

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF
DAVID H. ARRINGTON OIL & GAS COMPANY
FOR AN UNORTHODOX GAS WELL LOCATION,
LEA COUNTY, NEW MEXICO

CASE NO. 12,381

ORDER OF THE DIVISION
(Permian Resources' Proposed Draft)

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on May 4, 2000, at Santa Fe, New Mexico, before Examiner David Catanach.

NOW, on this ___ day of June, 2000, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given and the Division has jurisdiction of this case and its subject matter.

(2) The applicant, David H. Arrington Oil & Gas Company ("Arrington"), seeks to drill its Mayfly 14 State Com Well No. 7 (API No. _____) to the Morrow formation at an unorthodox gas well location 330 feet from the North and East lines of Section 14, T16S, R35E, NMPPM, Lea County, New Mexico. The east half of Section 14 is to be dedicated to this well in order to form a standard 320-acre gas spacing and proration unit for the undesignated _____ Morrow Gas Pool.

(3) Well location and acreage requirements for the Morrow formation within the limits of the undesignated _____ Morrow Gas Pool and one mile beyond fall under Division Rule 104C, revised by Division Order R-11231, issued by the New Mexico Oil Conservation Commission in Case No. 12,119 on August 12, 1999, which requires:

- (a) Standard 320-acre, more or less, gas spacing and proration units comprising of two contiguous quarter sections of a single section that is legal subdivision of the U.S. public lands surface; and
- (b) The initial well on a 320-acre unit to be located no closer than 660 feet to any outer boundaries of the quarter section on which the well is located and no closer than 10 feet to any quarter section line or subdivision inter-boundary.

(4) Applicant seeks unorthodox location approval for all zones from the top of the Cisco formation to the base of the Mississippian formation, including, specifically, the "Austin" Morrow Pay formation.

(5) Merit Energy Company and Permian Resources, Inc. entered their appearances in the case in opposition to Arrington's proposed unorthodox well location.

(6) At the time of Arrington's original application in this case, record title to certain of lease interests in the off-setting spacing unit were owned by Merit Energy Company. Merit Energy's lease interests were the subject of a purchase and sale agreement with Permian Resources, Inc., under which Permian expected to acquire title to the interest on May 22, 2000. Consequently, because of the pendency of the acquisition from Merit Energy, Permian filed its motion for continuance seeking additional time to acquire geologic engineering data and evaluate the unorthodox location proposed by Arrington. Permian's motion for continuance was denied and the matter proceeded to hearing on May 4, 2000. The oil and gas leasehold interest owned by Merit/Permian are located in the west half of Section 13, T16S, R35E, offset by the unorthodox well location proposed by Arrington.

(7) Prior to the revisions to Division Rule 104 on August 12, 1999, deep gas wells in Southeast New Mexico on 320-acre spacing were limited to one well per unit no closer than 1,650 feet from the inner-boundaries of the unit nor closer than 660 feet from the side boundaries of the unit nor closer than 330 feet to any quarter quarter section or subdivision inner boundary.

(8) Division Rule 104F-2, as revised, allows the Division Director to grant exceptions to the well location requirements contained in Division Rule 104B and 104C "after notice and opportunity for hearing when the exception is necessary to prevent waste or protect correlative rights." By notice dated October 25, 1999, the Division Director explained that the August 12, 1999 amendments including the effect of those amendments. The noticed specified that "[s]ince the primary objectives of the rule changes were to grant operators increased flexibility in locating wells and decrease the number of applications for unorthodox locations, all future locations exceptions will require substantial justification, i.e., unusual circumstances."

(9) The Yates Petroleum Corporation R.L. Burns "ATL" No. 1 well immediately offsets the unorthodox location for the Mayfly 14 State Com. #7. The ATL No. 1 well is located in the NE/SE (Unit J) of Section 11, T16S, R35E. The completed interval in the Yates ATL No. 1 well is the Morrow formation.

(10) The Yates R. L. Burns ATL No. 1 well was originally drilled at a surface location that was unorthodox for a Morrow formation gas well 330 feet from the south and east lines of Section 11. The well was re-entered and deviated to a standard bottom-hole location approximately 660 feet from the south line and east lines of said Section 11. Both the Strawn and Morrow formations were dry at the standard bottom-hole location. Consequently, the Burns ATL No. 1 well was subsequently sidetracked and drilled straight-hole to an unorthodox bottom-hole location 330 feet from the south and east lines of Section 11. On being provided with

stipulations and waivers of objections by all offsetting operators and working interest owners, the Division approved the unorthodox bottom-hole location for the Burns ATL No. 1 well, but made the well subject to a 50 percent production restriction. The Burns ATL No. 1 well was completed in the Morrow on approximately May ____, 2000; however, as of the date of hearing, completion and initial production data were not available.

(11) Arrington presented testimony and evidence that its proposed unorthodox location was necessary in order to intercept a twenty-foot section of the "Austin" Pay Section of the Morrow sandstone formation located on the downthrown side of a fault block. The location of the fault block was determined on the basis of Arrington's interpretation of geophysical and seismic data. According to Arrington's witnesses, the fault block is less than 400 feet south of the common section line between Sections 11 and 14, and trends along an East/West direction.

(12) The interpretation of the seismic data utilized by Arrington was made by a witness who was unavailable to testify at hearing. Arrington's exploration manager, a geologist, testified that the Austin section of the Morrow formation identified on its cross section and well logs for the R. L. Burns ATL No. 1 well was not in communication with the remainder of the Morrow section located south of the fault block. Correspondingly, Arrington's witnesses testified that the unorthodox well location would recover only those reserves in the E/2 of Section 14 located north of the fault block.

