

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. 9670
ORDER NO. R-8917-A

APPLICATION OF STEVENS OPERATING CORPORATION
TO AMEND DIVISION ORDER NO. R-8917,
DIRECTIONAL DRILLING, AND AN UNORTHODOX
OIL WELL LOCATION, CHAVES COUNTY, NEW MEXICO

See Also Order
No. R-8917
R-9035

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on May 10, 1989, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 18th day of May, 1989, 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) By Division Order No. R-8917, dated April 19, 1989, the applicant in Case No. 9617, Curry and Thornton, was authorized to drill a well to test the North King Camp-Devonian Pool at an unorthodox oil well location 1980 feet from the South line and 2475 feet from the West line (Unit K) of Section 9, Township 14 South, Range 29 East, NMPM, Chaves County, New Mexico. Said Order also approved a 160-acre non-standard oil proration unit comprising the E/2 W/2 of Section 9 to be dedicated to the above-described well.

(3) Said Order No. R-8917 also set forth a penalty to be assessed against the top unit allowable assigned to the well by utilizing the following formula, based on the actual bottomhole location of the wellbore to be determined by a directional survey of the completed well:

- a. a penalty (P_1) based on the proportion of distance the actual location is moved toward the boundary from the standard location;

- b. a penalty (P_1) based on the proportion of distance the actual location is moved toward the nearest well from the minimum distance under the pool rules; and
- c. the product of $(1-P_1) \times (1-P_2)$.

(4) The applicant in the immediate case, Stevens Operating Corporation, which has replaced Curry and Thornton as operator of the E/2 W/2 of said Section 9, now seeks to amend said Division Order No. R-8917, and in lieu of drilling a new well at the previously authorized unorthodox oil well location, be permitted to re-enter the plugged and abandoned Philtex Oil Company Honolulu Federal Well No. 1 located 1980 feet from the South and West lines (Unit K) of said Section 9, wherein the applicant proposes to deviate said well so as to penetrate the North King-Camp Devonian Pool at an unorthodox bottomhole oil well location within 500 feet west of a point 1980 feet from the South line and 2475 feet from the West line of said Section 9.

(5) The subject well in this matter was spudded on November 3, 1961 and was drilled to a total depth of 9894 feet where it tested dry in the Devonian formation and was subsequently plugged and abandoned.

(6) The applicant proposes to re-enter said well and drill out the existing cement plugs to a depth of approximately 7474 feet, kick-off at this point due east, build angle to 15 degrees and hold to a measured depth of approximately 8913 feet, at which point the angle will be allowed to drop and return to vertical to a measured depth of approximately 9450 feet, whereby the hole will be allowed to build angle back and drift to the west bottoming at a true vertical depth of approximately 9710 feet in the Devonian formation approximately 330 feet west of the well's surface location.

(7) Should said well be a producer, it is the intent of this application that all survey and penalty provisions in the original Order No. R-8917 be fully applicable with respect to this well.

(8) Santa Fe Exploration Company, the offset operator to the east of the non-standard unit, appeared at the hearing and objected to the existing method of assessing a penalty on production from this well and proposed that the top unit allowable for this well, regardless of its location within the proposed target area, be set at a flat rate of 80 barrels of oil per day.

(9) the existence of a fault, downthrown to the west, which traverses the W/2 of said Section 9 in a north-south direction, resulting in only a small portion of the extreme east side of the E/2 W/2 of said Section 9 being potentially productive, as described in Case No. 9617 and further in this matter, makes it necessary for the applicant to crowd the east line of the unit to adequately drain those reserves underlying the unit. By utilizing an existing wellbore to directionally drill into the subject reservoir, the cost of developing this acreage

should be reduced; therefore approval of the subject application utilizing the penalty formula as outlined in said Order No. R-8917 and Finding Paragraph (3) above, will afford the applicant the opportunity to produce its just and equitable share of the oil in the affected pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk from drilling an excessive number of wells and will otherwise prevent waste and will serve to protect correlative rights in this situation.

(10) The applicant should be required to determine the subsurface location of the kick-off point in the wellbore prior to directional drilling and should subsequently be required to conduct a multi-shot directional survey during or upon completion of drilling operations from the kick-off point to total depth.

(11) The applicant should be required to notify the supervisor of the Artesia district office of the Division of the date and time said directional surveys are to be conducted so that they may be witnessed. The applicant should further be required to provide a copy of said directional surveys to the Santa Fe and Artesia offices of the Division upon completion.

(12) The penalty should however be based on that portion of the total completion interval closest to the eastern boundary of the unit rather than the bottomhole location as provided for in Order No. R-8917 and in Finding Paragraph No. (3), above.

(13) Upon the successful directional drilling and completion of the subject well, said Division Order No. R-8917 should be placed in abeyance.

