

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:

*NOMENCLATURE*  
*CASE NO. 11964*  
*ORDER NO. R-5643-B*

**APPLICATION OF MARATHON OIL COMPANY TO AMEND THE SPECIAL  
RULES AND REGULATIONS FOR THE TRAVIS-UPPER PENNSYLVANIAN  
POOL, EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on April 16, 1998 at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 4th day of June, 1998, 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) By Order No. R-5643, dated February 14, 1978, the Division, upon application of Harvey E. Yates Company:

- (a) created and defined the Travis-Upper Pennsylvanian Pool for the production of oil from the upper Pennsylvanian system (Cisco and Canyon formations) with horizontal limits initially comprising the NE/4 of Section 13, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico;

- (b) promulgated temporary special rules and regulations therefor including provisions for:
    - (i) standard 80-acre oil spacing and proration units; and,
    - (ii) designated well location requirements such that each well is to be located within 150 feet of the center of a governmental quarter-quarter section or lot; and,
  - (c) pursuant to Rules 505 and 506 of the Division's statewide Rules and Regulations, assigned a standard 80-acre oil spacing and proration unit within the Travis-Upper Pennsylvanian Pool a top unit depth bracket allowable of 355 barrels of oil per day and a limiting gas/oil ratio ("GOR") of 2,000 cubic feet of gas per barrel of oil which results in a casinghead gas allowable of 710 MCF per day.
- (3) Division Order No. R-5643-A, dated May 2, 1979, made permanent the temporary "*Special Pool Rules for the Travis-Upper Pennsylvanian Pool.*"
- (4) The current pool boundaries for the Travis-Upper Pennsylvanian Pool in Eddy County, New Mexico, include the following described acreage:

**TOWNSHIP 18 SOUTH, RANGE 28 EAST, NMPM**

Section 12:	S/2 SE/4
Section 13:	N/2 and N/2 S/2
Section 14:	SE/4
Section 23:	N/2 and SW/4.

- (5) At this time the applicant, Marathon Oil Company ("Marathon"), seeks the adoption of a new rule for the Travis-Upper Pennsylvanian Pool increasing the limiting gas/oil ratio from 2,000 to 7,000 cubic feet of gas per barrel of oil resulting in an increased casinghead gas allowable of 2,485 MCF per day and the amendment of Rule 4 of the "*Special Rules and Regulations for the Travis-Upper Pennsylvanian Pool*" to provide for well locations not closer than 330 feet to any outer boundary of a governmental quarter-

quarter section.

(6) In 1997, Marathon drilled the following two wells originally intended as Morrow formation gas wells but subsequently recompleted up-hole into the Upper-Pennsylvanian interval in February 1998:

- (a) Crockett "27" Well No 1 (**API No. 30-015-29837**), located 1650 feet from the South line and 1980 feet from the West line (Unit K) Section 27, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico; and,
- (b) Buchanan "33" Well No 1 (**API No. 30-015-29890**), located 2000 feet from the South line and 660 feet from the East line (Unit I) Section 33, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico.

(7) Within the Travis Upper-Pennsylvanian Pool there are currently five active producing oil wells located in Sections 14 and 23 of Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico.

(8) Marathon presented geologic evidence which demonstrates that:

- (a) oil production from all of the wells in this pool including the recently drilled Buchanan and Crockett wells can be attributed to the Canyon formation of the Upper-Pennsylvanian system;
- (b) the Canyon formation in this general area is a relatively thin northeast-southwest trending, laterally continuous carbonate development, composed of interconnected algal limestone buildups;
- (c) the Crockett and Buchanan wells are part of the same common source of supply as the wells within the current pool boundary of the Travis-Upper Pennsylvanian Pool;

