

**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. 12182  
Order No. R-11221**

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

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on May 13, 1999, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 12<sup>th</sup> day of July, 1999, 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) The applicant, Conoco Inc., seeks the creation of a new pool for the production of oil from the Strawn formation comprising the NE/4 of Section 36, Township 20 South, Range 37 East, NMPM, Lea County, New Mexico.
- (3) The applicant further seeks the adoption of special pool rules therefor, including provisions for 160-acre spacing and proration units and designated well location requirements such that wells can be located no closer than 660 feet from the outer boundary of the spacing unit nor closer than 10 feet from any quarter-quarter section line or subdivision inner boundary. The applicant further seeks the assignment of a special depth bracket allowable of 600 barrels of oil per day.
- (4) At the hearing, the applicant requested that its Hardy "36" State Well No. 26 (API No. 30-025-34311), located 870 feet from the North line and 1650 feet from the East line (Unit B) of Section 36, be assigned a bonus discovery allowable pursuant to Division Rule No. 509 in the amount of 37,825 barrels of oil.
- (5) Division records indicate that by Order No. R-11183 issued in Case No. 12184 on May 19, 1999, the Division:

- a) created the South Hardy-Strawn Pool comprising the NE/4 of Section 36, Township 20 South, Range 37 East, NMPM; and
- b) assigned the Conoco Inc. Hardy "36" State Well No. 26 a bonus discovery allowable in the amount of 37,825 barrels of oil to be produced over a two-year period.

(6) Division records further indicate that by Order No. R-11204 issued in Case No. 12200 on June 14, 1999, the Division corrected its previous nomenclature by redesignating the South Hardy-Strawn Pool as the **North Hardy-Strawn Pool**.

(7) That portion of the application seeking the creation of a new pool for production of oil from the Strawn formation and for the assignment of a bonus discovery allowable to its Hardy "36" State Well No. 26 should be dismissed.

(8) In support of its proposed 160-acre spacing and special depth bracket allowable of 600 barrels of oil per day for the North Hardy-Strawn Pool, the applicant presented engineering evidence and testimony indicating that:

- a) the Hardy "36" State Well No. 26 was drilled during March, 1998 and completed in the Strawn formation during April, 1998;
- b) the Hardy "36" State Well No. 26 initially produced at a rate of 722 BOPD, 0 BWPD and 778 MCF gas per day. Peak production from the well, which occurred on April 29, 1998, was 1,570 BOPD, 0 BWPD and 1,331 MCF gas per day;
- c) the Hardy "36" State Well No. 26 is currently capable of production in excess of 600 barrels of oil per day;
- d) the North Hardy-Strawn Pool appears to be a solution gas drive reservoir;
- e) extensive production testing demonstrates that producing the Hardy "36" State Well No. 26 at a rate of 600 barrels of oil per day has little or no effect on the producing GOR, which is consistently at or below 1,000 cubic feet of gas per barrel of oil; and

- f) preliminary production and drainage data demonstrate that the Hardy "36" State Well No. 26 is capable of draining an area of approximately 190 acres.

(9) The applicant requested that the proposed 160-acre well spacing and special depth bracket allowable for the North Hardy-Strawn Pool be adopted for a temporary period of eighteen months in order to provide the applicant and other operators in the pool the opportunity to gather additional engineering data to support continuation of the special pool rules on a permanent basis.

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

(11) Approval of this application will provide the applicant the opportunity to efficiently develop the Strawn reservoir underlying the NE/4 of Section 36, thereby preventing waste, will prevent the drilling of unnecessary wells, and will otherwise protect correlative rights.

(12) Special pool rules, including provisions for 160-acre spacing and proration units, designated well location requirements, and a special depth bracket allowable of 600 barrels of oil per day for the North Hardy-Strawn Pool should be established for a temporary period of eighteen months.

(13) The applicant did not present sufficient evidence to justify the establishment of 10-foot interior quarter-quarter section setback requirements; therefore, standard 330-foot interior quarter-quarter section setback requirements should be adopted.

(14) This case should be re-opened at an examiner hearing in December, 2000, at which time the operators in the North Hardy-Strawn Pool should be prepared to appear and present evidence and testimony to support the continuation of the special pool rules on a permanent basis.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Conoco Inc. for the creation of a new pool for the production of oil from the Strawn formation comprising the NE/4 of Section 36, Township 20 South, Range 37 East, NMPM, Lea County, New Mexico, is hereby dismissed.

(2) The application of Conoco Inc. for the assignment of a bonus discovery allowable for its Hardy "36" State Well No. 26 (API No. 30-025-34311), located 870 feet from the North line and 1650 feet from the East line (Unit B) of Section 36, in the amount of 37,825 barrels of oil is hereby dismissed.

(3) Pursuant to the application of Conoco Inc., special pool rules for the North Hardy-Strawn Pool are hereby adopted as follows:

**TEMPORARY SPECIAL POOL RULES FOR THE  
NORTH HARDY-STRAWN POOL**

Rule 1. Each well completed in or recompleted in the North Hardy-Strawn Pool or in the Strawn formation within one mile thereof, and not nearer to or within the limits of another designated Strawn pool, shall be spaced, drilled, operated, and produced in accordance with these Rules.

Rule 2. Each well completed in or recompleted in the North Hardy-Strawn Pool shall be located on a standard unit containing 160 acres, more or less, substantially in the form of a square which is a governmental quarter section and a legal subdivision of the United States Public Lands Survey.

Rule 3. The Director may grant an exception to the requirements of Rule 2 without hearing when an application has been duly filed under the provisions of **Division Rule 104.D.(2)**.

Rule 4. Each well shall be located no closer than 660 feet to the outer boundary of the spacing unit nor closer than 330 feet to any quarter-quarter section line or subdivision inner boundary.

Rule 5. The Director may grant an exception to the requirements of Rule 4 without hearing when an application has been duly filed under the provisions of **Division Rule No. 104.F**.

Rule 6. The allowable for a standard proration unit (158 through 162 acres) shall be based on a special depth bracket allowable of 600 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.

*Note: These rules will expire in December 2000, unless evidence is presented at a hearing at that time supporting their continuation on a permanent basis.*

**IT IS FURTHER ORDERED THAT:**

(1) The location of any well presently drilling to or completed in the North Hardy-Strawn Pool or in the Strawn formation within one mile thereof is hereby approved. The operator of any well having an unorthodox location shall notify the Division's Hobbs District Office in writing of the name and location of the well within 20 days from the date of this order.

(2) Existing oil wells in the North Hardy-Strawn Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules, or 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.

(3) This case shall be re-opened at an examiner hearing in December, 2000, at which time the operators in the North Hardy-Strawn Pool should be prepared to appear and present evidence to support the continuation of the special pool rules on a permanent basis.

(4) 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.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
LORI WROTENBERY  
Director



S E A L

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
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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 Wrotenbery*

LORI WROTENBERY  
Director