

**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. 13820
Order No. R-12711**

APPLICATION OF RANGE OPERATING NEW MEXICO, INC. FOR AN ORDER TO INCREASE THE GAS-OIL RATIO FROM 5,000 TO 10,000 CUBIC FEET OF GAS PER BARREL OF OIL PRODUCED FOR THE SOUTHWEST EUNICE-SAN ANDRES POOL LOCATED IN PORTIONS OF SECTIONS 4, 5, 6, 7, 8, 9, 15, 16, 17, AND 18 OF TOWNSHIP 22 SOUTH, RANGE 37 EAST, AND FOR ALL SAN ANDRES PRODUCTION WITHIN ONE MILE OF THE OUTER BOUNDARY OF THIS POOL, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on November 30, 2006, at Santa Fe, New Mexico, before Examiner Richard Ezeanyim.

NOW, on this 7th day of February, 2007, 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) In 1980, Zia Energy, Inc. applied for increased gas-oil ratio limitation of 10,000 cubic feet of gas per barrel of oil for the Southwest Eunice-San Andres Pool. By Order No. R-6466, issued in case No. 6861 on September 10, 1980, the Division approved a gas-oil ratio limitation of 5,000 cubic feet of gas per barrel of oil.
- (3) By Order No. R-98-B issued **NUNC PRO TUNC** in Case No. 308 on July 24, 1952, and by Order No. R-199, issued in Case No. 390 on November 13, 1952, the Commission exempted the Penrose Skelly-Grayburg (**oil-50350**) Pool from the statewide gas-oil ratio limitation. The Grayburg formation overlying the San Andres formation is within the Penrose-Skelly Oil Pool and therefore is not subject to any limiting gas-oil ratio.

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(4) The applicant, Range Operating New Mexico, Inc. ("Range" or "Applicant") seeks to increase the gas-oil ratio (GOR) limitation for the Southwest Eunice-San Andres Pool from 5,000 to 10,000 cubic feet of gas per barrel of oil.

(5) The Southwest Eunice-San Andres Pool currently consists of the following acreage.

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM

Section 4: W/2, W/2 SE/4
 Section 5: E/2
 Section 6: SE/4, NW/4 NE/4, SE/4 NE/4
 Section 7: NE/4
 Section 8: E/2, S/2 NW/4, N/2 SW/4
 Section 9: W/2, SE/4, S/2 NE/4
 Section 15: NW/4, S/2 NE/4
 Section 16: All
 Section 17: E/2, NW/4, N/2 SW/4
 Section 18: E/2.

(6) The Applicant's witness testified that Range is the largest operator in the Southwest Eunice-San Andres pool, and that Range operates 39 wells out of the 60 wells in the pool as of June 2006. The witness also testified that Range owns mineral interests in the Grayburg Pool that is currently not subject to any limiting gas-oil ratio. The witness further testified that numerous wells have commingled production from the Grayburg pool and the San Andres pool.

(7) The Applicant's witness further testified that because the Southwest Eunice-San Andres pool wells are GOR restricted relative to the Grayburg pool wells being produced at 10,000 GOR, Range is experiencing an economic disadvantage and further drilling and development is being discouraged in the following acreage where Range owns only the Southwest Eunice-San Andres mineral rights.

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM

Section 7: NE/4 NE/4, SW/4 SE/4
 Section 9: S/2
 Section 17: NE/4 NW/4, SW/4 NE/4
 Section 18: SE/4.

(8) The Applicant presented geologic and engineering evidence that demonstrates that:

- (a) the initial development of the reservoirs in the Grayburg and San Andres oil pools began in the late 1930s and early 1940s;

- (b) the Grayburg and the San Andres formations are dolomite hydrocarbon bearing reservoirs with relatively low variable porosities and permeabilities, with thin shaly intervals between the Grayburg and San Andres;
 - (c) the Grayburg and the San Andres reservoirs by their very nature require large acid jobs and/or large volume fracture jobs to produce, thereby causing these reservoirs to communicate from these stimulation procedures;
 - (d) several operators in the field complete both in the Grayburg and San Andres formations and downhole commingle production in both pools; therefore the reservoirs are further compromised by these commingling practices;
 - (e) the drive mechanism in the Grayburg and the San Andres reservoirs are solution gas drive performance with no appreciable initial or secondary gas caps;
 - (f) both the Grayburg and the San Andres reservoirs are very mature in their depletion stages, and with the relatively low bottomhole pressures encountered in the area, the wells had to be kept pumped off to produce appreciable hydrocarbons; therefore under the circumstances, it is difficult to manage a well when it approaches the gas-oil ratio limit;
 - (g) daily oil production from the Grayburg pool with no GOR limitation ranges from 20 to 80 barrels of oil per day, while daily oil production from the San Andres pool with restricted GOR ranges from 5 to 20 barrels of oil per day;
 - (h) there is currently no material benefit to conserving the energy in the San Andres oil pool by limiting the GOR to 5,000 cubic feet of gas per barrel of oil; and
 - (i) increasing the gas-oil ratio from 5,000 to 10,000 cubic feet of gas per barrel of oil will increase the ultimate recoveries of hydrocarbons in the Southwest Eunice-San Andres pool.
- (9) The geologic and engineering evidence presented demonstrates that it is reasonable and appropriate to increase the gas-oil ratio limitation for the Southwest Eunice-San Andres Pool from 5,000 to 10,000 cubic feet of gas per barrel of oil, and this will

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eliminate the inequity that exists between the owners of mineral interest in the Grayburg and San Andres formations.

(10) The applicant provided notice of this case to all operators within the Southwest Eunice-San Andres Pool, and to all operators within one mile of the pool.

(11) No offset operator or interest owner appeared at the hearing in opposition to the application.

(12) Increasing the gas-oil ratio limitation for the Southwest Eunice-San Andres Pool from 5,000 to 10,000 cubic feet of gas per barrel of oil will enable the operators in the pool to efficiently produce the hydrocarbons within this reservoir, will not result in the excessive waste of reservoir energy, will prevent waste of hydrocarbons, and will not violate correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The application of Range Operating New Mexico, Inc. to increase the gas-oil ratio limitation from 5,000 to 10,000 cubic feet of gas per barrel of oil for the Southwest Eunice-San Andres Pool, and for all San Andres production within one mile of the outer boundary of the pool, Lea County, New Mexico, is hereby approved.

(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,



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STATE OF NEW MEXICO
 OIL CONSERVATION DIVISION

A handwritten signature in black ink, appearing to read "Mark E. Fesmire".

MARK E. FESMIRE, P.E.
 Director