

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY AND MINERALS
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION FOR THE PURPOSE OF
CONSIDERING:

CASE No. 8397
Order No. R-7765

APPLICATION OF GULF OIL CORPORATION
FOR STATUTORY UNITIZATION, EUNICE
MONUMENT SOUTH UNIT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This case came on for hearing at 9:00 A.M. on November 7, 1984, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 27th day of December, 1984, the Commission, a quorum having been present, having considered the testimony and the record and being otherwise fully advised in the premises:

FINDS THAT:

(1) Due public notice has been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Gulf Oil Corporation (hereinafter called Gulf), seeks the statutory unitization, pursuant to the "Statutory Unitization Act," Sections 70-7-1 through 70-7-21, NMSA-1978, of 14,189.84 acres, more or less, being a portion of the Eunice Monument Pool, Lea County, New Mexico, as more specifically defined in Commission Case 8397, said portion to be known as the Eunice Monument South Unit; that applicant further seeks approval of the Unit Agreement and the Unit Operating Agreement which were submitted in evidence as Gulf's Exhibits Nos. 3 and 4.

(3) The proposed unit area should be designated the Eunice Monument South Unit Area, (hereinafter called unit) and the horizontal limits of said unit area should be comprised of the following described lands:

TOWNSHIP 20 SOUTH, RANGE 36 EAST, NMPM

Section 25: All
Section 36: All

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM

Section 30: S/2, S/2 N/2, NE/4 NW/4 and NW/4
NE/4
Section 31: All
Section 32: All

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM

Section 2: S/2 S/2
Section 3: Lots 3, 4, 5, 6, 11, 12, 13, and 14
and S/2
Section 4 through 11: All
Section 12: W/2 SW/4
Section 13: NW/4 NW/4
Section 14 through 18: All
Section 21: N/2 and N/2 S/2
Section 22: N/2 and N/2 S/2

(4) The subject Commission Case 8397 was consolidated for hearing with Commission Cases 8398 and 8399.

(5) Said unit has been approved by the Bureau of Land Management and the Commissioner of Public Lands of the State of New Mexico subject to the approval of statutory unitization by the Oil Conservation Commission.

(6) No interested party has opposed the horizontal limits of the said unit.

(7) The horizontal limits of said unit are reasonably defined by development and have a reasonable geologic relationship to the proposed unitized formations.

(8) The vertical limits of said unit should comprise that interval underlying the unit area, the vertical limits of which extend from an upper limit described at 100 feet below mean sea level or at the top of the Grayburg formation, whichever is higher, to a lower limit at the base of the San Andres formation; the geologic markers

having been previously found to occur at 3,666 feet and 5,283 feet, respectively, in Continental Oil Company's Meyer B-4 Well No. 23 (located at 660 feet from the South line and 1,980 feet from the East line of Section 4, Township 21 South, Range 36 East, Lea County, New Mexico) and as recorded on the Welex Acoustic Velocity Log taken on October 30, 1962, said log being measured from a Kelly drive bushing elevation of 3,595 feet above sea level.

(9) The establishment of said vertical limits requires the amendment of the vertical limits of the Eumont Gas Pool and the Eunice Monument Pool under the unit area as is the subject of Commission Case 8399 and Order No. R-7767.

(10) The "unitized formation" will include the entire oil column under the unit area permitting the efficient and effective recovery of secondary oil therefrom.

(11) No interested party has objected to the vertical interval proposed to be unitized.

(12) The unit area contains 101 separate tracts owned by 41 different working interests.

(13) As of the date of the hearing, over 90 percent of working interest owners and royalty interest owners were effectively committed to the unit.

(14) Gulf proposes to institute a waterflood project for the secondary recovery of oil and associated gas, condensate, and all associated liquifiable hydrocarbons within and to be produced from the proposed unit area, all as shown in Commission Case 8398.

(15) A technical committee was formed by the owners within the proposed unit to evaluate aspects of unitization and operation of the proposed secondary recovery operation (waterflood).

(16) The technical committee concluded that the probable range of recovery from the proposed waterflood is from 25 percent to 100 percent of ultimate primary production.

(17) Said committee further concluded that based upon response to waterflooding in similar reservoirs, 48 percent of ultimate primary or 64.2 million barrels of additional (secondary) oil would be recovered by institution of the proposed waterflood.

