

**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:**

**APPLICATION OF CONOCO, INC. FOR POOL
CREATION, SPECIAL POOL RULES, AND THE
ASSIGNMENT OF A SPECIAL DEPTH BRACKET
ALLOWABLE, LEA COUNTY, NEW MEXICO.**

**NOMENCLATURE
Reopened Case No. 12182**

**APPLICATION OF CONOCO, INC. TO INCREASE
THE SPECIAL DEPTH BRACKET ALLOWABLE
FOR THE NORTH HARDY-STRAWN POOL, LEA
COUNTY, NEW MEXICO.**

Case No. 12532

Order No. R-11221-A

ORDER OF THE DIVISION

BY THE DIVISION:

These cases came on for hearing at 8:15 a.m. on November 16, 2000, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 2nd day of February, 2001, 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 these cases and their subject matter.

(2) By Order No. R-11183 issued in Case No. 12184, dated May 19, 1999 and made effective June 1, 1999, the Division created and defined the South Hardy-Strawn Pool for the production of oil from the Strawn formation, later redesignated as the North Hardy-Strawn Pool by Division Order No. R-11204 issued in Case No. 12200, dated June 14, 1999 and made effective July 1, 1999. The horizontal limits for this pool, as currently designated, include the following lands in Lea County, New Mexico:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM

Section 36:

NE/4

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM

Section 30:

SW/4

Section 31:

W/2.

(3) The "*Temporary Special Pool Rules for the North Hardy-Strawn Pool*," as promulgated by Division Order No. R-11221, issued in Case No. 12182 and dated July 12, 1999, currently provide for the following:

(A) 160-acre spacing;

(B) designated well locations such that wells are to be located no closer than 660 feet to any outer boundary of a unit and no closer than 330 feet to any quarter-quarter section or subdivision inner boundary; and

(C) a special depth bracket oil allowable of 600 barrels of oil per day and a limiting gas/oil ratio of 2,000 cubic feet of gas per barrel of oil, which results in a casinghead gas allowable of 1200 MCF per day.

(4) In addition, upon application by Conoco Inc., the Division has previously issued the following administrative orders granting exceptions to the aforementioned special well location requirements for the North Hardy-Strawn Pool:

(A) Administrative Order NSL-4332, dated July 21, 1999, for the SEMU Well No. 134 (API No. 30-025-34382) located 450 feet from the West line and 1650 feet from the South line (Lot 3/Unit L) of Section 30, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico and Administrative Order NSL-4332-A (SD), dated February 18, 2000, for the D. M. Warren Well No. 137 (API No. 30-025-34963) located 400 feet from the South line and 990 feet from the West line (Lot 4/Unit M) of Section 30, both wells to be simultaneously dedicated to a standard 160.50-acre oil spacing and proration unit comprising Lots 3 and 4 and the E/2 SW/4 (SW/4 equivalent) of Section 30;

(B) Administrative Order NSL-4433, dated July 21, 1999, as corrected by order dated January 25, 2000, for the SEMU Well No. 135 (API No. 30-025-34666) located 1330 feet from the South line and 1980 feet from the East line

(Unit J) of Section 25, Township 20 South, Range 37 East, NMPM, Lea County, New Mexico and dedicated to a standard 160-acre oil spacing and proration unit comprising the SE/4 of Section 25;

(C) Administrative Order NSL-4412, dated February 18, 2000, as amended by order dated May 23, 2000, for the State "25-A" Well No. 3 (**API No. 30-025-34953**) located 330 feet from the South line and 2310 feet from the West line (Unit N) of Section 25, Township 20 South, Range 37 East, NMPM, Lea County, New Mexico and dedicated to a standard 160-acre oil spacing and proration unit comprising the SW/4 of Section 25;

(D) Administrative Order NSL-4413, dated February 18, 2000, for the SEMU Well No. 139 (**API No. 30-025-35043**) located 990 feet from the North line and 330 feet from the East line (Unit A) of Section 25, Township 20 South, Range 37 East, NMPM, Lea County, New Mexico and dedicated to a standard 160-acre oil spacing and proration unit comprising the NE/4 of Section 25;

(E) Administrative Order NSL-4429, dated April 5, 2000, for the Meyer "B-31" Well No. 5 (**API No. 30-025-34960**) located 2310 feet from the South line and 1850 feet from the West line (Unit K) of Section 31, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico and dedicated to a standard 160.10-acre oil spacing and proration unit comprising Lots 3 and 4 and the E/2 SW/4 (SW/4 equivalent) of Section 31;

(F) Administrative Order NSL-4430, dated April 5, 2000, as amended by Administrative Order NSL-4430-A (NSBHL), dated January 26, 2001, for the Hardy "36" State Well No. 27 (**API No. 30-025-34794**) located on the surface 2200 feet from the South line and 1650 feet from the East line (Unit J) of Section 36, Township 20 South, Range 37 East, NMPM, Lea County, New Mexico and dedicated to a standard 160-acre oil spacing and proration unit/high-angle horizontal directional drilling project area comprising the SE/4 of Section 36;

(G) Administrative Order NSL-4450, dated May 23, 2000, for the State "KL" 36 Well No. 29 (**API No. 30-025-34999**) located 330 feet from the North line and 2310 feet from the West line (Unit C) of Section 36, Township 20 South, Range 37 East, NMPM, Lea County, New Mexico and dedicated to a standard 160-acre oil spacing and proration unit comprising the NW/4 of Section 36; and

(H) Administrative Order NSL-4543, dated January 26, 2001, for the SEMU Well No. 154 to be drilled 1760 feet from the South line and 2310 feet from the East line (Unit J) of Section 30, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico and dedicated to a standard 160-acre oil spacing and proration unit comprising the SE/4 of Section 30.

