

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION COMMISSION

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

CASE NO. 8946
Order No. R-7407-D

APPLICATION OF JEROME P. McHUGH
AND ASSOCIATES FOR AN AMENDMENT
TO THE SPECIAL RULES AND REGULATIONS
OF THE GAVILAN-MANCOS OIL POOL.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing on August 7, 8, 21, 22, and 27, 1986 at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 11th day of September, 1986, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearings and being fully advised in the premises,

FINDS THAT:

(1) The applicant has made a good-faith diligent effort to find and notify all operators of wells and each appropriate interested party as required by Division Order No. R-8054.

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

(3) The applicant, Jerome P. McHugh and Associates, seeks an order amending the temporary Special Rules and Regulations of the Gavilan-Mancos Oil Pool as promulgated by Division Order No. R-7407 to establish for a period of not less than ninety days a temporary special production allowable limitation of 200 barrels of oil per day for a standard 320-acre spacing and proration unit and a special temporary gas-oil ratio limitation factor of 1,000 cubic feet of gas per barrel of oil produced.

(4) In Companion Case No. 8950, Benson-Montin-Greer Drilling Corporation seeks an order amending the Special Rules and Regulations of the West Puerto Chiquito-Mancos Oil Pool

promulgated by Division Order No. R-3401 to establish a temporary special production allowable limitation of 400 barrels of oil per day for a standard 640-acre spacing and proration unit and a special temporary gas-oil ratio limitation factor (GOR) of 1,000 cubic feet of gas per barrel of oil produced.

(5) Case No. 8950 and Case No. 8946 have been consolidated for purposes of hearing.

(6) Benson-Montin-Greer Drilling Corporation, Dugan Production Corporation and Meridian Oil Company appeared in support of McHugh's application.

(7) The proponents in this case presented testimony and evidence to show that:

(a) The Gavilan Mancos Oil Pool is a highly fractured reservoir which produces primarily by solution gas drive but has potential for significant additional oil recovery by gravity drainage and reducing the dissipation of natural reservoir energy by wells with relatively high gas-oil ratios;

(b) Based upon measurements of reservoir pressure and interference testing, excellent communication exists between wells and throughout the reservoir;

(c) Based upon bottom hole pressure measurements, the reservoir pressure is declining at rates that provide little time to prepare and develop a plan for improving the future operation and development of the reservoir;

(d) Based upon bottom hole pressure measurements, the daily producing oil rate should be reduced immediately to 200 barrels and the limiting gas-oil ratio should be reduced to 1,000 to slow reservoir depletion rates, allow time to evaluate the reservoir and formulate a plan for future operations and development that will result in increased recoveries of oil and gas; and

(e) Gravity drainage will be a factor in improving ultimate recovery in the Gavilan Mancos Oil Pool.

(8) Mobil Producing Texas and New Mexico Inc. appeared in opposition to McHugh's application and presented evidence to show that the Gavilan-Mancos Pool is a typical solution gas drive reservoir with significant potential for oil recovery from matrix porosity and that, because such a reservoir is not rate sensitive, to continue to produce the wells at the current allowable of 702 barrels per day and 2,000 GOR would not result in the reduction of the ultimate recovery of oil and gas therefrom.

(9) Mallon Oil Company, Mesa Grande Resources Inc. and Koch Exploration appeared and presented evidence to show that the Gavilan-Mancos Oil Pool is an individual well gas cap drive reservoir and that the limiting GOR should be reduced to the solution gas oil ratio in order to most effectively produce the reservoir but opposed the reduction in the maximum daily oil allowable, discounting the potential for significant gravity drainage.

(10) Prior to the application in this case, the operators in the Gavilan-Mancos Oil Pool formed a working interest owners committee, including geologic and engineering technical subcommittees, in order to discuss and address the issue of the most effective and efficient methods to develop and produce the pool.

(11) The applicant presented testimony that despite numerous meetings, the working interest owners have not yet agreed to any method of operations within said pool other than that provided in its special rules and that an emergency exists requiring the Commission to act immediately to reduce the rate of reservoir voidage in the Gavilan-Mancos Oil Pool to prevent waste and preserve reservoir energy until the working interest owners can reach such an agreement or until the Commission finally determines how best the pool might be developed and produced.

