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-10957

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

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 R. Catanach.

NOW, on this 6th day of February, 1998, 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, Mewbourne Oil Company, seeks approval to drill its ETA State Well No. 3 at an unorthodox gas well location 1980 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, said well location being unorthodox for any and all gas producing formations and/or producing horizons from the top of the Wolfcamp to the base of the Morrow formation, including, but not limited to 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 applicant testified that the primary objective within the ETA State Well No. 3 is the Atoka interval. The applicant further testified that the producing horizon within the Townsend-Morrow Gas Pool is actually the Atoka interval.

(4) The proposed well is located within one mile of the Townsend-Morrow Gas Pool which is currently governed by Rule No. 104.C. of the Division General Rules and Regulations which require standard 320-acre gas spacing and proration units with wells to be located no closer than 1650 feet from the nearest end boundary, nor closer than 660 feet from the nearest side boundary of the spacing unit, nor closer than 330 feet from any quarter-quarter section line or subdivision inner boundary.

(5) V-F Petroleum Inc., the operator of the affected offset acreage to the east in Section 9, appeared at the hearing in opposition to the application.

(6) The evidence and testimony indicates that the following described four wells, which are located in the area of the proposed ETA State Well No. 3, are currently completed in and producing from the Townsend-Morrow Gas Pool:

Operator	Well Name	Location
V-F Petroleum Inc.	Humble Townsend No. 1	1980' FSL & 660' FWL (L) 9-16S-35E
Tom Brown Inc.	Humble "A" State No. 1	1980' FNL & 660' FWL (E) 16-16S-35E
Great Western Drilling Company	Lowe State Com No. 1	(Surface Location) 330' FNL & 330' FEL (A) 17-16S-35E (Bottomhole Location) 1918' FNL & 871' FEL (H) 17-16S-35E
American Exploration Company	State "ETA" No. 2	1980' FSL & 660' FEL (I) 8-16S-35E

(7) The applicant's land testimony indicates that the N/2 and S/2 of Section 8 are common with regards to the working interest owners.

(8) The applicant presented geologic evidence and testimony which indicates that:

a) the four wells described in Finding No. (6) above are producing from a correlatable Atoka sand interval;

b) there are three faults within the Atoka interval described as follows:

i) a north-south trending fault which bisects Sections 8 and 17;

ii) a northeast-southwest trending fault which separates the State "ETA" No. 2 in Section 8 from the Humble Townsend No. 1 in Section 9;

iii) a northeast-southwest trending fault which separates the Humble "A" State No. 1 in Section 16 from the Lowe State Com No. 1 in Section 17;

c) the Atoka sand channel generally trends in a north-south direction in the area of the four existing wells, however, the sand channel splits to the north and traverses Section 5 in a northwest-southeast direction and traverses Section 4 in a northeast-southwest direction. The thickness of the Atoka sand channel increases near the common boundary line between Sections 8 and 9 and Sections 16 and 17; and,

d) the proposed unorthodox gas well location is necessary in order to penetrate the Atoka sand interval in an area of maximum sand thickness (approximately 15-20 feet of gross sand). A standard well location within the NE/4 of Section 8 would penetrate the Atoka sand interval in an area which contains less than 5 feet of gross sand.

(9) The applicant presented engineering evidence and testimony which indicates that:

a) the projected ultimate gas recovery from the four wells described in Finding No. (6) above are as follows:

Well	Ultimate Gas Recovery
Humble Townsend No. 1	14.0 BCFG
Humble "A" State No. 1	3.8 BCFG
Lowe State Com No. 1	12.6 BCFG
State "ETA" No. 2	14.2 BCFG

b) based upon its calculated reservoir volume of 52.6 BCF of gas, (44.6 BCFG (recoverable) x 0.85 (recovery factor)), applicant has determined the areal extent of the reservoir to be approximately 3,328 acres or 5.2 sections;

c) there is a difference of approximately 700 psi bottomhole pressure between the Humble Townsend No. 1 and the State "ETA" No. 2. Similarly, there is a difference of approximately 1100 psi bottomhole pressure between the Humble "A" State No. 1 and the Lowe State Com No. 1. Given that these wells have produced concurrently for approximately 25 years, the pressure should have normalized in the absence of some type of permeability barrier within the reservoir; and,

d) the difference in bottomhole pressure between the Humble Townsend No. 1/State "ETA" No. 2 and the Humble "A" State No. 1/Lowe State Com No. 1 can be attributed to the presence of a fault or other type of permeability barrier within the reservoir.

(10) Based upon its geologic and engineering evidence and testimony, the applicant contends that:

a) the subject Atoka reservoir is considerably larger than the area encompassed by the four existing wells;

b) additional Atoka reservoir is likely located to the north and/or south of the four existing wells; and,

c) the State "ETA" No. 2, located in the S/2 of Section 8, will not adequately drain gas reserves from the N/2 of Section 8, therefore, in order to protect its correlative rights, an additional well is necessary within the N/2 of Section 8.

(11) In order to protect the correlative rights of V-F Petroleum Inc., the applicant proposed that the ETA State Well No. 3 be penalized such that it not be allowed to produce in excess of 1,000 MCF gas per day.