(18) The unitized management, operation, and further development of the unit, as proposed, is reasonable and necessary to effectively and efficiently carry on secondary recovery operations and will substantially increase the ultimate recovery of oil and gas from the unitized formations.

(19) The proposed unitized method of operation as applied to the Unit Area is feasible and will result with reasonable probability in the increased recovery of substantially more oil from the unitized portion of the pool than would otherwise be recovered without unitization.

(20) The estimated additional investment costs of the proposed supplemental recovery operations are \$60.6 million.

(21) The additional recovery to be derived from the proposed supplemental recovery operations will have a resultant net profitability over the aforesaid additional costs and after taxes of \$1.186 billion with unitized water flooding versus \$226.7 million without unitized waterflooding.

(22) The estimated additional costs of the proposed operations (as described in Finding No. (18) above) will not exceed the estimated value of the additional oil and gas (as described in Finding No. (19) above) plus a reasonable profit.

(23) The applicant, the designated unit operator, pursuant to the Unit Agreement and the Unit Operating Agreement, has made a good faith effort to secure voluntary unitization within the unit area.

(24) Bruce Wilbanks and other interest owners in Unit Tract 55, have declined to voluntarily join the unit.

(25) Exxon Company, USA, (hereinafter "Exxon") has declined to voluntarily join the unit and has opposed the application of Gulf in this case on the basis that the participation formula contained in the Unit Agreement fails to give sufficient weight to the cumulative oil production and further that the method of providing a wellbore contribution incentive is not to Exxon's economic advantage.

(26) Exxon has a working interest of 4.86% of the unit which consists of 100% working interest in Unit Tracts 12, 37, 88, 90 and a 50% working interest in Unit Tract 89.

(27) The participation formula proposed allocates unit production to the various tracts in accordance with the following:

$$\text{Tract Participation} = 50\% \text{ A/B} + 40\% \text{ C/D} + 10\% \text{ E/F}$$

Where:

- A = the tract cumulative oil production from the unitized formation as of September 30, 1982.
- B = the unit total cumulative oil production from the unitized formation as of September 30, 1982.
- C = the remaining primary oil reserves from the unitized formation for the tract, beginning October 1, 1982, as determined by the Technical Committee on February 25, 1983.
- D = the remaining primary oil reserves from the unitized formation for all unit tracts, beginning October 1, 1982, as determined by the Technical Committee on February 25, 1983.
- E = the amount of oil produced from the unitized formation by the tract from January 1, 1982, through September 30, 1982.
- F = the amount of oil produced from the unitized formation by all unit tracts from January 1, 1982, through September 30, 1982.

(28) The proposed formula does not take into account calculations of estimated secondary production from each tract in that insufficient cores, well logs, and reservoir data are not available to make such calculations.

(29) The proposed formula does give substantial weight to remaining primary reserves in that such reserves can be measured, that the owners of such reserves have agreed to the terms and conditions of the unit and will be deferring income therefrom to support the costs and risks of implementing secondary recovery operations in the unit.

(30) The proposed allocation formula does give owners without remaining primary reserves or with very low volumes of remaining primary reserves, such as Exxon, a disproportionately large share of the income from the production of remaining primary production during the early life of the project.

(31) During unit negotiations, a cutoff date must be established in order to make necessary calculations of the allocation of unit costs and benefits.

(32) The adoption of the September 30, 1982, date in the subject case was necessary for such calculations and is not unreasonable.

(33) Giving consideration to the lack of technical data for estimates of secondary recovery, the reallocation of primary production in the early life of the unit, the greater risk being accepted by the owners of remaining primary reserves and the reasonableness of the September 30, 1982, cutoff date; the proposed participation formula will allocate unit production on a fair, reasonable, and equitable basis during the period that the estimated 64.2 million barrels of secondary oil is produced.

(34) During said period, it is expected that the unit operator will develop reservoir data from cores, well logs, tests and production which might be used to better allocate production to the unit during any period of recovery of secondary and tertiary oil in excess of 64.2 million barrels.

(35) The proposed formula should not apply to the allocation of secondary or tertiary oil production in excess of a total of 64.2 million barrels.

(36) Before distributing the proceeds from production of such oil in excess of 64.2 million barrels, the unit operator should be required to appear and demonstrate that the formula approved by this order continues to allocate proceeds from unit operations in a fair and equitable manner or, in the alternative, present a new allocation formula prepared on the basis of new and/or enhanced reservoir data which new formula better allocates said proceeds.