(13) Arrington's cross section exhibit and geologic testimony showed the Austin Morrow formation to thin towards the south across the fault block. However, Arrington failed to establish the basis for such thinning by other well control data, interpretation or otherwise.

(14) Arrington failed to establish by a preponderance of the evidence that it could not recover Morrow formation reserves located south of the fault block with a well at a standard location. Correspondingly, Arrington failed to establish that a well drilled at a standard location within the drilling window would be geologically inferior to a well drilled at the proposed unorthodox location.

(15) The testimony establishes that unlike Morrow Sands located in Eddy County, the Morrow formation in this area of Lea County is characterized by isolated sand bodies. Accordingly, Arrington's witnesses agreed that the geology for the Morrow formation in the area of the proposed unorthodox location is highly interpretative and that the same amount of risk existed for the well at the proposed unorthodox location as at a standard location.

(16) The geologic testimony presented by both Arrington and Permian further established that there are a number of drillable locations within the standard drilling window and that not all of the standard locations have been eliminated, based on any reasonable geologic interpretation.

(17) From the evidence presented, it is established that a well drilled at the proposed unorthodox location north of the fault block identified by Arrington would drain the twenty-foot section of the Morrow formation underlying no more than 10 to 15 acres out of the entire 320-

acre proration unit. Based on Arrington's geologic and engineering testimony and the isopach map it presented, probable recoverable reserves for the 10-15 acre reservoir area ranged from 308,732 m.c.f.g. to 18,009 m.c.f.g. In this regard, drilling and completion costs for its proposed well would be approximately \$700,000.00. Correspondingly, the drilling and development costs necessary to produce the recoverable reserves under the 10-15 acre reservoir area would range from between \$2.27 to \$38.86 per recoverable m.c.f.g., net of the royalty interest. Consequently, the drilling of the well at the proposed unorthodox location in order to drain reserves from the estimated 20 acres cannot be justified economically.

(18) Arrington offered no evidence tending to establish that there was any greater or lesser likelihood that it would not encounter Morrow formation reserves in commercial quantities at a standard location than it would at its proposed unorthodox location. Arrington also failed to establish by a preponderance of the evidence that it would not be able to recover its fair share of reserves from a well drilled at a standard location in the east half of Section 14.

(19) In determining whether the Division should grant exceptions to the well location requirements in Division Rules 104B and 104C, it is established Division policy that the following matters should be considered:

- (a) Whether all locations for the proposed well within the standard windows set by Division Rule 104 have been eliminated;
- (b) Whether there is geological justification for the proposed location which necessitates the granting the exception to Division Rule 104, or, if a proposed location is necessitated by surface features, whether the proposed location is in a geologically inferior position to a location within the standard windows;
- (c) If the proposed location is necessitated by surface features, whether the operator has justified why it cannot directionally drill from the proposed unorthodox surface location to a bottom hole location within the standard window established by Division Rules; and
- (d) Whether the operator seeking the location exception contemplates developing shallower zones, and whether the proposed well location within the standard window for those shallower zones.

(20) The Division, in interpreting and applying the policy articulated in Paragraphs 19(a) through (d), above, has also stated: "Location exceptions in this situation will not be granted unless "unusual circumstances" justify the location, and the closer a well is to the neighboring property, the harder it will be to obtain an exception. For example, if the well is only 10 feet from a neighboring property, it is highly unlikely that an exception will be granted." (See Case. No. 12,370; Order No. R-11364)

(21) Arrington presented no evidence of a surface obstruction or any other unusual circumstance to justify the unorthodox location.

(22) The evidence established that, with the exception of the Burns “ATL” No. 1 well, the proposed unorthodox location is inconsistent with the prevailing spacing pattern for other Morrow formation wells in the area.

(23) Granting the applicant’s request would likely trigger applications for additional unorthodox locations to offset the Mayfly 14 State Com. No. 7 well and would further disrupt the established spacing pattern in the area.

(24) Because no production data from the R. L. Burns ATL No. 1 well was available at the time of the hearing, Arrington failed to establish by a preponderance of the evidence that the unorthodox location it proposes was necessary to protect its correlative rights, occasioned by any drainage by the Yates well.

(25) Arrington’s geologic witness testified that its proposed location was a “high risk” location. There is consequently a corresponding risk that the well will miss the fault. As a result, there is a significant probability that Arrington’s well would drain reserves in Section 13 owned by Permian.

(26) At the hearing, Arrington presented no testimony with respect to whether it intended to evaluate and complete the well in zones or other formations above the Austin Morrow pay section it had identified.

(27) The sidetracking of the Burns “ATL” No. 1 well from an existing wellbore at an unorthodox location resulted in the avoidance of unnecessary risk and economic waste. Correspondingly, “exceptional circumstances” justified the approval of the unorthodox location in that case.

(28) The applicant in this matter failed to establish the existence of any “exceptional circumstances” to justify the proposed unorthodox location for its proposed Mayfly 14 State Com No. 7 well.

(29) The language of Rule 104, as amended, is written in mandatory terms: e.g. “the well shall be drilled in accordance with rules.” Moreover, granting applicant’s request would not serve the policy considerations underlying Rule 104 as there would be no reduction in the applications for similar unorthodox well locations. In addition, Rule 104 and the Division’s October 25, 1999 memorandum “strongly encouraged” operators to examine all possible locations within standard drilling windows. The failure of the applicant in this case to evaluate all possible standard locations further contravenes the Division’s policy with respect to the recent amendments to Rule 104.

(30) Arrington’s Application for Unorthodox well location for its Mayfly “14” State Com. No. 7 well should be denied.

IT IS THEREFORE ORDERED:

(1) The proposed unorthodox well location for the Mayfly "14" State Com No. 7 well is hereby DENIED.

(2) Jurisdiction is hereby retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

LORI WROTENBERY, DIRECTOR

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