

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. 11512
ORDER NOS. R-8170-O-1
AND
R-2441-B

APPLICATION OF MARATHON OIL COMPANY, KERR-McGEE CORPORATION, AND SANTA FE ENERGY RESOURCES, INC. TO TERMINATE GAS PRORATIONING, TO "INFILL" DRILL, AND TO AMEND THE SPECIAL RULES AND REGULATIONS FOR THE 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 2, 1996, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 31st day of July, 1996, the Division Director, having considered 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 Division Order No. R-2441, dated February 28, 1963, the Indian Basin-Morrow Gas Pool was created and designated as a gas pool for the production of gas from the Morrow formation underlying all of Sections 22 and 23, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico. Said order further provided for 640-acre spacing units with well location requirements such that each well completed or recompleted in the Indian Basin-Morrow Gas Pool shall be no closer than 1650 feet to the outer boundary of the section and no nearer than 330 feet to any quarter-quarter section or subdivision inner boundary.

(3) Gas production allocation or gas prorationing based on acreage alone was instituted in the Indian Basin-Morrow Gas Pool by Division Order No. R-1670-F, issued in Case 3237 and dated May 6, 1965. Both the "*Special Rules and Regulations for the Indian Basin-Morrow Gas Pool*" that were originally adopted by said Order No. R-2441 and the subsequent prorationing under R-1670-F were later recodified and combined in Division Order No. R-8170, as amended. Because this pool is "prorated", an infill or second well on an individual 640-acre gas spacing and proration unit is acceptable; further any allowable issued to such a unit can usually be produced

from both wells in any proportion (see Division Memorandums dated July 27, 1988 and August 3, 1990).

(4) The reasons stated in said Order No. R-1670-F for instituting gas prorationing in this pool in the year 1963 were as follows:

- (a) there were a total of eight wells completed in the Indian Basin-Morrow Gas Pool; however no Morrow gas had been transported from these wells because no transportation facilities to this area were in existence;
- (b) there existed a market demand for this production and two purchasers were planning construction of gas transportation facilities to these wells; and,
- (c) the wells that were completed at the time were capable of producing in excess of the reasonable market demand for gas from the pool and were capable of producing in excess of the gas transportation facilities to be constructed.

THEREFORE, production from the Indian Basin-Morrow Gas Pool was restricted to reasonable market demand and the capacity of the gas transportation facilities to be constructed.

(5) By Division Order R-8170-O, dated November 27, 1995, entered in Case 11333, the Division granted, in part, an application of Marathon Oil Company ("Marathon") to expand the nearby and unprorated Cemetery-Morrow Gas Pool and to contract the Indian Basin-Morrow Gas Pool because:

- (a) the Morrow formation underlying the area encompassing both the Indian Basin and Cemetery Morrow Gas Pools is approximately 1600 feet below the Cisco/Canyon formation or the South Dagger Draw-Upper Pennsylvanian Associated Pool, in which and is now often treated as a secondary objective which can be economically explored in conjunction with the drilling or deepening of a well for production from the primary objective--the Cisco/Canyon formation or South Dagger Draw-Upper Pennsylvanian Associated Pool;
- (b) the Morrow wells in both the Indian Basin-Morrow Gas Pool and the Cemetery-Morrow Gas Pool will drain no more than 320 acres;
- (c) there is no physical or impermeable barrier within the Morrow interval separating the Cemetery and the Indian Basin Morrow Gas Pools indicating that the Morrow formation constitutes one single common source of supply ("reservoir") in this particular area; and,

- (d) in order to afford an opportunity to drill a well to test both the Cisco/Canyon formation of the South Dagger Draw-Upper Pennsylvanian Associated Pool and the Morrow formation, it is necessary to have the Morrow formation spaced on the same 320-acre standard spacing pattern as established for the South Dagger Draw-Upper Pennsylvanian Associated Pool:

with the Division finding that many of Marathon's objectives may be obtained in a manner consistent with Division practice by the following:

- (i) contracting a portion of the Indian Basin Morrow Gas Pool; and,
- (ii) by declaring that the special rules and regulations for the Indian Basin-Morrow Gas Pool rules shall not apply beyond its current boundary.

