

**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. 12381  
ORDER NO. R-11403**

**APPLICATION OF DAVID H. ARRINGTON OIL & GAS INC. FOR AN  
UNORTHODOX GAS WELL LOCATION, LEA COUNTY, NEW MEXICO.**

**ORDER OF THE DIVISION**

**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 R. Catanach.

NOW, on this 20th 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 Inc. ("Arrington"), seeks approval to drill its Mayfly "14" State Com Well No. 7 at an unorthodox gas well location 330 feet from the North and East lines (Unit A) of Section 14, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico, to test any and all formations spaced on 320 acres within the vertical interval from the top of the Cisco formation to the base of the Mississippian formation, which presently include but are not necessarily limited to the Undesignated North Shoe Bar-Atoka Gas Pool, Undesignated Shoe Bar-Atoka Gas Pool, Townsend-Morrow Gas Pool and Undesignated North Townsend-Mississippian Gas Pool. The E/2 of Section 14 is to be dedicated to the well forming a standard 320-acre gas spacing and proration unit.

(3) The proposed well and spacing unit are located within the Townsend-Morrow Gas Pool and within one mile of the Shoe Bar-Atoka, North Shoe Bar-Atoka and North Townsend-Mississippian Gas Pools. All of these pools are currently governed by Division Rule 104.C.(2), which requires standard 320-acre spacing and proration units

with wells located no closer than 660 feet to the outer boundary of the quarter section and no closer than 10 feet to any quarter-quarter section line or subdivision inner boundary.

(4) Permian Resources, Inc. ("Permian") and Merit Energy Company ("Merit"), affected offset operators, appeared at the hearing in opposition to the application.

(5) Utilizing 3-D seismic and well control data, the applicant presented geologic evidence that demonstrates:

- (a) the primary objective of the Mayfly "14" State Com Well No. 7 is the "Austin" sand interval within the basal Morrow formation;
- (b) within the NE/4 NE/4 of Section 14 there are east-west and north-south trending faults that effectively delineate a small area in which the "Austin" sand may be accessed and produced. This productive area, located in a structurally low position on the downthrown side of the faults, is limited in size to approximately 20 acres;
- (c) the "Austin" sand has recently been accessed directly to the north in Section 11 by the Yates Petroleum Corporation ("Yates") R. L. Burns "ATL" Well No. 1 (API No. 30-025-24559), located at an unorthodox gas well location 330 feet from the South and East lines (Unit P). This well encountered approximately 21 feet of net sand within the "Austin" interval. As of the hearing date, Yates was in the process of completing and testing the well;
- (d) the Mayfly "14" State Com Well No. 7 should access the "Austin" sand interval within the same fault block as the R. L. Burns "ATL" Well No.1; and

- (e) a well drilled at the proposed unorthodox gas well location should encounter approximately 5-10 feet of net sand in the "Austin" interval, while a well drilled at a standard gas well location within the NE/4 of Section 14 on the upthrust side of the fault will encounter little or no sand in this interval.

(6) By letter dated December 15, 1999, Yates and Arrington have agreed that both the R. L. Burns "ATL" Well No. 1 and the proposed Mayfly "14" State Com Well No. 7 will be subject to a production penalty of approximately 50 percent. This production penalty is based upon the degree of encroachment towards the common boundary of each well's proration unit.

(7) According to Arrington's evidence, Permian is an interest owner in the W/2 and SE/4 of Section 12, being the affected acreage to the northeast, and is in the process of acquiring Merit's interest in Section 13, being the affected acreage to the east.

(8) Permian presented geologic evidence to demonstrate there are drillable standard locations within the NE/4 of Section 14 to access and produce the Morrow gas reserves underlying the proposed proration unit.

(9) Arrington's geologic interpretation is based upon 3-D seismic and well control data and data obtained from the R. L. Burns "ATL" Well No. 1, in which Arrington is an interest owner. Permian's geologic interpretation is based solely on well control.

(10) Permian's geologic interpretation does not show the faulting within the NE/4 of Section 14 that was ascertained from Arrington's geophysical data.

(11) Arrington's geologic interpretation is based upon more extensive geophysical and geologic data than Permian's interpretation and more accurately depicts the Morrow geology in this area.

(12) Arrington's geologic interpretation demonstrates that the proposed unorthodox gas well location is geologically justified and necessary in order to recover the gas reserves underlying the E/2 of Section 14.

(13) Arrington's application should be approved.

