

(NORTH CHAVEROO PERMO-PENNSYLVANIAN POOL - Cont'd.)

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.

RULE 6. Top unit allowable for a standard proration unit (158 through 162 acres) shall be based on a depth bracket allowable of 427 barrels per day, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

IT IS FURTHER ORDERED:

(3) That the locations of all wells presently drilling or completed in the North Chaveroo Permo-Pennsylvanian Pool or in the Wolfcamp and/or Cisco formations within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Division in writing of the name and location of the well on or before October 15, 1984.

(4) That, pursuant to Paragraph A. of Section 70-2-18 NMSA 1978, existing wells in the North Chaveroo Permo-Pennsylvanian Pool shall have dedicated thereto 160 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 160 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 cancellation of allowable.

(5) That this case shall be reopened at an examiner hearing in September, 1986, at which time the operators in the subject pool may appear and show cause why the North Chaveroo Permo-Pennsylvanian Pool should not be developed on 40-acre spacing units.

(6) That jurisdiction of this cause is 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.

GAVILAN GREENHORN-GRANEROS-DAKOTA POOL
Rio Arriba County, New Mexico

Order No. R-7745, Creating and Adopting Temporary Operating Rules for the Gavilan Greenhorn-Graneros-Dakota Pool, Rio Arriba County, New Mexico, December 1, 1984.

Order No. R-7745-A, September 24, 1990, continues in full force and effect the temporary rules adopted in Order No. R-7745 (continued for two years).

Application of Jerome P. McHugh for the Creation of a New Oil Pool and Special Pool Rules, Rio Arriba County, New Mexico.

CASE NO. 8350
Order No. R-7745

ORDER OF THE COMMISSION

BY THE COMMISSION: This cause came on for hearing at 9 a.m. on September 20, 1984, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 30th day of November, 1984, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS THAT:

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

(2) The applicant, Jerome P. McHugh, seeks an order creating a new oil pool, with vertical limits to be from the base of the Gavilan-Mancoas Oil Pool to the base of the Dakota formation, with special pool rules including a provision for temporary 320-acre spacing and proration units, Rio Arriba County, New Mexico.

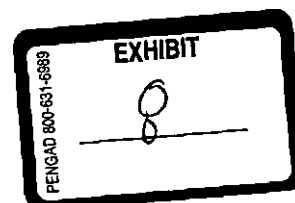
(3) The main pay interval in said proposed pool is the Dakota formation with the Greenhorn and Graneros zones being non-continuous potential secondary zones of production in individual wells.

(4) In a companion Case 8286, Mesa Grande Resources, Inc., seeks an order creating a new oil pool for a similar area with similar vertical limits and the promulgation of special pool rules, including a provision for 160-acre spacing, Rio Arriba County, New Mexico.

(5) Cases 8286 and 8350 were consolidated for the purposes of obtaining testimony.

(6) Jerome P. McHugh either individually or jointly with Dugan Production Corporation has leasehold interest in 4397.89 acres representing approximately 37% of the acreage within the proposed pool boundaries.

(7) Jerome P. McHugh is the operator of 6 of the 12 completion attempts in the proposed pool and either individually or jointly with Dugan Production Corporation has a working interest in all 12 completion attempts in the proposed pool.



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(8) To date, 12 completion attempts have been made within the Gavilan Area (11 within the proposed pool boundary), all located within the boundaries of the Basin Dakota Gas Pool and, based upon completion testing and early production performance, it is indicated that the Dakota formation within the pool boundary is productive primarily of oil, thereby necessitating deletion from the Basin Dakota Gas Pool and the creation of special pool rules.

(9) Available geological data indicates that the proposed Dakota pool has structural features similar to the Gavilan Mancos Pool.

(10) While the relative permeability of the Dakota zone is nearly non-existent because the matrix permeability is very low and the primary reservoir fluid is oil, productivity of the Dakota formation is enhanced by natural fracturing.

(11) Carlisle, Greenhorn, Graneros and Dakota formations are correlative well to well within the pool boundary.

(12) Average development well cost in the Gavilan area for 19 wells is \$607,984.00.