(12) The evidence presented at the hearing established that:

(a) the Gavilan Mancos Oil Pool primarily produces from a fractured shale with little or no matrix contribution;

(b) the Gavilan Mancos Pool is primarily a solution gas drive reservoir with potential for substantial additional ultimate oil recovery by gravity drainage;

(c) significant pressure depletion is occurring in wells and areas of the reservoir that have produced very little oil or gas;

(d) pressure interference tests have been conducted in representative areas of the pool, all of which demonstrate almost instantaneous interference over large distances;

(e) the solution GOR is between 480 and 646 cubic feet of gas per barrel of oil and most likely approximates 600 cubic feet of gas per barrel;

(f) wells in some areas of the Pool are producing at GOR rates in excess of the solution gas-oil ratio;

(g) free gas is being liberated reservoir-wide irrespective of structural position;

(h) reduction of the limiting GOR in the Gavilan-Mancos Oil Pool to near the solution GOR will prevent the inefficient dissipation of reservoir energy and will permit the owners in the pool to utilize their share of reservoir energy;

(i) the current 702 barrel per day oil maximum allowable is based upon an extension of Oil Conservation Division (Division) Rule 505 to wells in the Gavilan-Mancos Oil Pool depth range with 320-acre dedication;

(j) such depth bracket allowable could be appropriate for a normal pool with substantial matrix contribution to production but bears no rational relationship to the most efficient rate at which to produce the subject pool;

(k) the proposed 200 barrel per day maximum allowable, if imposed, would appear to result in production from the various tracts in the pool generally in closer proportion to the reserves thereunder than the current 702 barrel maximum allowable;

(l) imposition of such a maximum allowable, at this time, would unfairly penalize the operators of newer generally higher capacity wells as opposed to those operators of older generally declining capacity wells which previously enjoyed high rates of reservoir drainage;

-5-

Case No. 8946

Order No. R-7407-D

(m) adoption of a temporary 400 barrel of oil per day maximum allowable rather than the 200 barrel limit proposed will, at this time, better permit the operators of the newer high capacity wells to recover their share of the oil in the Gavilan-Mancos Oil Pool; and

(n) a reduction in both the daily oil production rate and the limiting GOR will reduce the rate of reservoir voidage and pressure depletion and afford an improved opportunity for gravity drainage, thereby preventing waste, and permit operators additional time to determine the most effective and efficient method to further develop and produce the Pool.

(13) The adoption of a 600 cubic feet of gas per barrel of oil limiting GOR and reduction of the oil depth bracket allowable to 400 barrels per day in the Gavilan-Mancos Oil Pool on a temporary basis, at this time, is necessary to prevent waste.

(14) The adoption of such limiting GOR and depth bracket allowable will, at this time, more nearly permit each operator to use his share of the reservoir energy and more nearly recover the oil underlying the individual tracts in the pool than the existing limiting GOR and depth bracket allowable and will, therefore, better protect correlative rights.

(15) Such limiting GOR and depth bracket allowable should be adopted effective September 1, 1986, and should be continued until further order of the Commission.

(16) The issues raised in this case should be reconsidered when temporary special pool rules for the Gavilan-Mancos Oil Pool established by Order No. R-7407 are brought up for reconsideration in March, 1987, or upon the recommendation of the pool study committee.

IT IS THEREFORE ORDERED THAT:

(1) The terms and conditions of this order shall apply to all wells completed in the Gavilan-Mancos Oil Pool or wells completed in the Mancos formation within one mile thereof effective September 1, 1986 and shall remain in effect until further order of the Commission.

(2) The limiting gas oil ratio in the Gavilan-Mancos Oil Pool, as heretofore defined and described, Rio Arriba County, New Mexico, shall be 600 cubic feet of gas for each barrel of liquid hydrocarbons produced and that the depth bracket allowable therefor shall be 400 barrels of oil per day.

-6-

Case No. 8946

Order No. R-7407-D

(3) Both applicants and opponents shall be permitted representatives on the Gavilan Pool Technical Study Committee and this Study Committee shall submit a status report to the Commission on or before November 15, 1986.


(4) Unless reopened by the Commission based upon the report of the Study Committee, this case shall be reopened at a Commission hearing in March, 1987, to be consolidated with the reconsideration of the Temporary Special Rules established by Order No. R-7407 for the Gavilan-Mancos Oil Pool.

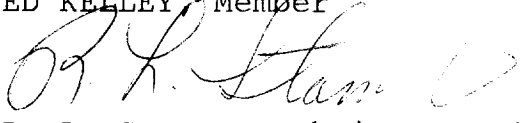
(5) Jurisdiction of this cause is retained for entry of such further orders as the Commission may deem necessary.

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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