

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:

CASE NO. 11083
ORDER NO. R-10274

**APPLICATION OF PETROLEUM DEVELOPMENT CORPORATION FOR A HIGH
ANGLE/HORIZONTAL DIRECTIONAL DRILLING PILOT PROJECT AND FOR THE
PROMULGATION OF SPECIAL OPERATING RULES THEREFOR, CHAVES
COUNTY, NEW MEXICO**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on September 15, 1994, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 14th day of December, 1994 the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

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

(2) At the time of the hearing Division Case Nos. 11082, 11083, and 11084 were consolidated for purposes of testimony.

(3) The applicant, Petroleum Development Company, seeks authority to institute a short radius horizontal directional drilling project in the Tomahawk-San Andres Pool on its Tom "36" State Lease comprising the NE/4 NE/4, S/2 NE/4, and SE/4 of Section 36, Township 7 South, Range 31 East, NMPM, Chaves County, New Mexico, hereinafter referred to as the "project area".

(4) The Tomahawk-San Andres Pool is currently governed by the Division's Statewide Rules and Regulations which require standard 40-acre oil spacing and proration units with wells to be located no closer than 330 feet from the outer boundary of a spacing unit, a standard oil allowable of 80 barrels of oil per day, and a limiting gas-oil ratio of 2,000 cubic feet of gas per

barrel of oil.

- (5) Within the project area the applicant seeks authority to:
- (a) utilize the existing wellbores of its Tom "36" State Well No. 1 (**API No. 30-005-20686**), located 660 feet from the North and East lines (Unit A), its Tom "36" State Well No. 4 (**API No. 30-005-21015**), located 1980 feet from the South and East lines (Unit J), and its Tom "36" State Well No. 5 (**API No. 30-005-21105**), located 660 feet from the South and East lines (Unit P), all in said Section 36 to drill short radius horizontal drainholes a lateral distance of approximately 1500 feet in a direction to be determined by the applicant;
 - (b) the ability to traverse quarter section and quarter-quarter section lines within the project area in order to form non-standard oversized and irregular sized spacing and proration units to accommodate such wellbores;
 - (c) drill the proposed horizontal wellbores to within 100 feet of the outer boundary of the project area; and,
 - (d) the assignment of an allowable for a horizontally drilled well based upon the number of standard 40-acre proration units which are developed or traversed by a horizontal wellbore.

(6) The applicant further seeks the promulgation of special operating rules and procedures within the project area including provisions for administrative authorization for future horizontal wellbores, and the assignment of a special oil allowable or formula for the project area.

(7) The applicant initially proposes to recomplete the Tom "36" State Well Nos. 1, 4, and 5 by plugging-back, milling a window in the existing production casing, kick-off from the vertical, drill a short radius curve hole to approximately 90 degrees and continue drilling horizontally within the Tomahawk-San Andres Pool.

(8) Through its evidence and testimony, the applicant demonstrated that drainhole drilling within the San Andres formation has been successful in intersecting and connecting natural fractures resulting in increased productivity of wells and should ultimately lead to the recovery of additional reserves which would not otherwise be produced, thereby preventing waste, and prevent the economic loss caused by the drilling of unnecessary wells.

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

(10) Approval of this application is in the best interest of conservation, exhibits sound engineering practices, and should further serve to protect correlative rights.

(11) Adoption of special procedures allowing for administrative approval of additional horizontal drainholes in the Tomahawk-San Andres Pool within the Tom "36" State Lease will serve to promote such supplemental drilling activity in fields nearing depletion and should aid in expediting any further request to drill drainholes in this project area without the necessity for additional hearings.

(12) The allowable assigned to either a single proration unit or the project area should be assigned by the supervisor of the Hobbs district office of the Division and should be based upon the number of standard 40-acre proration units within the project area which are developed or traversed by a horizontal wellbore.

(13) The applicant should further be required to submit to the Hobbs district office a Form C-102 showing the appropriate acreage to be dedicated to a well having a horizontal drainhole.

(14) Certain provisions should be included within this approval to assure orderly development and depletion of this reservoir with horizontal drainholes and the continued protection of correlative rights within the immediate area of this project:

- (a) no portion of a drainhole should be closer than 100 feet to the outer boundary circumventing said project area;
- (b) the applicant should be required to conduct a directional survey on the vertical portion of a wellbore prior to commencing directional drilling operations, and on the horizontal portion of the wellbore during or subsequent to completion of directional drilling operations in order that direction, extent and terminus of said wellbore may

be determined to be in compliance with the terms of this order;

- (c) the applicant should further be required to submit copies of said directional surveys to the Santa Fe and Hobbs offices of the Division; and,
- (d) the applicant should notify the supervisor of the Hobbs District Office of the Division of the date and time of commencement of directional drilling operations and of the conductance of any directional surveys on the proposed well in order that these operations may be witnessed.

IT IS THEREFORE ORDERED THAT:

(1) The application of Petroleum Development Company, to institute a short radius horizontal directional drilling project in the Tomahawk-San Andres Pool on its Tom "36" State Lease comprising the NE/4 NE/4, S/2 NE/4, and SE/4 of Section 36, Township 7 South, Range 31 East, NMPM, Chaves County, New Mexico, hereinafter referred to as the "project area", is hereby approved.

