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. 10534
Order No. R-9735

APPLICATION OF AMERICAN HUNTER EXPLORATION, LTD. FOR A PRESSURE MAINTENANCE PROJECT, RIO ARRIBA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on August 20, 1992, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 23rd day of September, 1992, 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, American Hunter Exploration, Ltd., seeks authority to institute a pressure maintenance project in the West Puerto Chiquito-Mancos Oil Pool by the reinjection of gas into the Niobrara member of the Mancos shale through its existing Jicarilla 2-A Well No. 1 located 442 feet from the North line and 1177 feet from the East line (Unit A) of Section 2, Township 27 North, Range 1 West, NMPM, Rio Arriba County, New Mexico.

(3) The proposed injection well was initially drilled by the applicant as a high angle producing well in September and October, 1991. The well first produced from the West Puerto Chiquito-Mancos Oil Pool on February 2, 1992, at an initial rate of 45 BOPD, 20 BWPD and 140 MCF gas per day.

(4) Subsequently, the applicant drilled its Jicarilla 3-A Well No. 1 as a high angle producing well in the West Puerto Chiquito-Mancos Oil Pool at a surface location 1845 feet from the North line and 1900 feet from the West line (Unit F) of Section 3, Township 27 North, Range 1 West, NMPM. Division records indicate that production from the subject well from March through June, 1992 averaged approximately 495 BOPD and 297 MCF gas per day.

(5) There is currently no gas sales pipeline in this area of the San Juan Basin.

(6) The applicant, through its proposal, hopes to accomplish a partial maintaining of reservoir pressure by injecting approximately 600-800 MCF gas per day produced from the aforesaid Jicarilla 3-A Well No. 1 into the proposed injection well. The applicant further seeks approval of the project as an alternative to venting or flaring the aforesaid gas, thereby preventing waste.

(7) Benson-Montin-Greer Drilling Corporation (BMG), the leasehold owner of Sections 9, 10, 15 and 16, Township 27 North, Range 1 West, NMPM, appeared through counsel at the hearing and expressed concerns regarding the proposed project, namely the applicant's unwillingness to unitize and establish a formal project area.

(8) Billco Energy, Inc. (Billco), the operator of certain Mancos producing wells in Section 26, Township 28 North, Range 1 West, NMPM, Boulder-Mancos Pool, appeared through counsel at the hearing and also expressed concern regarding the proposed project, including the possibility that such injection may cause its wells to "gas out" prematurely.

(9) According to testimony, Billco's wells in Section 26 are marginal producers in the Boulder-Mancos Pool with an average producing rate of approximately 2 barrels of oil per day. In addition, all of the gas being produced in the Boulder-Mancos Pool is currently being flared or vented.

(10) The applicant proposed that the pressure maintenance project area comprise Sections 2, 3 and the E/2 of Section 4.

(11) The evidence and testimony presented by the applicant indicates that the proposed project area is commonly owned and is operated by the applicant under a Joint Venture Agreement with the Jicarilla Apache Tribe.

(12) The Niobrara member of the Mancos formation in this area is highly fractured, with the primary fracture system running north/south and the conjugate fracture system running east/west.

(13) The reservoir drive mechanism in the Mancos formation is gravity drainage.

(14) Due to the complex nature of the fracture system within the reservoir, the applicant is unable to predict the direction the injected gas will migrate, and to what extent injection will benefit its producing well in terms of increased oil recovery.

(15) The applicant did demonstrate, through various analogies to pressure maintenance projects in the Mancos formation in the San Juan Basin, namely the Canada Ojitos Unit, that injection into the proposed well will be beneficial, to some degree, in terms of increasing the oil recovery from the Jicarilla 3-A Well No. 1.

(16) The injection rate and pressure proposed by the applicant are likely insufficient to have any adverse affects on offsetting acreage or production.

(17) The applicant has no plans at this time to drill any additional producing or injection wells within the proposed project area.

(18) Neither BMG or Billco presented any geologic or engineering evidence and testimony in opposition to the proposed pressure maintenance project.

(19) The application should be approved.

(20) The operator should take all steps necessary to ensure that the injected gas enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(21) Injection should be accomplished through 2 7/8-inch tubing installed in a packer located at approximately 4,469 feet (measured depth), or at a depth approved by the supervisor of the Division's Aztec District Office.

(22) The applicant should, prior to injection, consult with the supervisor of the Division's Aztec District Office in order to determine a proper method by which the subject well may be tested for mechanical integrity.

(23) A pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(24) The injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the surface pressure on the injection well to no more than 1200 psi.

(25) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected fluid from the Mancos formation.

(26) The operator should notify the supervisor of the Aztec District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

(27) The applicant did not request any special project allowable considerations, and therefore, none should be granted at this time.

(28) Approval of the subject application is in the best interest of conservation and will not violate correlative rights; further the project should be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, American Hunter Exploration, Ltd., is hereby authorized to institute a pressure maintenance project in the West Puerto Chiquito-Mancos Oil Pool by the reinjection of gas into the Niobrara member of the Mancos shale through its existing Jicarilla 2-A Well No. 1 located 442 feet from the North line and 1177 feet from the East line (Unit A) of Section 2, Township 27 North, Range 1 West, NMPM, Rio Arriba County, New Mexico.

(2) The pressure maintenance project, hereby designated the AHEL Jicarilla Lease Pressure Maintenance Project, shall be comprised of the following described area in Rio Arriba County, New Mexico:

TOWNSHIP 27 NORTH, RANGE 1 WEST, NMPM
Sections 2 and 3: All
Section 4: E/2

(3) Injection shall be accomplished through 2 7/8-inch tubing installed in a packer located at approximately 4,469 feet (measured depth), or at a depth approved by the supervisor of the Division's Aztec District Office.

(4) The applicant shall, prior to injection, consult with the supervisor of the Division's Aztec District Office in order to determine a proper method by which the subject well may be tested for mechanical integrity.

(5) A pressure gauge or approved leak detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(6) The injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the surface pressure on the injection well to no more than 1200 psi.

(7) The Director of the Division shall be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected fluid from the Mancos formation.

(8) The operator shall notify the supervisor of the Aztec District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

(9) The AHEL Jicarilla Lease Pressure Maintenance Project shall be governed by the applicable provisions of Rules 701 through 708 of the Division Rules and Regulations.

(10) Monthly progress reports shall be submitted to the Division in accordance with Rules 706 and 1115.

(11) 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

William J. LeMay

WILLIAM J. LEMAY
Director

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