

Entered July 10, 1979  
JLR

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 6553  
Order No. R-6054

APPLICATION OF THE ATLANTIC  
RICHFIELD COMPANY FOR APPROVAL  
OF INFILL DRILLING, EDDY COUNTY,  
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 13, 1979, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 10th day of July, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, The Atlantic Richfield Company, is the operator of the Empire Abo Unit Area, Empire-Abo Pool, Eddy County, New Mexico.

(3) That said unit area covers most of the Empire-Abo Pool, and includes all or portions of Sections 34 through 36, Township 17 South, Range 27 East, Sections 25 through 27 and 31 through 36, Township 17 South, Range 28 East, Sections 29 and 30, Township 17 South, Range 29 East, Sections 1 through 4, 8 through 11, and 15 through 17, Township 18 South, Range 27 East, and Sections 4 through 6, Township 18 South, Range 28 East, NMPM.

(4) That the applicant is conducting a pressure maintenance project in the aforesaid Empire Abo Unit Area, and as project operator has drilled and is drilling additional wells on various 40-acre proration units within said unit area as infill wells to further enhance production from the pool and increase recovery.

(5) That the applicant herein, The Atlantic Richfield Company, seeks a finding that the drilling of each of the aforesaid additional wells on various 40-acre proration units in its Empire Abo Unit Area was, and is, necessary to effectively and efficiently drain the portions of the proration units which could not be so drained by the existing well(s) on the unit.

(6) That the applicant further seeks approval of a waiver of existing well spacing requirements for the aforesaid infill wells.

(7) That the reservoir rock of the Empire-Abo Pool is the Abo reef, a long narrow barrier type reef approximately 12.5 miles in length from Southwest to Northeast and 1.5 miles in width from backreef (north) to forereef (south); that the reef dips gradually from Southwest to Northeast and, as is characteristic for barrier reefs, dips sharply from the crest toward the forereef.

(8) That the gas injection pressure maintenance program which the applicant is conducting requires the injection of gas in wells high on the structure along the North flank of the reef, and depends largely on the expanding gas cap and gravity drainage through the reef to achieve maximum ultimate recovery.

(9) That there is good horizontal permeability through the reef with respect to oil, but the relative vertical permeability with respect to gas is even more pronounced.

(10) That said pronounced vertical permeability with respect to gas causes gas to cone into the producing wells as the gas cap expands, resulting in the premature abandonment of the oil wells and a decrease in the ultimate recovery under individual proration units in the pool and under the pool as a whole.

(11) That the most effective manner in which to reduce the coning of gas into the producing wells and yet maintain production of oil at a reasonable level is to increase the number of withdrawal points within the reef.

(12) That the only way in which to so increase the number of withdrawal points within the reef is to drill additional wells.

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(13) That the Division has recognized the necessity for the drilling of such additional wells in order to more effectively and efficiently drain the portion of the proration units upon which said wells are located which could not be so drained by the existing well(s) thereon, and, by its Orders Nos. R-4549-B and R-5906, has approved their being drilled as infill wells in exception to the applicable well spacing requirements for the Empire-Abo Pool.

IT IS THEREFORE ORDERED:

(1) That the establishment of a procedure for administrative approval for unorthodox producing well locations in the Empire Abo Unit Area, Empire-Abo Pool, Eddy County, New Mexico, by Division Order No. R-4549-B, and the unorthodox locations which have been approved pursuant to such procedure, as well as by Division Order No. R-5906, be and the same are hereby ratified and confirmed.

(2) That such unorthodox producing well locations as have been approved pursuant to said Order No. R-4549-B or Order No. R-5906 as infill producing wells were, and are hereby found, to be necessary to effectively and efficiently drain the portion of the reservoir covered by their respective existing proration units which could not be so drained by the existing wells on the units, and that the existing well spacing requirements were waived to permit their approval.

(3) That 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

  
JOE D. RAMEY  
Director

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