(5) At the hearing the applicant presented oil and gas ownership and other evidence, which demonstrates that:

(A) Conoco, Inc. is the only operator of wells within the North Hardy-Strawn Pool;

(B) the only other working interest owners are Atlantic Richfield Company ("ARCO") and Chevron USA Production Company ("Chevron"), which have interests in some of the wells;

(C) both ARCO and Chevron support granting Conoco, Inc.'s applications to make the current spacing and well location requirements permanent and increase the depth bracket allowable; and

(D) Conoco has complied with the notification requirements of Division Rule 1207.A (4) (b) (ii).

(6) As required by Ordering Paragraph No. (3) of Division Order No. R-11221, the applicant presented geologic and geophysical evidence, which demonstrates that:

(A) the location of high capacity producing wells in this pool is highly dependent upon lithology and influenced by structural positioning;

(B) even with the use of 3-D seismic data, it is difficult to locate wells where the lithology is favorable and consists of thick portions of net dolomite with good permeability;

(C) the current well location requirements for this pool restrict standard well locations to essentially four (4) 2.5-acre drill blocks within a standard 160-acre spacing unit (quarter section);

(D) 160-acre spacing units have served to expedite the orderly development of the pool by allowing the drilling of the fewest wells necessary to define the

probable limits of the pool;

(E) it has been necessary and will continue to be necessary to consider exceptions to the special pool rules for unorthodox well locations, which is best accomplished on a well-by-well basis; this will serve to assure the continued orderly development of this pool and the shallower oil pools above the Strawn spaced on 40-acre spacing; and

(F) 160-acre spacing units continue to be the most appropriate sized spacing unit for the North Hardy-Strawn Pool.

(7) There have been ten completions within the North Hardy-Strawn Pool, seven of which are currently producing. In mid-2000 the Hobbs District Office of the Division allowed Conoco, Inc. to conduct step rate tests on the Meyer "B-31" Well No. 5, the D. M. Warren Well No. 137, and the SEMU Well No. 139 by authorizing a testing allowable for each. Based on data obtained from these step rate tests and from the other completions, Conoco, Inc. presented petroleum engineering evidence demonstrating that:

(A) the pool is a solution gas drive reservoir with no water drive, and no primary or secondary gas cap;

(B) reservoir waste will not occur by increasing the depth bracket oil allowable because ultimate oil recovery will not be affected by the rates at which wells are produced;

(C) there has been no pressure depletion between wells and thus, even with the various unorthodox well locations, wells in the pool have not been drilled on too dense a pattern;

(D) drainage areas on the seven producing wells range from 80 acres to 190 acres and therefore 160-acre spacing units are appropriate for this pool;

(E) wells can be produced at rates up to 900 barrels of oil per day with little effect on the producing GOR, which is consistently at or below 2,000 cubic feet of gas per barrels of oil;

(F) four of the seven wells in the pool are capable of effectively and efficiently producing Strawn formation oil at rates of up to 900 barrels per day which is in excess of this pool's current maximum oil allowable of 600 barrels per day; and

(G) once liquid load up occurs within flowing wells, these wells have the capacity to produce on artificial lift at optimum economic rates up to 900 BOPD.

(8) At the time of the hearing the applicant requested the Division consider retroactive approval of its request to increase the depth bracket allowable to correspond with the time the Hobbs District Office authorized the step-rate testing of the three aforementioned wells.

(9) Approval of Conoco, Inc.'s applications by making the special rules governing the North Hardy-Strawn Pool permanent will not cause waste nor impair correlative rights. Further, increasing the depth bracket allowable from 600 BOPD to 900 BOPD should serve to provide the necessary incentive to most economically produce the wells in this pool and can be accomplished without waste or violation of correlative rights. Approval of these applications is in the best interest of conservation and is consistent with sound engineering practices.

IT IS THEREFORE ORDERED THAT:

(1) Effective July 1, 2000, the application of Conoco Inc. seeking an order increasing the depth bracket oil allowable within the North Hardy-Strawn Pool from 600 BOPD to 900 BOPD per standard 160-acre spacing unit **is hereby granted.**

(2) Rule 6 of the "*Special Pool Rules for the North Hardy-Strawn Pool*," as promulgated by Division Order No. R-11221, issued in Case No. 12182 and dated July 12, 1999, is hereby amended to read as follows:

"Rule 6. The allowable for a standard proration unit (158 through 162 acres) shall be based on a special depth bracket allowable of **900** barrels of oil 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 proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres."

(3) The special rules governing the North Hardy-Strawn Pool, including the increase in depth bracket oil allowable to 900 BOPD, are hereby made permanent.

(4) All existing wells and spacing and proration units assigned to the North Hardy-Strawn Pool will be subject to all applicable portions of Division Rules 501 through 509 related to oil proration and allocation.

(5) Jurisdiction of this case 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.



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Lori Wrotenberg

LORI WROTENBERY
Director