(13) Mesa Grande Resources, Inc. presented computer reservoir model results which incorporated data from the West Lindrith Dakota Pool which were used to predict performance of a Dakota completion in the Gavilan area utilizing short term tests during the completion on 2 wells.

(14) Based upon available data, the Mesa Grande Resources, Inc.'s evidence is not representative of a typical Dakota, Greenhorn, Graneros completion in the proposed pool and is inconclusive in determining if one well can economically and efficiently drain 160 acres or 320 acres.

(15) Engineering information and production data including bottomhole pressure tests indicated that the average well in the proposed pool should be capable of producing only marginal quantities of oil and gas.

(16) Engineering information and production data from the Greenhorn-Graneros and Dakota formations indicate that these zones are marginal in nature and will not support the drilling of a well to produce these zones only.

(17) Jerome P. McHugh presented evidence designed to demonstrate that the only economic, effective and efficient method of producing the subject pool was downhole commingled with production from the Gavilan-Mancos Oil Pool.

(18) If the production from the proposed pool is downhole commingled with production from the Gavilan-Mancos Oil Pool, the high quality engineering data necessary to establish the proper permanent spacing unit size for each pool cannot be obtained.

(19) Wells in said pools should be completed as single or dual wells during the period of any temporary pool rules.

(20) The Gavilan Mancos oil pool is adjacent to and above the proposed pool and is the pool of primary interest with respect to ultimate recoveries of oil and gas.

(21) The fractured nature of the Mancos makes it susceptible to damage during the drilling and cementing of Dakota pool development wells.

(22) Damage to the Gavilan-Mancos pool may result in a substantial reduction of the ultimate recovery of hydrocarbons from the Mancos.

(23) Limiting the number of wells drilled through the Mancos formation to the proposed pool will serve to protect the Mancos formation from said potential damage.

(24) Any well drilled to the proposed pool should utilize a drilling, casing, and cementing program designed to minimize fluid loss to the Mancos formation.

(25) In order to prevent the economic loss caused by the drilling of unnecessary wells, to prevent reduced recovery of hydrocarbons from the Mancos and to otherwise prevent waste and protect correlative rights, the Gavilan Greenhorn-Graneros-Dakota Oil Pool should be created with temporary Special Rules providing for 320-acre spacing and proration units consistent with the provisions of Commission Order No. R-7407.

(26) The vertical limits of the Gavilan-Greenhorn-Graneros Dakota Oil Pool should be defined as the Greenhorn, Graneros and Dakota formations.

(27) The horizontal limits of the Gavilan-Greenhorn-Graneros-Dakota Oil Pool should be as follows:

TOWNSHIP 24 NORTH, RANGE 2 WEST
Sections 1 through 3: All

TOWNSHIP 25 NORTH, RANGE 2 WEST
Sections 17 through 30: All
Sections 33 through 36: All

(28) To protect the correlative rights of the interested parties in the Gavilan Mancos Oil Pool, it is necessary to adopt a restriction requiring that no more than one well be completed in the Gavilan-Greenhorn-Graneros-Dakota Oil Pool in any 320 acre proration and spacing unit and that said proration and spacing unit be identical with the acreage dedicated to a well drilled to the Gavilan-Mancos Oil Pool.

(29) The said Temporary Special Rules and Regulations should be established for a period ending March 1, 1987, in order to allow the operators in the subject pool to gather information to establish whether the temporary rules should be made permanent.

**(GAVILAN GREENHORN-GRANEROS-DAKOTA POOL -
Cont'd.)**

(30) An order based on the above findings is in the interest of conservation, will prevent waste and protect correlative rights, and should be entered in this case.