(6) With amendments to these orders the horizontal limits of said pool have been adjusted from time to time and currently comprise the following described area in Eddy County, New Mexico:

TOWNSHIP 21 SOUTH, RANGE 23 EAST, NMPM

Section 2:	All
Sections 9 and 10:	All
Section 11:	W/2
Section 14:	SW//4
Section 15:	All
Sections 22 through 25:	All
Section 36:	All

TOWNSHIP 21 SOUTH, RANGE 24 EAST, NMPM

Section 9:	S/2
Section 15:	S/2
Sections 16 and 17:	All
Sections 19 through 22:	All
Sections 30 through 32:	All

(7) At this time the applicants in this matter, Marathon Oil Company, Kerr-McGee Corporation ("Kerr-McGee"), and Santa Fe Energy Resources, Inc., operators and working interest owners in the aforementioned Indian Basin-Morrow Gas Pool, seek (i) to terminate gas prorationing for said pool, to cancel all over and under production, (ii) authority for the infill drilling of a second well within a standard 640-acre gas spacing unit, and (iii) to amend the special rules and regulations to provide for standard well locations not closer than 660 feet to the outer boundary of a spacing unit for said pool.

(8) Recent gas prorationing activity in the subject pool includes:

(a) On August 19, 1993, the New Mexico Oil Conservation Commission ("Commission") held a "gas allowable hearing" in which Kerr-McGee sought but was denied an increase in gas allowable for the Pool (see Division Order No. R-9960);

(b) Since then, the Commission has adopted a gas allowable for this pool which has resulted in the following non-marginal pool allowable per month being assigned to usually just one single non-marginal well in the pool;

Oct 93-Mar 94: 16,947 MCF/Mo.
Apr 94-Sep 94: 15,469 MCF/Mo.
Oct 94-Apr-95: 16,000 MCF/Mo.
Apr 95-Sep 95: 16,000 MCF/Mo.
Oct 95-Mar 96: 22,304 MCF/Mo.
Apr 96-Oct 96: 15,674 MCF/Mo.

(c) In August, 1995, and again in March, 1996 Marathon balloted all operators in the subject pool and determined that no operator opposed terminating prorationing for the Indian Basin-Morrow Gas Pool; and,

(d) On February 15, 1996 the Commission held its "Gas Allowable Hearing" at which Marathon and Kerr-McGee advised the Commission that they were seeking to terminate prorationing in this pool.

(9) At the time of the hearing in this case, evidence was presented that Gas Prorationing for the Indian Basin-Morrow Gas Pool should now be terminated at this time for reasons which include:

(a) Since the institution of prorationing for this pool in 1963, there has been substantial changes in the pool production, development, gas purchasing and marketing practices and other factors affecting the oil and gas industry which make prorationing of the product from this pool no longer necessary;

(b) Market demand for gas currently exceeds deliverability from the pool and for its expected remaining life the total deliverability of the wells in the pool is not expected to exceed market demand for gas produced from the pool;

(c) Currently there are 9 producing wells in the pool with 5 wells classified as marginal and 4 wells classified as non-marginal;

- (d) 100 % of the operators of both marginal and non-marginal wells in the pool support the termination of prorationing in the pool;
- (e) There are no wells in the pool which are underproduced because of a lack of market for the gas from wells;
- (f) Geologic and engineering calculations establish that the higher capacity wells are draining less than 320 acres and therefore the termination of prorationing for the pool will not give the non-marginal wells any unfair advantage over the marginal wells;
- (g) Termination of prorationing for the pool will result in increased ultimate recovery from the pool thereby preventing waste;
- (h) Production of the non-marginal wells is currently being restricted by the proration system assignment of allowable for those wells and not by a lack of market for that production;
- (i) The Division's practice of using the pool's production for the prior 6-month proration period as the main indication of actual market demand by which it sets allowable has not kept pool production in line with actual market demand because when allowable levels and well capabilities are such that a well attempting to meet its market demand hits the six times limit in two months or less, it will be curtailed by the time the allowable has a chance to reflect the increased market demand;
- (j) The current proration system for the pool lacks the flexibility to resolve the problem by simply producing the non-marginal wells at rates in excess of the current allowable and causing the future allowable to be adjusted upward to reflect actual market demand and now most non-marginal wells are at least six times overproduced;
- (k) The current allowable of 688 MCFPD is too low and does not accurately reflect the actual market demand for gas from the pool;
- (l) While the current Commission has granted increases in allowable for certain prorated pools in Southeastern New Mexico, simply assigning more allowable to the pool would provide only temporary and partial incentives for additional production, drilling and workover activities. Such adjustments will not provide a long term reliable solution because the Operators are not assured that such practice will continue and the opportunity to produce wells without allowable restrictions provides an economic incentive necessary to encourage further drilling in the pool;