(14) However, if in the event re-entry into the Honolulu Federal Well No. 1 is unsuccessful, said Division Order No. R-8917 should remain in full force and effect and any other order resulting in the immediate case should become void and of no further effect.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Stevens Operating Corporation, is hereby authorized to re-enter the plugged and abandoned Philtex Oil Company Honolulu Federal Well No. 1 located 1980 feet from the South and West lines (Unit K) of Section 9, Township 14 South, Range 29 East, NMPM, Chaves County, New Mexico, and directionally drill, in the manner described in Finding Paragraph No. (6) of this order, so as to penetrate the North King Camp-Devonian Pool within 500 feet west of an unorthodox oil well location 1980 feet from the South line and 2475 feet from the West line of said Section 9.

PROVIDED HOWEVER THAT, prior to commencing directional drilling operations into said wellbore, the applicant shall establish the location of the kick-off point by means of a directional survey acceptable to the Division.

PROVIDED FURTHER THAT, during or upon completion of directional drilling operations, the applicant shall conduct a multi-shot directional survey from the kick-off point to total depth in order that the subsurface bottomhole location may be determined.

(2) The applicant shall notify the supervisor of the Artesia district office of the Division of the date and time said directional surveys are to be conducted so that they may be witnessed. The applicant shall further provide a copy of said directional surveys to the Santa Fe and Artesia offices of the Division upon completion.

(3) the E/2 W/2 of Section 9 shall be dedicated to the above-described well forming a previously authorized (R-8917) 160-acre non-standard oil spacing and proration unit for said pool.

(4) Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths.

(5) The depth bracket allowable for the well shall be penalized by using the following formula, based on that portion of the total completion interval which is closest to the eastern boundary of the unit.

- a. a penalty (P_1) based on the proportion of distance the actual location is moved toward the boundary from the standard location;
- b. a penalty (P_2) based on the proportion of distance the actual location is moved toward the nearest well from the minimum distance under the pool rules; and
- c. the product of $(1-P_1) \times (1-P_2)$.

(6) Upon the successful directional drilling and completion of the subject well, Division Order No. R-8917, issued in Case No. 9617 and dated April 19, 1989, shall be placed in abeyance until further notice.

IT IS FURTHER ORDERED, HOWEVER, THAT:

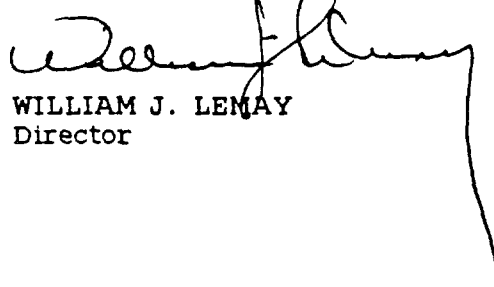
(7) If in the event re-entry into the Honolulu Federal Well No. 1 is unsuccessful, said Division Order No. R-8917 shall remain in full force and effect and, at that time, the order in the immediate case (R-8917-A) shall become void and of no further effect.

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

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DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A handwritten signature in dark ink, appearing to read 'William J. Lemay', is written over the printed name. The signature is fluid and cursive, with a long, sweeping line extending from the end of the name down towards the bottom right of the page.

WILLIAM J. LEMAY
Director

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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. 9617
ORDER NO. R-8917

APPLICATION OF CURRY AND THORNTON
FOR AN UNORTHODOX OIL WELL LOCATION
AND A NON-STANDARD PRORATION UNIT,
CHAVES COUNTY, NEW MEXICO

See Blue Order
No. R-8917-A
R-9035

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 1, 1989, at Santa Fe, New Mexico, before Examiner Victor T. Lyon.

NOW, on this 19th day of April, 1989, 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) The applicant, Curry and Thornton, owns the leasehold on the W/2 of Section 9, Township 14 South, Range 29 East, NMPM, Chaves County, New Mexico and desires to drill a well thereon for a non-standard unit consisting of the E/2 W/2 of said Section 9 at an unorthodox location 1980 feet from the South line and 2475 feet from the West line (Unit K) of said Section 9 in the King Camp-Devonian Pool.
- (3) Santa Fe Exploration and Exxon USA appeared at the hearing and opposed the subject application on the basis that the unorthodox location would impair correlative rights; and, if granted, a penalty should be assessed based upon an estimate of pool reserves under each tract.
- (4) The discovery well was drilled by Santa Fe Exploration at a standard location 1980 feet from the South and East lines of said Section 9.

(5) Special pool rules for said pool were promulgated by Order No. R-8806 after the hearing held in November, 1988 in Case No. 9529, and provided for 160-acre spacing and proration units consisting of a governmental quarter section with the well to be located not less than 660 feet from the unit boundary, nor less than 330 feet from an inner quarter-quarter section line, nor less than 1320 feet from the nearest well completed in said pool.

