

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. 10865
Order No. R-10025*

**APPLICATION OF MERRION OIL & GAS CORPORATION FOR A HIGH
ANGLE/HORIZONTAL DIRECTIONAL DRILLING PILOT PROJECT AND SPECIAL
OPERATING RULES THEREFOR, WHICH INCLUDES THE FORMATION OF A
NON-STANDARD OIL PRORATION UNIT AND A SPECIAL PROJECT OIL
ALLOWABLE, MCKINLEY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on November 18, 1993, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 1st day of December, 1993, 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, Merrion Oil & Gas Corporation ("Merrion"), seeks to initiate a high angle/horizontal directional drilling pilot project in the Arena Blanca-Entrada Oil Pool underlying the N/2 SE/4 of Section 36, Township 20 North, Range 5 West, NMPM, McKinley County, New Mexico, thereby forming a non-standard 80-acre oil spacing and proration unit for said pool ("Project Area"). Applicant further seeks the adoption of special operating provisions and rules within said Project Area, including the designation of a target window such that the horizontal or production portion of the wellbore can be no closer than 100 feet to the outer boundary of the project area and for a special project oil allowable.

(3) The proposed project area is located within the boundaries of the Arena Blanca-Entrada Oil Pool and, as such, would be subject to the Division's general statewide rules and regulations for oil pools which require 40-acre spacing and proration units with wells to be located no closer than 330 feet from the outer boundary of the unit.

(4) Merrion proposes to utilize its existing Arena Blanca Well No. 1 located at a previously approved unorthodox oil well location (Division Administrative Order NSL-2053, dated May 23, 1985) 2360 feet from the South line and 1200 feet from the East line (Unit I) of said Section 36, by recompleting said well in the following manner:

Directionally drill said well by kicking off from the vertical just above the top of the Entrada formation at a depth of approximately 5,471 feet, drill a short-radius curve in such a manner as to penetrate the Entrada, utilize existing and proven technology to continue drilling horizontally within the Arena Blanca-Entrada Oil Pool in a westerly direction a distance of approximately 400 feet, and produce the Entrada formation throughout the entire horizontal interval.

(5) The allowable assigned to the well shall be limited to the total of the allowable assigned to the 40-acre tracts included in the Project Area.

(6) The geological testimony presented at the time of the hearing indicates that the Arena Blanca-Entrada Oil Pool is an eolian sand "dune-like" deposit of limited extent, having high porosity and permeability with a strong water drive mechanism.

(7) The subject well is the only well to produce from said reservoir and it is currently producing rather large volumes of water and relatively low volumes of oil, also said conventional vertical wellbore is exhibiting effects of "water coning". By drilling a horizontal well along the top of the pay interval, Merrion is attempting to alleviate coning by creating a small pressure drop along the large length of a horizontally drilled wellbore instead of a large pressure drop through a small area available to a vertical wellbore.

(8) The oversized "window" requested by the applicant would allow for greater flexibility in the drilling of the horizontal portion of the wellbore and will also serve to minimize risk and maximize the success of such a completion.

(9) The only offset mineral interest owner to the proposed non-standard proration unit other than the applicant is the U. S. Government who controls an unleased parcel of federal land in Section 31, Township 20 North, Range 4 West, NMPM, McKinley County, New Mexico and no objection was filed by the U. S. Bureau of Land Management to this application.

(10) In the interest of conservation, prevention of waste, and protection of correlative rights, the application of Merrion Oil & Gas Corporation for a horizontal directional drilling pilot project should be approved provided, however, that:

- (a) the wellbore remain confined to the assigned target window;
- (b) the applicant should be required to conduct a directional survey on the well during the drilling of or after the completion of drilling operations on the well, and submit to the Aztec and Santa Fe offices of the Division a copy of said directional survey;
- (c) the Project Area for this well should include only those particular quarter-quarter sections actually penetrated by the subject wellbore;
- (d) an allowable should be established for this Project Area which is equal to the total of the allowable assigned to the 40-acre tracts included in the Project Area; and,
- (e) the non-standard 80-acre oil spacing and proration unit, as described above, should not become effective until such time as the horizontal wellbore has been properly surveyed and determined to be appropriate and will cease at such time as the horizontal wellbore is properly plugged and abandoned.

IT IS THEREFORE ORDERED THAT:

(1) The application of Merrion Oil & Gas Corporation ("Merrion") for a high angle/horizontal directional drilling pilot project consisting of the N/2 SE/4 of Section 36, Township 20 North, Range 5 West, NMPM, Arena Blanca-Entrada Oil Pool, McKinley County, New Mexico, forming an 80-acre non-standard oil spacing and proration unit ("Project Area") for said pool is hereby approved.

(2) Merrion is further authorized to utilize its Arena Blanca Well No. 1 located at a previously approved unorthodox oil well location (Division Administrative Order NSL-2053, dated May 23, 1985) 2360 feet from the South line and 1200 feet from the East line (Unit I) of said Section 36, by recompleting said well in the following manner:

Directionally drill said well by kicking off from the vertical just above the top of the Entrada formation at a depth of approximately 5,471 feet, drill a short-radius curve in such a manner as to penetrate the Entrada, utilize existing and proven technology to continue drilling horizontally within the Arena Blanca-Entrada Oil Pool in a westerly direction a distance of approximately 400 feet, and produce the Entrada formation throughout the entire horizontal interval.

(3) The displacement of the subject wellbore shall be limited to a target window such that the horizontal or production portion of the wellbore shall be no closer than 100 feet to the outer boundary of the project area.

(4) The Project Area or non-standard 80-acre oil spacing and proration unit shall be assigned an acreage dedication factor of 2.0 to be assessed toward the assigned depth bracket allowable for the Arena Blanca-Entrada Oil Pool.

(5) This non-standard 80-acre unit shall not become effective until such time as the horizontal wellbore is properly surveyed and deemed appropriate to do so by the Division's District Supervisor in Aztec and shall cease at such time as the horizontal well is properly plugged and abandoned.

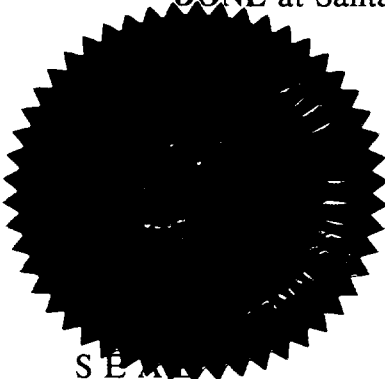
(6) The geographic location of the kick-off point for the proposed horizontal well shall be determined prior to directional drilling operations. Also, the operator shall conduct a directional survey on the lateral portion of the wellbore during or after completion of drilling operations.

(7) The applicant shall notify the supervisor of the Aztec District Office of the Division of the date and time of conductance of any directional surveys in order that the same may be witnessed.

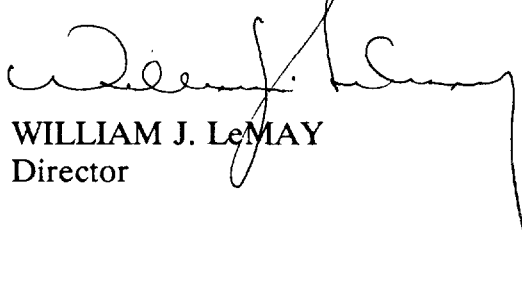
(8) The applicant shall submit copies of all directional surveys conducted on the subject well to both the Aztec and Santa Fe offices of the Division.

(9) Jurisdiction of this cause 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


WILLIAM J. LeMAY
Director