(12) V-F Petroleum Inc. presented geologic evidence and testimony which indicates that:

a) Section 8 is located structurally higher within the Atoka reservoir than Section 9;

b) it interprets the Atoka sand channel to traverse generally in a northeast-southwest direction in the northern portion of the reservoir, and northwest-southeast in the southern portion of the reservoir. It also interprets the Atoka sand channel to be much thicker in Section 9 than has been depicted by the applicant. In addition, it does not believe there is sufficient geologic evidence to support applicant's interpretation that the subject Atoka reservoir underlies Section 5; and,

c) it generally agrees with the applicant as to the location and extent of the fault which traverses Sections 8 and 17, however, it's geologic interpretation does not support the existence of a northeast-southwest trending fault in Sections 8 and 9, and a northeast-southwest trending fault in Sections 16 and 17.

(13) V-F Petroleum Inc. presented engineering evidence and testimony which indicates that:

a) there is pressure communication between the Humble Townsend No. 1 and the State "ETA" No. 2 as evidenced by:

i) the State "ETA" No. 2 was drilled in July, 1969, at which time its initial bottomhole pressure was 6,354 psi. The bottomhole pressure of the Humble Townsend No. 1, which was drilled in November, 1971, was 5,622 psi, or 732 psi lower than the initial bottomhole pressure of the State "ETA" No. 2;

ii) a deliverability test conducted on the Humble Townsend No. 1 on September 14, 1989, which indicates pressure interference from the State "ETA" No. 2;

iii) the convergence of well pressures on its "Present Pressure vs. Time Plot" (Exhibit No. 16) which indicates interference between the Humble Townsend No. 1 and the State "ETA" No. 2 in 1981, and again after 1993.

b) the difference in current bottomhole pressures between the Humble Townsend No. 1 and the State "ETA" No. 2 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;

c) based upon its volumetric calculations and decline curve analysis, it has estimated ultimate gas recoveries and drainage areas for the four subject wells as follows:

Well	Ultimate Gas Recovery	Drainage Acres
Humble Townsend No. 1	12.1 BCFG	297 acres
State "ETA" No. 2	12.7 BCFG	496 acres
Lowe State Com No. 1	10.5 BCFG	313 acres
Humble "A" State No. 1	3.3 BCFG	442 acres

d) the Humble Townsend No. 1 is effectively draining the gas reserves underlying the W/2 of Section 9.

(14) Based upon its geologic and engineering evidence and testimony, V-F Petroleum Inc. contends that:

a) the State "ETA" No. 2 is effectively draining the Atoka reservoir within Section 8, therefore, an additional well within the NE/4 is unnecessary;

b) an additional well within the NE/4 of Section 8 will drain additional gas reserves from Section 9, thereby violating its correlative rights.

(15) V-F Petroleum Inc. seeks denial of the subject application; however, in the event the application is approved, it requests that the ETA State No. 3 be assessed a production penalty of 60% (40% allowable) in order to protect its correlative rights. The proposed production penalty is based upon the footage encroachment towards its acreage described as follows:

1650' (Standard setback) - 660' (distance from V-F Petroleum Inc.'s acreage) = 990' (Encroachment)

990' / 1650' = 60 %

(16) In addition, V-F Petroleum Inc. requests that the proposed production penalty 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 a representative of the Division and V-F Petroleum Inc. V-F Petroleum Inc. 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) Upon consideration of the geologic and engineering evidence and testimony presented by both parties in this case, the Division finds that:

a) the isopach map presented by V-F Petroleum Inc. more accurately honors the subsurface well control data and therefore more accurately depicts the size and configuration of the Atoka reservoir in this area;

b) there is no geologic evidence to indicate the presence of a fault or other type of permeability barrier in Sections 8 and 9 and Section 16 and 17;

c) both parties' geologic interpretation of the Atoka reservoir indicates that:

i) the productive acreage within Section 8 is generally limited to the E/2; and,

ii) the Atoka reservoir is generally thicker and more extensive within V-F Petroleum Inc's acreage in Section 9;

d) the engineering evidence is sufficient to demonstrate that there is pressure communication between the State "ETA" No. 2 and the Humble Townsend No. 1;

e) the engineering evidence is sufficient to demonstrate that the State "ETA" No. 2 is efficiently draining the E/2 of Section 8, and that the Humble Townsend No. 1 is efficiently draining the W/2 of Section 9;

f) the State "ETA" No. 2 and the Humble Townsend No. 1 are equally competing for gas reserves within the Atoka reservoir and as a result, are protecting the correlative rights of all interest owners in Sections 8 and 9;

g) allowing the applicant to drill its ETA State No. 3 may necessarily require that V-F Petroleum Inc. drill an additional well within the NW/4 of Section 9 to protect its acreage from additional drainage which is likely to occur; and,

h) approval of the application will effectively space Sections 8 and 9 on 40 acres and will cause the unnecessary clustering of wells within a small and prolific portion of this Atoka reservoir.

(18) The evidence and testimony presented in this case indicates that approval of the subject application will cause the drilling of unnecessary wells within Section 8 and possibly Section 9, will serve to give the applicant an unfair advantage over V-F Petroleum Inc, and will not increase the recovery of gas from the Atoka reservoir.

(19) The application of Mewbourne Oil Company should be denied.

IT IS THEREFORE ORDERED THAT:

(1) The application of Mewbourne Oil Company for approval to drill its ETA State Well No. 3 at an unorthodox gas well location 1980 feet from the North line and 660 feet from the East line (Unit H) of Section 8, Township 16 South, Range 35 East, NMPM, Townsend-Morrow Gas Pool, 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.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

KATHLEEN A. GARLAND, Acting Director

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