(6) Evidence was introduced in Case No. 9529 that there is a fault, down-thrown to the west, which traverses the W/2 of said Section 9 in generally a north-south direction continuing southward across Section 16. Additional evidence was introduced in this case which substantiates the existence of the fault.

(7) Santa Fe Exploration drilled a well east of the fault described above which was dry at a standard location 660 feet from the North line and 1980 feet from the East line of Section 16, one-half mile south of the discovery well. The revised geologic interpretation shows a second fault separating the second well from the first.

(8) Evidence indicates that approximately 60 acres east of the fault in the E/2 W/2 of Section 9 is potentially productive, and the applicant is entitled to drill a well to recover the reserves.

(9) A non-standard proration unit consisting of the E/2 W/2 would permit applicant to drill a single well to recover the oil under his lease, whereas two wells drilled for the NW/4 and SW/4 would be uneconomic, unnecessary and would cause waste from drilling an unnecessary well.

(10) There is inadequate data available to make an estimate of reserves with sufficient precision upon which a penalty could be assessed.

(11) Applicant requests an exception to two of the spacing requirements - the minimum distance from the outer boundary of the proration unit and the minimum distance between wells.

(12) Evidence at the hearing indicated that it is necessary to crowd the east line of the proration unit in order to avoid the fault but that a well could be drilled at the minimum distance from the nearest well.

(13) A penalty (P_1) should be assessed for crowding the east line of the unit in proportion to the distance moved from a standard location toward that line or $495/660 = 0.75$.

(14) A further penalty (P_2) should be assessed for crowding the nearest well in proportion to the distance the well is moved toward the nearest well from the minimum distance permitted, or $495/1320 = 0.375$.

(15) The combined penalties should be cumulative so that the proportion of the top allowable assigned at the proposed location would be $(1-P_1) \times (1-P_2)$, or $.25 \times .625 = .15625$.

(16) The distance moved toward the offsetting lease together with the depth of the well indicates a strong possibility the well may encroach even closer to the Santa Fe Exploration lease or even trespass on that lease, and therefore a continuous directional survey should be run on the well and a copy thereof filed with the Division so that the true location of the well at the productive interval can be determined.

(17) The penalty should be based upon the bottomhole location of the well using the procedure described in Finding Paragraphs (13) through (15), above.

(18) The drilling of the well with appropriate penalty as described above will afford the applicant the opportunity to produce its just and equitable share of the oil in the affected pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The application of Curry and Thornton for an unorthodox oil well location for the North King Camp-Devonian Pool is hereby approved for a well to be located at a point 1980 feet from the South line and 2475 feet from the West line of Section 9, Township 14 South, Range 29 East, NMPM, Chaves County, New Mexico.

(2) The E/2 W/2 of said Section 9 shall be dedicated to the above-described well forming a 160-acre non-standard oil spacing and proration unit for said pool.

(3) A continuous directional survey shall be run on the well and filed with the Division so that the bottomhole location at the producing interval may be determined.

(4) The depth bracket allowable for the well shall be penalized by using the following formula, based on the bottomhole location of the well:

- a. a penalty (P_1) based on the proportion of distance the actual location is moved toward the boundary from the standard location;

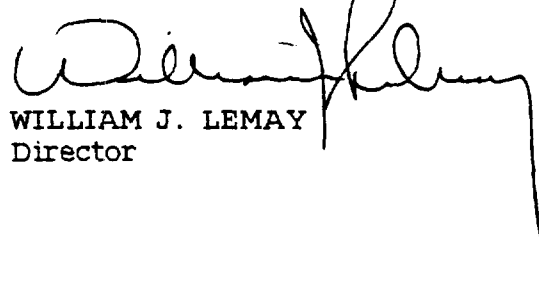
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- b. a penalty (P_2) based on the proportion of distance the actual location is moved toward the nearest well from the minimum distance under the pool rules; and
- c. the product of $(1-P_1) \times (1-P_2)$.

(5) 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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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. 9529
ORDER NO. R-8806

NOMENCLATURE

APPLICATION OF SANTA FE EXPLORATION
COMPANY FOR POOL CREATION, SPECIAL
POOL RULES AND DISCOVERY ALLOWABLE,
CHAVES COUNTY, NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on November 22, 1988, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 9th day of December, 1988, 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) The applicant, Santa Fe Exploration Company, is the owner and operator of the Holmstrom Federal Well No. 1 located 1980 feet from the South and East lines (Unit J) of Section 9, Township 14 South, Range 29 East, NMPM, Chaves County, New Mexico, which was spudded July 29, 1988, drilled to a total depth of 9,758 feet, and successfully tested in the Devonian formation.

(3) Applicant now seeks the creation of a new pool for the production of oil from the Devonian formation consisting of the SE/4 of said Section 9 and the promulgation of temporary special rules and regulations therefor including a provision for 160-acre spacing and proration units and designated well location requirements.

