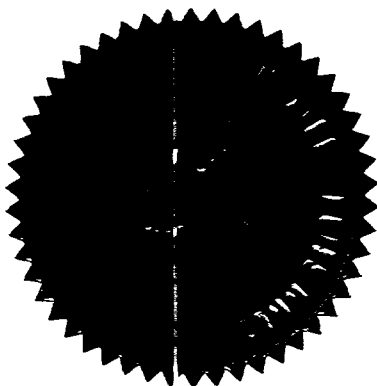
(2) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director



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