- (d) in order to provide the greatest opportunity to maximize efficient recovery of hydrocarbons from this structure and to avoid waste, future wells should be located at the point of greatest porosity thickness; and,
  - (e) Rule 4 of the special pool rules, which currently provides for well locations within 150 feet of the center of a governmental quarter-quarter line, should be amended so that additional flexibility is provided operators by allowing wells to be located not closer than 330 feet to the outer boundary of any governmental quarter-quarter section.
- (9) The following technical and engineering evidence was presented by Marathon:
  - (a) from step rate tests and variable producing rate tests conducted on the Crockett "27" Well No. 1 and the Buchanan "33" Well No. 1, the most efficient rate of flow is at a GOR of approximately 7,000 cubic feet of gas per barrel of oil produced and attempts to restrict these wells to the statewide 2,000 cubic feet of gas to one barrel of oil limiting GOR adversely impacts each well's ability to maximize oil production and therefore is wasteful;
  - (b) pressure build up analysis conducted on the two Marathon wells establishes a radius of investigation of not less than 1600 feet for the Buchanan Well and not less than 2,000 feet for the Crockett Well, which demonstrates that these two wells have good permeability and the ability to produce the hydrocarbons underlying an 80-acre proration and spacing unit;
  - (c) production logs for the two Marathon wells establish that both the oil and gas production is being produced from the same set of perforations, which

indicates that a gas cap does not exist in this pool; and

- (d) the Buchanan and Crockett wells had an initial reservoir pressure between 2319 psi and 2420 psi, which indicates some degree of pressure communication with the older wells in this pool.

(10) In accordance with Division Rule 1207, Marathon provided proper notice to all entitled parties. Ocean Energy, Inc. (formerly UMC Petroleum Corporation) appeared at the hearing through counsel in support of Marathon's application. Moreover, no other interested party appeared in opposition to this application.

(11) The geological and engineering evidence presented demonstrates that:

- (a) the pool is a solution gas drive reservoir with wells capable of producing at high GOR rates;
- (b) there is no indication that a gas cap exists or is being formed up-structure to the oil wells; and
- (c) more hydrocarbon liquids were recovered per cubic feet of gas produced at a GOR rate up to 7,000 to one thereby preventing waste and potentially improving ultimate recovery.

(12) The Travis-Upper Pennsylvanian Pool should therefore be extended to include the following described acreage in Eddy County, New Mexico:

**TOWNSHIP 18 SOUTH, RANGE 28 EAST, NMPM**

Section 22:	SE/4
Section 27:	N/2 and SW/4
Section 33:	E/2
Section 34:	NW/4.

(13) In order to avoid shutting in or curtailing any well in the Pool as a result of allowables under the statewide rules, which are inappropriate in this case, the effective date of this order should be made retroactive to February 1, 1998.

(14) Approval of Marathon's request will allow all mineral interest owners

within the Travis-Upper Pennsylvanian Pool the opportunity to economically recover their fair share of the oil and casinghead gas, will not reduce ultimate recovery from the subject pool, and will not violate correlative rights.

IT IS THEREFORE ORDERED THAT:

- (1) The effective date of this order shall be retroactive to February 1, 1998.
- (2) The Travis-Upper Pennsylvanian Pool in Eddy County, New Mexico, is extended to include:

TOWNSHIP 18 SOUTH, RANGE 28 EAST, NMPM

Section 22:	SE/4
Section 27:	N/2 and SW/4
Section 33:	E/2
Section 34:	NW/4.

- (3) Rule 4 of the "*Special Rules and Regulations for the Travis-Upper Pennsylvanian Pool*," as promulgated by Division Order No. R-5643, as amended, is hereby amended to read in its entirety as follows:

**RULE 4:** Each well shall be located no closer than 330 feet to the outer boundary of any quarter-quarter section or lot.

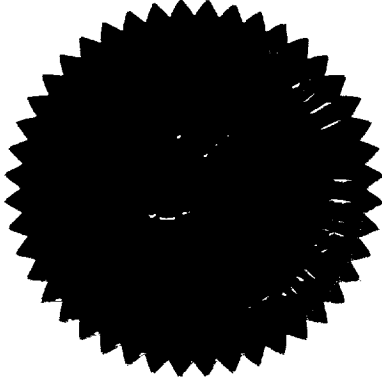
IT IS FURTHER ORDERED THAT:

- (4) The special rules and regulations governing the Travis-Upper Pennsylvanian Pool contained in Division Order No. R-5643, as amended, are hereby amended further by the insertion of Rule 7 as follows:

**RULE 7:** The limiting gas-oil ratio for the Travis-Upper Pennsylvanian Pool is 7,000 cubic feet of gas for each barrel of oil.

- (5) 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.



SEAL

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

*Lori Wrotenbery*  
LORI WROTENBERY  
Director