- (m) Because the pipeline companies in the pool which used to be the purchasers of a substantial volume of gas produced are now transporters and not purchasers, the potential for non-ratable takes by the pipelines no longer exists and proration in this pool is no longer justified on that basis;
- (n) Because there is only one non-standard proration unit in the pool and its well no longer produces, there exists no basis for continuing prorationing of the pool based upon the advantage a non-standard sized proration and spacing unit might theoretically have over standard sized spacing units;
- (o) Because there are no spacing units that currently have producing more than one well per 320 acres, prorationing can be terminated and spacing maintained at 640 acres with authorization for a second "infill" well;
- (q) All current unorthodox well locations are for wells which are no longer producing in this pool and thus is not a basis for continuing proration for the pool;
- (r) Cancellation of over and under production from any gas spacing and proration unit will not create the potential for drainage which is not equalized by counter-drainage;
- (s) Termination of prorationing will not cause the non-marginal wells if allowed to produce at capacity to satisfy more than their share of the market and thereby displace or deny a market for the marginal wells; and
- (t) Termination of prorationing will not cause the high capacity wells, if allowed to produce at capacity, to take more than their share of the remaining gas reserves to the disadvantage of the marginal wells' gas proration units nor will this cause marginal wells to be prematurely abandoned.

(10) At the time of the hearing in this case, evidence was presented that authorization of infill drilling of a second well on a standard 640-acre gas spacing and proration unit and the amendment of the current special pool rules for this pool to provide for standard gas well locations not closer than 660 feet to the outer boundary of a spacing unit are necessary because:

- (a) Production from the Morrow formation in this area is from many separate stringers which vary greatly in areal extent, porosity, and thickness;
- (b) These stringers are not continuous across the pool; and,
- (c) There are recoverable gas reserves underlying each of the spacing units within this pool which might not otherwise be recovered unless greater flexibility is provided for standard well locations and provision is made

for increasing the density to greater than one well per 640-acre spacing unit.

(11) However, such a request for greater flexibility for well locations in this instance causes an inconsistency along the Pool's boundary lines where spacing and well location requirements are governed by **Rule 104** of the "*New Mexico Oil Conservation Division General Rules and Regulations*" which provides for 320-acre spacing for gas wells in southeast New Mexico (Lea, Chaves, Eddy, and Roosevelt Counties) of Pennsylvanian age or older with wells to be no closer than 660 feet to the nearest side boundary (one of the outer boundaries running lengthwise to the tract's greatest overall dimensions) of the dedicated tract nor closer than 1650 feet from the nearest end boundary (one of the outer boundaries perpendicular to a side boundary and closing the tract across its least overall dimension) nor closer than 330 feet to any quarter-quarter section or subdivision inner boundary. Such inconsistency could result in an offsetting operator of Morrow interest outside of the Indian Basin-Morrow Gas Pool unable to adequately counter-drain a well that is legally offsetting his acreage by a distance of 660 feet with a legal well a minimum distance of 1650 feet from the common boundary line separating the two spacing units. Therefore, a buffer-zone of one-half mile should extend beyond the Indian Basin-Morrow Gas Pool whereby a well could be drilled on a standard 320-acre gas spacing and proration unit:

- (a) no closer than 660 feet to the nearest side boundary (as defined above) of the 320 acres therein dedicated to said well;
- (b) nor closer than 660 feet from the nearest end boundary (as defined above) of said dedicated tract;
- (c) nor closer than 330 feet to any quarter-quarter section or subdivision inner boundary.

(12) No other operator and/or interest owner appeared at the hearing in opposition to the application.

(13) Approval of this application will afford the applicants and all affected interest owners the opportunity to produce their just and equitable share of the hydrocarbons in these Morrow formations and will otherwise prevent waste and protect correlative rights.

(14) Approval of Marathon's request will allow the interest owners the opportunity to economically recover their share of the oil and gas in the subject pool, will not reduce ultimate recovery from the subject pool, and will not violate correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The application of Marathon Oil Company ("Marathon"), Kerr-McGee Corporation ("Kerr-McGee"), and Santa Fe Energy Resources, Inc. seeking an order terminating gas prorationing in the Indian Basin-Morrow Gas Pool in portions of Township 21 South, Ranges 23 and 24 East, NMPM, Eddy County, New Mexico is hereby granted effective August 1, 1996.

IT IS FURTHER ORDERED THAT:

(2) Effective August 1, 1996, all allowable established for the Indian Basin-Morrow Gas Pool, including any accumulated over and under production shall be canceled and considered null, void, and of no effect whatsoever.

FURTHER:

(3) For reasons of clarification all previous and current rules and regulations governing the Indian Basin-Morrow Gas pool in Division Order Nos. R-2441, R-2441-A, R-1650, as amended, and R-8170, as amended, shall be superseded by this order and a new set of procedures entitled "*Special Rules and Regulations for the Indian Basin-Morrow Gas Pool*" shall be recodified at this time to take the place of any and all previous sets of pool rules.