IT IS THEREFORE ORDERED THAT:

(1) Effective December 1, 1984, a new oil pool in Rio Arriba County, New Mexico, is hereby created and designated as the Gavilan-Greenhorn-Graneros-Dakota Oil Pool, with vertical limits being from the base of the Gavilan-Mancos Oil Pool, as found at a depth of 7574 feet on the log of the Northwest Exploration Company Gavilan Well No. 1, located in Unit A of Section 26, Township 25 North, Range 2 West, NMPM, Rio Arriba County, New Mexico, to a point 400 feet below the base of the Greenhorn formation (said base being found at a depth of 7822 feet on the aforesaid log); the horizontal limits of said pool shall comprise the following described lands in Rio Arriba County, New Mexico:

TOWNSHIP 24 NORTH, RANGE 2 WEST, NMPM
Sections 1 through 3: All

TOWNSHIP 25 NORTH, RANGE 2 WEST, NMPM
Sections 17 through 30: All
Sections 33 through 36: All

(2) Temporary Special Rules and Regulations for the Gavilan-Greenhorn-Graneros-Dakota Oil Pool are hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS
FOR THE
GAVILAN GREENHORN-GRANEROS-DAKOTA OIL POOL**

RULE 1. Each well completed or recompleted in the Gavilan Greenhorn-Graneros-Dakota Oil Pool or in a correlative interval within one mile of its boundary to the North, South and West, shall be spaced, drilled, operated and produced in accordance with the Special Rules and Regulations hereinafter set forth. The one mile automatic extension does not apply to the Eastern boundary of the proposed pool.

RULE 2. ~~No more than one well shall be completed or recompleted on a standard unit containing 320 acres, more or less, consisting of the N/2, E/2, S/2, or W/2 of a governmental section.~~

RULE 3. ~~Wells in the Gavilan-Greenhorn-Graneros-Dakota Oil Pool shall have the same proration and spacing units as any well completed or recompleted in the Gavilan-Mancos Oil Pool.~~

RULE 4. Non-standard spacing or proration units shall be authorized only after notice and hearing.

RULE 5. Each well shall be located no nearer than 790 feet to the outer boundary of the spacing and proration unit, nor nearer than 330 feet to a governmental quarter-quarter section line and shall be located within the same quarter-quarter section as a well completed or recompleted in the Gavilan-Mancos Oil Pool.

RULE 6. No more than one well in the Gavilan Greenhorn-Graneros-Dakota Oil Pool shall be completed in the East one-half of any section that is continuous with the western boundary

of the West Puerto Chiquito-Mancos Oil Pool, with said well being located no closer than 1650 feet to said boundary.

RULE 7. The limiting gas-oil ratio for the Gavilan Greenhorn-Graneros-Dakota Oil Pool shall be 2000 cubic feet of gas per barrel of oil produced.

RULE 8. Any well drilled with its objective being a formation below the Gavilan Mancos pool shall be required to take special precautions during the drilling and cementing through the Gavilan Mancos Pool interval as follows:

(a) Drilling must be done with a mud system designated to control lost circulation within the fractured Mancos interval.

(b) Cementing of the casing shall be done in a manner and with a slurry designed to minimize losses to natural fractures that may exist within the Mancos interval.

RULE 9. Production from any well drilled to the Gavilan Greenhorn-Graneros-Dakota Oil Pool after the effective date of this order shall not be downhole commingled with production from any other pool.

RULE 10. A standard proration unit (316 through 324 acres) shall be assigned a depth bracket allowable of 427 barrels, subject to the market demand factor.

IT IS FURTHER ORDERED THAT:

(1) The locations of all wells presently drilling to or completed in the Gavilan Greenhorn-Graneros-Dakota Oil Pool or in the Greenhorn-Graneros-Dakota formations within one mile thereof are hereby approved; the operator of any well having an unorthodox location shall notify the Aztec District Office of the Division in writing of the name and location of the well on or before February 1, 1985.

(2) Pursuant to Paragraph A. of Section 70-2-18, N.M.S.A. 1978 Comp., contained in Laws 1969, Chapter 271, existing oil wells in the Gavilan Greenhorn-Graneros-Dakota Oil Pool shall have dedicated thereto 320 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 320 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 cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well presently drilling to or completed in the Gavilan Greenhorn-Graneros-Dakota Oil Pool shall receive no more than one-eighth of a standard allowable for the pool.

(3) This case shall be reopened at an examiner hearing in March, 1987, at which time the operators in the subject pool should be prepared to appear and show cause why the Gavilan Greenhorn-Graneros-Dakota Oil Pool should not be developed on 40-acre spacing units.

(4) Jurisdiction of this cause is 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.