

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. 11842
ORDER NO. R-_____

APPLICATION OF MEWBOURNE OIL COMPANY
FOR AN UNORTHODOX GAS WELL LOCATION,
LEA COUNTY, NEW MEXICO.

V-F PETROLEUM INC.'S
PROPOSED ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on November 6, 1997, at Santa Fe, New Mexico, before Examiner David Catanach.

NOW, on this ____ day of December, 1997, the Division Director, having considered the testimony, the record, and the recommendation 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, Mewbourne Oil Company ("Mewbourne"), seeks approval to drill its ETA Well No. 3 at an unorthodox gas well location 1650 feet from the North line and 660 feet from the East line (Unit H) of Section 8, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico, to test the Atoka formation in the Townsend-Morrow Gas Pool. The N/2 of Section 8 is to be dedicated to the subject well forming a standard 320-acre gas spacing and proration unit.

(3) The Townsend-Morrow Gas Pool includes the Atoka formation as well as the Morrow formation and is currently governed by Rule No. 104.B of the Division's General Rules and Regulations which requires wells to be located no closer than 1650 feet from the end boundary nor closer than 660 feet from the side boundary of the proration unit nor closer than 330 feet from any quarter-quarter section line or subdivision inner boundary.

(4) The subject well is located 660 feet from the end boundary of the proposed proration unit, and as such, encroaches towards the proration unit situated in the W/2 of Section 9.

(5) At the hearing, V-F Petroleum Inc. ("V-F Petroleum"), the operator of the W/2 of Section 9, appeared and presented testimony in opposition to Mewbourne's proposed location.

(6) Land testimony presented by the parties establishes that:

- a) The owners of the operating rights are common throughout Section 8. (Testimony of Hayden and Gahr, V-F Petroleum Exhibit No. 2);
- b) Since 1969 the reserves from the E/2 of Section 8 in the Atoka formation have been produced by the State ETA Well No. 1 which was drilled at an unorthodox well location in the Atoka formation, Townsend-Morrow Gas Pool, 1980 feet from the South line and 660 feet from the East line of Section 8. The S/2 of Section 8 is dedicated to the well forming a standard 320-acre spacing and proration unit. (Testimony of Hayden, Gahr, V-F Petroleum Exhibit No. 1);
- c) Currently both Sections 8 and 9 are developed with one well to the Atoka formation located 660 feet from their common section line. (Testimony of Hayden and Gahr, V-F Petroleum Exhibit 1);
- d) Mewbourne seeks authority to drill a second well 660 feet from the common lease line between their acreage in the E/2 of Section 8 and the offsetting V-F Petroleum spacing unit in the W/2 of Section 9. (Testimony of Hayden and Gahr, V-F Petroleum Exhibit No. 1); and

- e) The W/2 of Section 9 is a standard 320-acre spacing unit dedicated to the V-F Petroleum Humble Townsend Well No. 1 located at a standard well location in the Morrow formation 1980 feet from the South line and 660 feet from the West line of the section. (Testimony of Gahr, V-F Petroleum Exhibit No. 1).

(7) Approval of the Mewbourne application would result in two wells in the Atoka formation in the E/2 of Section 8 at unorthodox locations 660 feet from the East line of the section which encroach on the offsetting V-F Petroleum spacing unit in the W/2 of Section 9 which is dedicated to one well which was drilled at a standard location 660 feet from the common lease line.

- (8) Mewbourne presented geologic evidence and testimony which showed that:
 - a) Mewbourne's interpretation of this Atoka-Morrow reservoir is based upon well control data. (Testimony of Williamson);
 - b) The Atoka-Morrow formation in this area consists of a North-South trending sand with only the eastern portion of the E/2 of Section 8 being productive. (Testimony Williamson, Mewbourne Exhibit No. 6);
 - c) The Mewbourne interpretation extends this reservoir to the North into an area where the available well control shows the reservoir to be absent. (Testimony of Williamson, Mewbourne Exhibit No. 6);
 - d) Section 8 is cut by a North-South trending fault which separates most of Section 8 from the productive Atoka channel. (Testimony Williamson, Mewbourne Exhibit No. 4); and
 - e) Although not supported by any geological data, Mewbourne mapped small faults which separated the well in Section 8 from the well in Section 9 and the well in Section 16 from the well in Section 17. (Testimony of Williamson, Mewbourne Exhibit No. 4).