(2) The applicant is further authorized to proceed with its initial plans to recomplete its existing Tom "36" State Well No. 1 (API No. 30-005-20686), located 660 feet from the North and East lines (Unit A), its Tom "36" State Well No. 4 (API No. 30-005-21015), located 1980 feet from the South and East lines (Unit J), and its Tom "36" State Well No. 5 (API No. 30-005-21105), located 660 feet from the South and East lines (Unit P), all in said Section 36, by plugging back, milling a window in the existing production casing, kick-off from the vertical, drill a short radius curve hole to approximately 90 degrees and continue drilling horizontally within the Tomahawk-San Andres Pool a distance of approximately 1,500 feet in a direction to be determined by the applicant.

(3) The horizontal wellbores may traverse quarter and quarter-quarter section lines within the project area provided that the horizontal or producing portion of each wellbore shall be located no closer than 100 feet from the outer boundary of the project area.

(4) The applicant, upon completion of drilling a horizontal drainhole, shall submit to the Division's district office in Hobbs a Form C-102 indicating the appropriate contiguous 40-acre tract or tracts to be dedicated to that well.

PROVIDED HOWEVER THAT:

(5) The applicant shall determine the actual location of the kick-off points in each well prior to commencing directional drilling operations. Also, the applicant shall conduct a directional survey on the lateral portion of any horizontal wellbore during or after completion of drilling operations.

(6) The applicant shall notify the supervisor of the Hobbs district office of the Division of the date and time of conductance of any directional surveys in order that the same may be witnessed.

(7) The applicant shall submit copies of all directional surveys conducted on the subject well to both the Santa Fe and Hobbs offices of the Division; and,

(8) The allowable assigned to the proration units designated to each well in the Tomahawk-San Andres Pool shall be assigned by the supervisor of the Division's Hobbs district office and shall be equal to 80 barrels of oil per day times the number of standard 40-acre tracts within each designated proration unit that are developed/traversed by a horizontal drainhole.

IT IS FURTHER ORDERED THAT:

(9) **Special operating provisions** for additional horizontal/high angle wellbores within said "Tom "36" State Lease" are hereby promulgated as follows:

RULE 1.

(A). The Director of the Division is hereby authorized to administratively approve intentionally deviated wells in the Tom "36" State Lease as described above for the purpose of penetrating the Tomahawk-San Andres Pool by means of a wellbore drilled horizontally, provided the following conditions are complied with:

- (1) the surface location of the proposed well is a standard location or the applicant has obtained approval of an unorthodox surface oil well location as provided in General Rule 104.F(1); and,

- (2) no portion of a horizontal drainhole shall be closer than 100 feet to the outer boundary circumventing said project area
- (B). To obtain administrative approval for additional deviated horizontal drainholes within the Tom "36" State Lease, the applicant shall file such request in writing with the Hobbs and Santa Fe offices of the Division and shall further provide a copy of such application to all operators and/or owners of undrilled tracts or unleased mineral interests offsetting the proposed proration unit for said well by registered or certified mail, and the application shall state that such notice has been furnished. The application shall include the following information:

 - (1) a copy of Division Form C-102 identifying the proposed proration unit to be dedicated to the well and any other wells within this proposed unit;
 - (2) a land plat that identifies the ownership of all offsetting tracts to the proposed proration unit; and,
 - (3) schematic drawings of the proposed well completion or recompletion which fully describe the casing, tubing, perforated or openhole interval, kick-off point, and proposed trajectory of the drainhole section.
- (C). The Division Director may approve the application upon receipt of written waivers from all parties described above or if no objection to the intentionally deviated horizontal wellbore has been entered within twenty days after the Director has received the application. If any objection to the proposed intentionally deviated horizontal well is

received within the prescribed time limit as described above, the Director shall, at the applicant's request, set said application for public hearing before a Division Hearing Examiner.

- (D). During or upon completion of drilling operations the operator shall further be required to conduct an acceptable directional survey on the vertical and lateral portions of the wellbore and shall submit a copy of said survey to the Santa Fe and Hobbs offices of the Division.
- (E). The operator shall notify the supervisor of the Hobbs District Office of the Division of the date and time of commencement of directional drilling operations and of the conductance of any directional surveys on the proposed well in order that these operations may be witnessed.
- (F). The Director, at his discretion, may set any application for intentionally deviated horizontal wellbores for public hearing before a Division Hearing Examiner.

RULE 2. Allowables shall be assigned in the following manner

- (A). The allowable assigned to the proration units designated to the Tomahawk-San Andres Pool within the project area shall be assigned by the supervisor of the Division's Hobbs district office and shall be equal to 80 barrels of oil per day times the number of standard 40-acre tracts within each designated proration unit that are developed/traversed by a horizontal drainhole; or,
- (B). The supervisor of the Division's Hobbs district office may assign a "project allowable" based on the number of 40-acre tracts that are either developed by conventionally drilled wells or traversed by a horizontal drainhole. The operator may produce the assigned project allowable from the wells within the project area in any proportion.

RULE 3. The Director of the Division may rescind the authority for any horizontal drainhole if the perforated or openhole portion of such well bore is located closer to the boundary of the project area than permitted by these rules or if it should appear that such rescission is necessary to prevent waste or protect correlative rights.

(10) 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.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY
Director

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