

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. 10286  
Order No. R-9536

APPLICATION OF AMERICAN HUNTER  
EXPLORATION, LTD. FOR A HORIZONTAL  
WELL AND AN UNORTHODOX WELL LOCATION,  
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on May 30, 1991, at Santa Fe, New Mexico, before Examiner Jim Morrow.

NOW, on this 27th day of June, 1991, 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) Division Cases Nos. 10285, 10286, 10300 and 10302 were consolidated at the time of the hearing for purposes of testimony. Applicant requested that the portion of Case No. 10286 involving a well in Section 6, Township 27 North, Range 1 West, NMPM, Rio Arriba County, New Mexico, be dismissed.

(3) American Hunter proposes to drill its Jicarilla 4-A Well No. 1 from an unorthodox oil well location 330 feet from the North and East lines (Unit A) of Section 4, Township 27 North, Range 1 West, NMPM, Rio Arriba County, New Mexico. The well would be drilled vertically to a depth of approximately 7,100 feet to evaluate the pay zone. It would then be plugged back to approximately 6,300 feet, deviated from the vertical in a westerly direction with the angle being increased so as to reach an angle of approximately 80 degrees from the vertical at the top of the Niobrara formation (about 6,800 feet TVD). Drilling would continue in the Niobrara at an angle of approximately 80 degrees for a lateral

distance of approximately 2,500 feet. American Hunter submitted the following additional information through exhibits and the testimony of witnesses to support its request for approval to drill the horizontal well.

- (a) Both the vertical and horizontal (80 degree) portions of the wellbore would be kept inside a target window described as a rectangle 330 to 1,830 feet from the North line and 330 to 3,230 feet from the East line of Section 4.
- (b) A cross-section and a structure map show that the Niobrara A and B zones of the Mancos Formation are productive in the area. These formations dip to the West at approximately 5 degrees (from horizontal) in Section 4. The horizontal portion of the well would follow this dip so as to penetrate both the A and B zones.
- (c) The Niobrara Formation in this area contains numerous fractures with orientation in a north-south direction and good porosity and permeability associated with the fractures. Drilling in a westerly direction, perpendicular to the fracture system, is expected to result in the penetration of numerous fractures providing for good drainage.
- (d) The well is expected to cost between \$800,000 and \$1,000,000, 1-1/2 to 2 times the cost of a vertical well and recover up to 300,000 barrels of oil.
- (e) 13 3/8-inch casing would be set and cemented at 350 feet. 9 5/8-inch casing would be set and cemented through the Point Lookout formation into the Mancos formation. All fresh water strata would be protected by this casing. A 5 1/2-inch liner, slotted through the pay zones, would be set to total depth following the completion of drilling and hung from the 9 5/8-inch casing.
- (f) The weight of the drilling fluid would be controlled to keep the fluid column bottomhole pressure equal to or slightly below the formation pressure, however the well would be kept under control at all times and not allowed to produce formation fluids while drilling.

(4) The proposed well is located in the West Puerto Chiquito-Mancos Oil Pool where pool rules provide for 640-acre spacing and proration units, wells located no nearer than 1,650 feet from the outer boundary of the proration unit nor closer than 330 feet to a quarter-quarter section line. The applicant requests an exception to the well location requirements because of road locations and other

surface considerations. All of Section 4 would be dedicated to the well to form a standard 651.76-acre oil proration unit.

(5) Benson-Montin-Greer Drilling Corporation entered an appearance at the hearing and questioned American Hunter's witness, but did not object to the application. No other operator or interest owner objected.

(6) The proposed well will recover additional oil reserves and will not harm correlative rights. The application should be approved as requested.

IT IS THEREFORE ORDERED THAT:

(1) The application of American Hunter Exploration, Ltd. for approval to drill a horizontal well from an unorthodox location in the West Puerto Chiquito-Mancos Oil Pool is hereby approved.

(2) The applicant is authorized to drill its Jicarilla 4-A Well No. 1 from an unorthodox oil well location 330 feet from the North and East lines (Unit A) of Section 4, Township 27 North, Range 1 West, NMPM, Rio Arriba County, New Mexico, in conformance with the drilling program submitted as evidence and to complete such well as a horizontal (80 degree) producer in the Niobrara formation.

(3) From the surface location to total depth, the Jicarilla 4-A Well No. 1 shall be kept inside a target window described as a rectangle 330 to 1,830 feet from the North line and 330 to 3,230 feet from the East line of said Section 4.

(4) The applicant shall contact the supervisor of the Aztec district office of the Division to obtain prior approval for the casing and cementing program for the well.

(5) The applicant shall conduct directional drilling surveys during drilling operations and shall notify the supervisor of the Aztec district office of the Division of the progress of the deviated well so that operations may be witnessed.

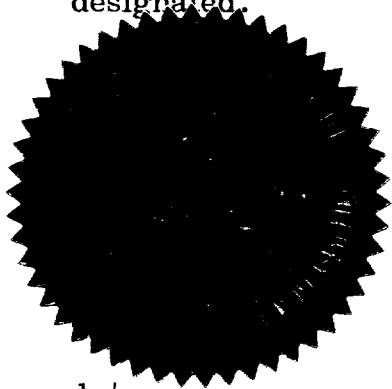
(6) Upon completion of the horizontal drilling operations, the applicant shall file a copy of a directional drilling survey of the entire wellbore with both the Santa Fe and the Aztec offices of the Division.

(7) That portion of Case No. 10286 involving a well in Section 6, Township 27 North, Range 1 West, NMPM, Rio Arriba County, New Mexico, is hereby dismissed.

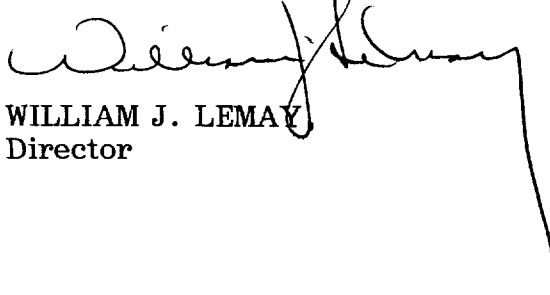
(8) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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



STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
WILLIAM J. LEMAY  
Director

dr/