- (9) V-F Petroleum's geologic evidence and testimony shows that:

- a) The well control data available on this Atoka-Morrow reservoir establishes that the productive sand in Section 8 is confined to the eastern portion of the E/2 of Section 8. (Testimony of Koss, V-F Petroleum Exhibit No. 6);
- b) That the sonic and resistivity logs from the V-F Petroleum Humble Townsend Well No. 1 located in Section 9 established that this reservoir is one common source of supply and is thicker than mapped by Mewbourne and confined to the currently developed sections in this reservoir. (Testimony of Koss, V-F Petroleum Exhibit Nos. 6, 18 and 19); and
- c) There is no geologic evidence of faulting between wells in Sections 8 and 9 nor between wells in Sections 16 and 17. (Testimony of Koss, V-F Petroleum Exhibit Nos. 4 through 6).

(10) The Morrow reservoir in Sections 8 and 9, Township 16 South, Range 35 East, is confined to the currently developed portion of the reservoir and, in Section 8, only the eastern portion of the E/2 is within this Morrow reservoir and potentially productive of hydrocarbons.

(11) Mewbourne's engineering evidence showed pressure differentials between the wells in Sections 8 and 9 and concluded that an additional well 660 feet from the East line of Section 8 should not drain additional reserves from Section 9. (Testimony of Williamson).

(12) V-F Petroleum testified that pressure differentials between the V-F Petroleum Townsend Well and the Mewbourne ETA Well No. 1 are the result of using wellhead pressures which are erroneous due either to fluids loading in the wellbores or an insufficient shut in period to achieve static reservoir pressures. Mewbourne testified that it had relied on reported data and had not considered the effect of water or condensate loading on pressure data. (Testimony of Vasicek and Williamson, V-F Petroleum Exhibit No. 17).

(13) Engineering evidence presented by V-F Petroleum shows pressure communication between the Mewbourne ETA Well No. 1 and the V-F Petroleum Townsend

Well No.1 as follows:

- (a) At the time of first production -- the V-F Petroleum Humble Townsend Well and the State ETA Well No. 1 were in pressure communication for the State ETA Well No. 1 and produced 1.8 BCF of gas during its first two years of production which resulted in the Humble Townsend Well having an Initial Pressure which was 732 pounds less than the Initial Pressure in the State ETA No. 1. (Testimony of Vasicek, V-F Petroleum Exhibits 10 A and B and 11 A and B);
- (b) In 1989 -- pressure interference was established between the V-F Petroleum Humble Townsend Well and the Mewbourne ETA Well No. 1 by a Schlumberger Deliverability Test. (Testimony of Vasicek, V-F Petroleum Exhibit No. 15);
- (c) In 1981 and after 1993 -- the convergence of well pressures on V-F Petroleum's Present Pressure v. Time Plot shows interference between the Humble Townsend and ETA Well No. 1 in 1981 and after 1983. (Testimony of Vasicek, V-F Petroleum Exhibit No. 16); and
- (d) Recent P/Z vs. cum data also establishes pressure communication in this reservoir. (Testimony of Vasicek, V-F Petroleum Exhibit No. 17).

(14) The Mewbourne ETA Well No. 1 in Section 8 and the V-F Petroleum Humble Townsend Well No. 1 in Section 9 produce from a common source of supply, are in pressure communication with each other and compete for reserves in the reservoir.

OPTION 1: DENIAL OF APPLICATION

(15) The Mewbourne ETA Well No. 1 has effectively drained the E/2 of Section 8 and will continue to drain the reserves from the E/2 of Section 8 and the W/2 of Section 9.

(16) The proposed Mewbourne well in the E/2 of Section 8 is unnecessary to drain the reserves under the E/2 of Section 8.

(17) The V-F Petroleum Humble Townsend Well is effectively draining the reserves under the W/2 of Section 9.

(18) If Mewbourne is allowed to drill a second well in the E/2 of Section 8, to offset the additional drainage from Section 8, V-F Petroleum would have to drill another unnecessary well in the W/2 of Section 9.

(19) Approval of Mewbourne's application will result in two wells in the E/2 of Section 8 which are completed in and compete for reserves in the Atoka formation with the one well in the offsetting Section 9 operated by V-F Petroleum.

