

**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. 12850  
ORDER NO. R-9722-G**

**APPLICATION OF ENERGEN RESOURCES CORPORATION TO INCREASE  
THE GAS-OIL RATIO LIMITATION FOR THE WEST LOVINGTON-STRAWN  
POOL, LEA COUNTY, NEW MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on April 18, 2002, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 2nd day of July, 2002, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

**FINDS THAT:**

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) The applicant, Energen Resources Corporation ("Energen"), seeks an order to increase the gas-oil ratio limitation for the West Lovington-Strawn Pool, Lea County, New Mexico, from 2,000 to 4,000 cubic feet of gas per barrel of oil.

(3) The West Lovington-Strawn Pool currently comprises the following described area in Lea County, New Mexico:

**TOWNSHIP 15 SOUTH, RANGE 35 EAST, NMPM**

Section 28:	SE/4
Section 32:	E/2 SE/4
Section 33:	All
Section 34:	S/2
Section 35:	SW/4

TOWNSHIP 16 SOUTH, RANGE 35 EAST, NMPM

Section 1:           Lots 1 through 8  
Section 2:           Lot 1

TOWNSHIP 16 SOUTH, RANGE 36 EAST, NMPM

Section 5:           Lots 3 and 4  
Section 6:           Lots 1 through 8

(4) The West Lovington-Strawn Pool is currently governed by special pool rules as established by Division Orders No. R-9722, as amended, and R-10448, as amended, which include provisions for 80-acre spacing and proration units, designated well location requirements, and an oil allowable of 250 barrels of oil per day. A limiting gas-oil ratio of 2,000 cubic feet of gas per barrel of oil is set by Rule 506A.

(5) Within the West Lovington-Strawn Pool, Energen currently operates the West Lovington Strawn Unit Pressure Maintenance Project. This gas injection project was approved by Division Order No. R-10448 dated August 29, 1995.

(6) The pool boundaries for the West Lovington-Strawn Pool closely coincide with the current boundaries of the West Lovington Strawn Unit Pressure Maintenance Project.

(7) Energen presented engineering evidence that demonstrates that:

- (a) the West Lovington-Strawn Pool is a volatile oil reservoir;
- (b) PVT analysis conducted in 1992 on the West Lovington Strawn Unit Well No. 7, located in Lot 3 of Section 1, Township 16 South, Range 35 East, NMPM, showed that this well had a gas-oil ratio of approximately 2,700 standard cubic feet of gas per stock tank barrel of oil;
- (c) gas re-injection has supplemented the solution-gas drive in this reservoir and, as a result of gas re-injection, the ultimate recovery from this Strawn reservoir will be approximately 6.8 million barrels of oil, or 34.6% of the original oil in place;

- (d) the producing gas-oil ratio for this reservoir, which has steadily increased over the past several years, is currently at a rate of 8,900 cubic feet of gas per barrel of oil;
- (e) in the absence of an increase in the GOR for this pool, Energen will be forced to reduce oil production from its pressure maintenance project by June or July, 2002; and
- (f) reservoir simulation data demonstrates that as a result of increasing the GOR to 4,000:1, ultimate recovery from the West Lovington-Strawn Pool may be slightly reduced (less than 1% of recoverable reserves).

(8) The evidence presented demonstrates that Energen and the previous operator of the West Lovington Strawn Unit Pressure Maintenance Project have implemented over the producing life of this reservoir prudent reservoir engineering practices that will result in a substantial increase in the ultimate recovery of oil from this reservoir.

(9) Energen further testified that the South Big Dog-Strawn Pool, a similar type of Strawn reservoir, which directly offsets the West Lovington-Strawn Pool, is currently being produced at a gas-oil ratio limitation of 4,000 cubic feet of gas per barrel of oil (approved by Division Order No. R-10448-C dated August 31, 2000).

(10) The applicant notified all interest owners within the West Lovington Strawn Unit and all offset operators within one mile of the pool boundaries of its application in this case. No interest owner or offset operator appeared in opposition to the application.

(11) The application should be approved.

**IT IS THEREFORE ORDERED THAT:**

(1) Pursuant to the application of Energen Resources Corporation, Division Order No. R-9722, as amended, which order established special pool rules for the West Lovington-Strawn Pool, located in portions of Townships 15 and 16 South, Ranges 35 and 36 East, NMPM, Lea County, New Mexico, is hereby amended by the addition of the following Rule 7:

**Rule 7.** The West Lovington-Strawn Pool shall be produced at a limiting gas-oil ratio of 4,000 cubic feet of gas per barrel of oil (1,000 MCFGPD casinghead gas limit.)

(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

LORI WROTENBERY  
Director

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