(37) Gulf proposed a Wellbore Assessment Method in the Unit Operating Agreement as an incentive to encourage the working interest owners in the unit to contribute the maximum number of existing useable wellbores to the unit.

(38) This assessment method, though not common, is used in other unit agreements.

(39) Any proration unit within the unit which is to participate in the proposed waterflood operation must have a wellbore useable for production or injection in the unitized interval.

(40) It is not unreasonable to penalize the owners of proration units upon which there is no such wellbore and upon which the unit operator must drill a well.

(41) The proposed method of wellbore assessment is fair and reasonable.

(42) Exxon admits that each of its tracts is still reasonably profitable should the Commission approve the participation formula and the wellbore assessment method proposed by Gulf as unit operator.

(43) Unitization and the adoption of the proposed unitized method of operation will benefit the working interest owners and royalty owners of the oil and gas rights within the unit area.

(44) The Eunice Monument South Unit Agreement and Unit Operating Agreement provide for unitization and unit operation of the unit area upon terms and conditions that are fair, reasonable and equitable and which include:

(a) an allocation to the separately owned tracts in the unit area of all oil and gas that is produced from the unit area and which is saved, being the production that is not used in the conduct of unit operations or not unavoidably lost;

(b) a provision for the credits and charges to be made in the adjustment among the owners in the unit area for their respective investments in wells, tanks, pumps, machinery, materials and equipment contributed to the unit operations;

(c) a provision governing how the costs of unit operations, including capital investments, shall be determined and charged to the separately owned tracts and how said costs shall be paid, including a provision providing when, how, and by whom, the unit production allocated to an owner who does not pay his share of the costs of unit operations shall be charged to such owners, of the interest of such owners, and how his interest may be sold and the proceeds applied to the payment of his costs;

(d) a provision for carrying any working interest owner on a limited, carried or net-profits basis, payable out of production, upon such terms and conditions which are just and reasonable, and which allow an appropriate charge for interest for such service payable out of production, upon such terms and conditions

determined by the Commission to be just and reasonable, and allowing an appropriate charge for interest for such service payable out of such owner's share of production, providing that any nonconsenting working interest owner being so carried shall be deemed to have relinquished to the unit operator all of his operating rights and working interests in and to the unit until his share of the costs, service charge and interest are repaid to the Unit Operator;

(e) a provision designating the unit operator and providing for the supervision and conduct of the unit operations, including the selection, removal or substitution of an operator from among the working interest owners to conduct the unit operations;

(f) a provision for a voting procedure for the decision of matters to be decided by the working interest owners in respect to which each working interest owner shall have a voting interest equal to his unit participation; and

(g) the time when the unit operation shall commence and the manner in which, and the circumstances under which, the operations shall terminate and for the settlement of accounts upon such termination;

(45) The statutory unitization of the Eunice Monument South Unit Area is in conformity with the above findings, and will prevent waste and protect the correlative rights of all owners of interest within the proposed unit area, and should be approved.

IT IS THEREFORE ORDERED THAT:

(1) The Eunice Monument South Unit Area, comprising 14, 189.84 acres, more or less, in the Eunice Monument Oil Pool, as amended by Order R-7767, Lea County, New Mexico, is hereby approved effective December 1, 1984, for statutory unitization pursuant to the Statutory Unitization Act, Sections 70-7-1 through 70-7-21 NMSA 1978.

(2) The lands included within the Eunice Monument South Unit Area shall comprise:

TOWNSHIP 20 SOUTH, RANGE 26 EAST, NMPM

Section 25: All
Section 36: All

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM

Section 30: S/2, S/2 N/2, NE/4 NW/4, and NW/4
NE/4
Section 31: All
Section 32: All

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM

Section 2: S/2 S/2
Section 3: Lots 3, 4, 5, 6, 11, 12, 13, and 14
and S/2
Section 4 through 11: All
Section 12: W/2 SW/4
Section 13: NW/4 NW/4
Sections 14 through 18: All
Section 21: N/2 and N/2 S/2
Section 22: N/2 and N/2 S/2

and that the above described lands shall be designated as the Eunice Monument South Unit Area.