(20) Mewbourne and the other owners of interest in the E/2 of Section 8 have been provided the opportunity to produce their just and fair share of the reserves in this pool and have availed themselves of this opportunity by drilling the State ETA Well No. 1 and producing the Atoka reserves under the E/2 of Section 8.

(21) Approval of Mewbourne's application for an unorthodox well location for its State ETA Well No. 3 would result in the drilling of an unnecessary well, would cause waste, would allow the interest owners in the E/2 of Section 8 to produce more than their fair share of the reserves in this pool, would result in drainage from Section 9 that could not be offset by counter drainage without the drilling of an additional unnecessary well, will impair the correlative rights of the owners in the W/2 of Section 9, and should be **denied**.

IT IS THEREFORE ORDERED THAT:

(1) The application of Mewbourne Oil Company for an unorthodox well location for its proposed ETA Well No. 3 1650 feet from the North line and 660 feet from the East line of Section 8, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico is hereby **denied**.

(2) Jurisdiction is hereby 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

SEAL

OPTION 2: PENALTY

(15) Mewbourne's location for its proposed ETA Well No. 3 is 60% closer to the East line of Section 8 (and the offsetting V-F Petroleum operated tract) than authorized by Rule 104.B of the Division's General Rules and Regulations of the Division.

(16) V-F Petroleum testified that in order to protect its correlative rights, if an unorthodox well location for the Mewbourne ETA Well No. 3 is approved 1650 feet from the North line and 660 feet from the East line of said Section 8, the ETA Well No. 3 should be assessed a production penalty of 60% (40% allowable). Its proposed production penalty is based upon the footage encroachment towards its acreage described as follows:

1650' (standard setback) - 660' (distance from V-F Petroleum's acreage) + 990'
(encroachment)

$$990' / 1650' = 60\%$$

In addition, V-F Petroleum requests that the proposed production penalty of 60% be assessed against the well's ability to produce into the sales line as determined by a production test to be conducted after the well has continuously produced at an unrestricted rate for seven days and that the test be witnessed by representatives of the Division and V-F Petroleum. V-F Petroleum further requests that these tests be conducted at the time the well is completed, 90 days after first deliveries of gas into the sales line and semiannually thereafter.

(17) The proposed unorthodox well location should be approved, provided however, that in order to protect the correlative rights of V-F Petroleum, a 60% production penalty should be imposed on the ETA Well No. 3.

(18) Mewbourne requests that if the order which results from this hearing imposes a production penalty on the ETA Well No. 3, a minimum producing rate of 1000 mcf per day be set for the well.

(19) A minimum production rate for the proposed ETA Well No. 3 of 1000 mcf per day is approximately the rate at which Mewbourne testified this well will be able to produce. Accordingly, if approved, the requested minimum producing rate could result in the proposed

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well being able to produce at unrestricted rates. (Testimony of Williamson, *See* Mewbourne Exhibit No. 10).

(20) A minimum production rate for the ETA Well No. 3 of 1000 mcf per day could result in this well not being penalized, would authorize drainage from the offsetting acreage in Section 8 and should be **denied**.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Mewbourne Oil Company, is hereby authorized to drill its ETA State Well No. 3 at an unorthodox gas well location 1650 feet from the North line and 660 feet from the East line (Unit H) of Section 8, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico, to test the Atoka-formation, Townsend-Morrow Gas Pool.

(2) The N/2 of Section 8 shall be dedicated to the subject well forming a standard 320-acre gas spacing and proration unit for said pool.

(3) The ETA State Well No. 3 is hereby assessed a production penalty of 60% (40% allowable). The production penalty shall be applied to the well's ability to produce into the sales line as determined by a production test to be conducted after the well has continuously produced at unrestricted rates for seven days. The well shall be tested at completion, 90 days after first deliveries of gas into the sales line and semiannually thereafter. All tests shall be conducted at the expenses of Mewbourne by an independent engineering firm agreeable to Mewbourne and V-F Petroleum after notice to the Division and V-F Petroleum and the Division and V-F Petroleum shall be permitted to witness all tests on the well.

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

STATE OF NEW MEXICO
OIL CONSERVATION

WILLIAM J. LEMAY
Director

SEAL