(14) The evidence presented further demonstrates that drilling the Mayfly "14" State Com Well No. 7 at the proposed unorthodox gas well location may adversely affect the correlative rights of the interest owners in the W/2 and SE/4 of Section 12 and the W/2 of Section 13.

(15) In order to protect the correlative rights of affected interest owners, a production penalty should be imposed on the Mayfly "14" State Com Well No. 7.

(16) The 50 percent encroachment penalty agreed to by Yates and Arrington should be adopted.

(17) Arrington's geologic interpretation demonstrates that a very small portion of the E/2 of Section 14 will be productive from the "Austin" sand interval.

(18) Due to the small productive area of the "Austin" sand interval within the E/2 of Section 14, an additional production penalty of 25 percent should be assessed against the Mayfly "14" State Com Well No. 7.

(19) A production penalty of 75 percent should be assessed against the Mayfly "14" State Com Well No. 7 for a completion within the "Austin" sand interval of the Morrow formation.

(20) A production penalty of 50 percent should be assessed against the Mayfly "14" State Com Well No. 7 for any other completion in the Pennsylvanian or Mississippian formations spaced on 320 acres.

(21) These penalties should be applied against the well's ability to produce into a pipeline as determined from semi-annual deliverability tests conducted in accordance with Division rules.

(22) Approval of the proposed unorthodox gas well location, subject to the aforesaid production penalties, will afford the applicant the opportunity to recover the gas reserves underlying the E/2 of Section 14 and will protect correlative rights.

(23) Arrington should be required to conduct a directional survey during or upon completion of drilling operations on the Mayfly "14" State Com Well No. 7. Arrington should notify the supervisor of the Division's Hobbs District Office of the date and time the directional survey is to be conducted in order that it may be witnessed. Arrington should submit copies of the directional survey to the Santa Fe and Hobbs offices of the Division upon completion.

(24) Upon application by Arrington, the encroachment factor of the production penalties imposed by this order may be administratively adjusted by the Division Director based upon the final bottomhole location of the Mayfly "14" State Com Well No. 7.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, David H. Arrington Oil & Gas Inc., is hereby authorized to drill its Mayfly "14" State Com Well No. 7 at an unorthodox gas well location 330 feet from the North and East lines (Unit A) of Section 14, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico, to test any and all formations spaced on 320 acres within the vertical interval from the top of the Cisco formation to the base of the Mississippian formation, which presently include but are not necessarily limited to the Undesignated North Shoe Bar-Atoka Gas Pool, Undesignated Shoe Bar-Atoka Gas Pool, Townsend-Morrow Gas Pool and Undesignated North Townsend-Mississippian Gas Pool.

(2) The E/2 of Section 14 shall be dedicated to the well forming a standard 320-acre gas spacing and proration unit.

(3) A production penalty of 75 percent is hereby assessed against the Mayfly "14" State Com Well No. 7 for a completion within the "Austin" sand interval of the Morrow formation.

(4) A production penalty of 50 percent is hereby assessed against the Mayfly "14" State Com Well No. 7 for any other completion in the Pennsylvanian or Mississippian formations spaced on 320 acres.

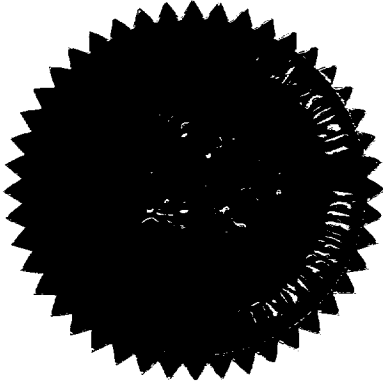
(5) These penalties shall be applied against the well's ability to produce into a pipeline as determined from semi-annual deliverability tests conducted in accordance with Division rules.

(6) Arrington shall conduct a directional survey during or upon completion of drilling operations on the Mayfly "14" State Com Well No. 7. Arrington shall notify the supervisor of the Division's Hobbs District Office of the date and time the directional survey is to be conducted in order that it may be witnessed. Arrington shall submit copies of the directional survey to the Santa Fe and Hobbs offices of the Division upon completion.

(7) Upon application by Arrington, the encroachment factor of the production penalties imposed by this order may be administratively adjusted by the Division Director based upon the final bottomhole location of the Mayfly "14" State Com Well No. 7.

(8) 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.



SEAL

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

*Lori Wrotenbery*  
LORI WROTENBERY  
Director