(4) Applicant further seeks the assignment of an oil discovery allowable pursuant to Division General Rule 509 to the above-described well but at the time of the hearing, the applicant requested this portion of the application be dismissed.

(5) The evidence presently available indicates that the aforementioned well has discovered a separate common source of supply in the Devonian formation from 9728 to 9758 feet.

(6) There is ample evidence in the record on this case which indicates that the Devonian formation encountered in the above-described well is of high permeability and that the drainage radius of the well will be in excess of 40 acres.

(7) In order to prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 160-acre spacing units should be promulgated for the proposed pool.

(8) The temporary special rules and regulations should also provide for restrictive well locations in order to assure orderly development of the pool and protect correlative rights.

(9) At the request of the applicant, temporary special rules and regulations for the proposed pool should be established for a two-year period in order to allow the operators in the subject pool to gather sufficient reservoir information to show that an 160-acre unit in the area can be efficiently and economically drained and developed by one well.

(10) At the time of the hearing, the applicant requested that the proposed pool be designated the McAlpine-Devonian Pool or in the alternative the North Lucky Lake-Devonian Pool; however, neither name is acceptable at this time.

(11) A new pool classified as an oil pool for Devonian production should be created and designated the North King Camp-Devonian Pool, with vertical limits to include the Devonian formation and the horizontal limits comprising the SE/4 of Section 9, Township 14 South, Range 29 East, NMPM, Chaves County, New Mexico.

(12) This case should be reopened at an examiner hearing in November, 1990, at which time the operators in the subject pool should be prepared to appear and show cause why the North King Camp-Devonian Pool temporary rules promulgated herein should not be rescinded.

IT IS THEREFORE ORDERED THAT:

(1) Pursuant to the application of Santa Fe Exploration Company a new pool in Chaves County, New Mexico, classified as an oil pool for Devonian production, is hereby created and designated the North King Camp-Devonian Pool, with vertical limits comprising the Devonian formation, and the horizontal limits comprising the following described area:

TOWNSHIP 14 SOUTH, RANGE 29 EAST, NMPM
Section 9: SE/4

(2) Temporary Special Rules for said pool are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
NORTH KING CAMP-DEVONIAN POOL

RULE 1: Each well completed or recompleted in the North King Camp-Devonian Pool or in the Devonian formation within one mile thereof, and not nearer to or within the limits of another designated Devonian oil pool, shall be spaced, drilled operated and produced in accordance with the Special Rules hereinafter set forth.

RULE 2: Each well 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 being a legal subdivision of the United States Public Lands Survey.

RULE 3: The Director of the Oil Conservation Division, hereinafter referred to as the "Division", may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit consisting of less than 160 acres or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting the

proposed non-standard unit shall be notified of the application by 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 offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Director has received the application.

RULE 4: Each well shall be located no nearer than 660 feet to the outer boundary of the proration unit or 330 feet to any governmental quarter-quarter section line or subdivision inner boundary; nor nearer than 1320 feet to the nearest well drilling to or capable of producing from the same pool.

RULE 5: The Division Director may grant an exception to the requirements of Rule 4 without hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by 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: The allowable for a standard proration unit (158 through 162 acres) shall be based on a depth bracket allowable of 515 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 proration 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 THAT:

(3) The location of all wells presently drilling to or completed in the North King Camp-Devonian Pool or in the Devonian formation within one mile thereof are hereby approved; 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 within 30 days from the date of this order.

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(4) Pursuant to Paragraph A. of Section 70-2-18, N.M.S.A 1978 Comp., contained in Laws of 1969, Chapter 271, existing oil wells in the North King Camp-Devonian 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.

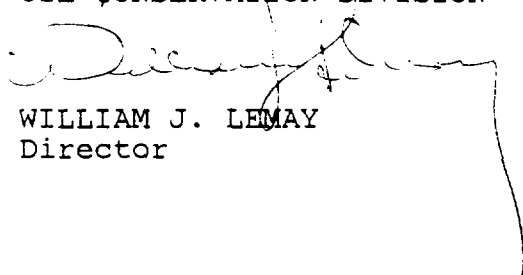
Failure to file new Forms C-102 with the Division dedicating 160 acres to a well or to obtain a non-standard unit approved by the Division within 60 days from the date of this order shall subject the well to cancellation of allowable until a non-standard spacing unit has been approved and , subject to said 60-day limitation, each well presently drilling to or completed in the North King Camp-Devonian Pool or in its corresponding vertical limits as described in Ordering Paragraph No. (1) above, or within one mile thereof, shall receive no more than one-fourth of a standard allowable for said pool.

(5) This case shall be reopened at an examiner hearing in November 1990 at which time the operators in the subject pool may appear and show cause why the North King Camp-Devonian Pool temporary rules promulgated herein should not be rescinded.

(6) 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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