(3) The vertical limits of said unit shall comprise that interval underlying the unit area, the vertical limits of which extend from an upper limit described as 100 feet below mean sea level or at the top of the Grayburg formation, whichever is higher, to a lower limit at the base of the San Andres formation; the geologic markers having been previously found to occur at 3,666 feet and 5,283 feet, respectively, in Continental Oil Company's Meyer B-4 Well No. 23 (located at 660 feet from the South line and 1,980 feet from the East line of Section 4, Township 21 South, Range 36 East, Lea County, New Mexico) and as recorded on the Welex Acoustic Velocity Log taken on October 30, 1962, said log being measured from a kelly drive bushing elevation of 3,595 feet above sea level.

(4) The applicant is hereby authorized to institute a secondary recovery project for the recovery of oil and all associated and constituent liquid or liquified hydrocarbons within the unit area, pursuant to the provisions set forth in Commission Order No. R-7766.

(5) The Eunice Monument South Unit Agreement and the Eunice Monument South Unit Operating Agreement presented by the applicant as Exhibits 3 and 4, respectively, in this case are hereby incorporated by reference into this order.

(6) The Eunice Monument South Unit Agreement and the Eunice Monument Unit Operating Agreement provide for

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unitization and unit operation of the subject portion of the Eunice Monument Pool upon terms and conditions that are fair, reasonable and equitable and include:

an allocation to the separately owned tracts in the unit area of all the oil and gas that is produced from the unit area and is saved, being the production that is not used in the conduct of operations on the unit area or not unavoidably lost;

a provision for the credits and charges to be made in the adjustment among the owners in the unit area for their respective investments in wells, tanks, pumps, machinery, materials and equipment contributed to the unit operations;

a provision for governing how the costs of unit operations including capital investments shall be determined and charged to the separately owned tracts and how said costs shall be paid including a provision providing when, how, and by whom the unit production allocated to an owner who does not pay the share of the costs of unit operations charged to such owner, or in the interest of such owner, may be sold and the proceeds applied to the payment of such costs;

a provision for carrying any working interest owner on a limited, carried or net-profits basis, payable out of production, upon such terms and conditions determined by the Commission to be just and reasonable, and allowing an appropriate charge for interest for such service payable out of such owner's share of production, provided that any non-consenting working interest owner being so carried shall be deemed to have relinquished to the unit operator all of its operating rights and working interest in and to the unit until his share of the costs, service charge and interest are repaid to the unit operator;

a provision designating the unit operator and providing for the supervision and conduct of the unit operations, including the selection, removal or substitution of an operator from among the working interest owners to conduct the unit operations;

a provision for voting procedure for the decision of matters to be decided by the working interest owners in respect to which each working interest owner shall have a voting interest equal to its unit participation; and

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the time when the unit operation shall commence and the manner in which, and the circumstances under which, the operations shall terminate and for the settlement of accounts upon such termination;

and are therefore hereby adopted.

(7) This order shall not become effective unless and until the appropriate ratification provisions of Section 70-7-8 NMSA, 1978 Compilation, are complied with.

(8) If the persons owning the required percentage of interest in the unit area as set out in Section 70-7-8 NMSA, 1978 Compilation, do not approve the plan for unit operations within a period of six months from the date of entry of this order, this order shall cease to be of further force and effect and shall be revoked by the Commission, unless the Commission shall extend the time for ratification for good cause shown.

(9) When the persons owning the required percentage of interest in the unit area have approved the plan for unit operations, the interests of all persons in the unit are unitized whether or not such persons have approved the plan of unitization in writing.

(10) Prior to distribution of the proceeds from secondary and tertiary production in excess of 64.2 million barrels, the operator shall appear at a hearing and demonstrate that the formula approved by this order continues to allocate the proceeds from unit production in a fair and equitable manner or, in the alternative, present for approval a new formula prepared on the basis of new or enhanced reservoir data which new formula better allocates said proceeds.

(11) Jurisdiction of cause is retained for the entry of such further orders as the Commission may deem necessary.

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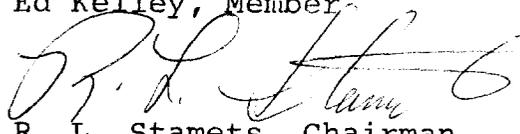
DONE at Santa Fe, New Mexico, on the day and year
hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jim Baca, Member



Ed Kelley, Member



R. L. Stamets, Chairman
and Secretary

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