(4) The following set of rules and regulations for the Indian Basin-Morrow Gas Pool are hereby reestablished as follows:

**SPECIAL RULES AND REGULATIONS
FOR THE
INDIAN BASIN-MORROW GAS POOL**

RULE 1. Confinement of the special rules governing the Indian Basin-Morrow Gas Pool shall apply only to such lands as shall from time to time lie within the horizontal limits of said pool and each well completed in or recompleted within said pool shall be spaced, drilled, operated, and produced in accordance with the Special Rules hereinafter set forth;

RULE 2. Each well shall be located on a standard unit containing 640 acres, more or less, substantially in the form of a square, which is a governmental section being a legal subdivision of the United States Public Lands Survey.

RULE 3. The supervisor of the Artesia District Office of the Division shall have authority to approve non-standard units without notice when the unorthodox size or shape is due to a variation in the legal subdivision of the United States Public Lands Survey and consists of an entire governmental section and the non-standard unit is no less than 75% nor more than 125% of a standard unit;

RULE 4. The Director of the Oil Conservation Division, hereinafter referred to as the "Division" may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit consisting of less than 640 acres and when the following facts exist and the following provisions are complied with:

(a) the non-standard unit consists of quarter-quarter sections and/or lots that are contiguous by a common bordering side;

(b) the non-standard unit lies wholly within a single governmental section;

(c) the applicant presents written consent in the form of waivers from;

(I) all offset operators to the section in which the non-standard gas unit is located; and,

(II) from all working interest owners in the section in which the non-standard unit is situated and which acreage is not included in the non-standard unit;

(d) in lieu of sub-part (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid parties to be notified were notified by registered or certified mail of his intent to form such non-standard unit, the Division Director may approve the application if no such notified party has entered an objection to the formation of such non-standard unit within 30 days after the Division Director has received the application;

RULE 5(a). The initial well within a spacing unit shall be located no closer than 660 feet to the outer boundary of the proration unit nor closer than 130 feet to any governmental quarter-quarter section line or subdivision inner boundary;

RULE 5(b). The infill well or second well within a spacing unit shall be located in a quarter section of the existing spacing unit not containing a Morrow gas well and shall be located with respect to the spacing unit boundaries as described in the preceding sub-paragraph above;

RULE 6. The Division Director may grant an exception to the requirements of Rule 5 without hearing when an application has been filed for an unorthodox location necessitated by topographical conditions. All operators offsetting the proposed location shall be notified of the application by registered

or certified mail, and the application shall state that such notice has been furnished. The Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Director has received the application;

(5) Any other wells presently drilling to or completed in the Indian Basin-Morrow Gas Pool are hereby approved; the operator of any well having an unorthodox location shall notify the Artesia District Office of the Division in writing of the name and location of the well within 30 days from the date of this order.

(4) Pursuant to Paragraph A of Section 70-2-18 NMSA (1978), existing gas wells in the Indian Basin-Morrow Gas Pool shall have dedicated thereto 640 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C of said Section 70-2-18, existing wells may have non-standard spacing or proration units established by the Division and dedicated thereto.

Failure to file new Forms C-102 with the Division dedicating 640 acres to a well or to obtain a non-standard unit approved by the Division within 60 days from the date of this order shall subject the well to being shut-in.

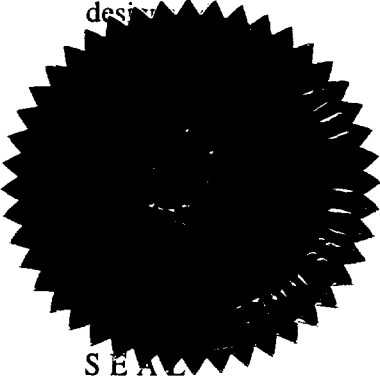
IT IS FURTHER ORDERED THAT:

(6) A buffer zone extending one-half mile beyond the Indian Basin-Morrow Gas Pool boundary whereby a Morrow gas well developed on 320-acre spacing can be drilled on a standard 320-acre gas spacing and proration unit that is:

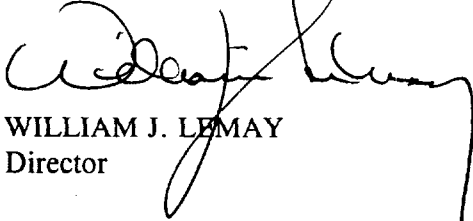
- (a) no closer than 660 feet to the nearest side boundary (as defined above) of the 320 acres therein dedicated to said well;
- (b) nor closer than 660 feet from the nearest end boundary (as defined above) of said dedicated tract;
- (c) nor closer than 330 feet to any quarter-quarter section or subdivision inner boundary.

(7) 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
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STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


WILLIAM J. LEMAY
Director