

Entered November 8, 1982

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7625
Order No. R-7123

APPLICATION OF GMW CORPORATION
FOR DESIGNATION OF A TIGHT
FORMATION, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 21, 1982, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 8th day of November, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That, pursuant to Section 107 of the Natural Gas Policy Act of 1978, and CFR Section 271.703, applicant GMW Corporation seeks the designation as a "tight formation" of the Strawn formation underlying the following described lands in Lea County, New Mexico:

TOWNSHIP 26 SOUTH, RANGE 36 EAST, NMPM
Sections 9 AND 10: All
Sections 14 through 16: All
Sections 21 through 24: All
Sections 26 and 27: All

containing 7,040 acres, more or less.

(3) That in the subject area, the Strawn formation is a basinal limestone with a large amount of fine clastics, overall being fairly thick and continuous, although the reservoirs contained therein appear to be limited in areal extent, porosity, and permeability.

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(4) That said reservoirs appear to be the result of stratigraphic trapping mechanisms wherein zones of porosity and permeability develop in the otherwise tight formation.

(5) That only one well has been drilled in applicant's proposed tight formation area described in Finding No. (2) above, being applicant's Pawnee Deep Unit Well No. 1 (formerly known as the Gifford, Mitchell and Wisenbaker White Eagle Well No. 1) located in Unit F of Section 22, Township 26 South, Range 36 East, NMPM.

(6) That said well was completed producing from the Strawn formation through perforations from 12,505 feet to 13,196 feet on April 18, 1980.

(7) That on Division Form C-105 filed by Gifford, Mitchell and Wisenbaker on April 29, 1980, the aforesaid well was reported as producing on test 214.25 MCF of gas, 7.88 barrels of condensate and 0.87 barrels of water in one hour, for a calculated 24-hour producing rate of 5,142 MCF of gas, 189 barrels of condensate, and 21 barrels of water.

(8) That said well was connected to a pipeline and first delivery of gas made on May 27, 1980, and during the first full month of production in June, 1980, the well made 43,105 MCF of gas, 1393 barrels of condensate, and 750 barrels of water in 30 days, for an average daily rate of production of 1437 MCF of gas, 46 barrels of condensate, and 25 barrels of water with an average flowing tubing pressure of 2600 psi.

(9) That since June, 1980, production and flowing tubing pressure have rapidly declined, and the well in March of 1982 produced 12,249 MCF of gas, 405 barrels of condensate, and 550 barrels of water in 31 days, for an average daily rate of production of 395 MCF of gas, 13 barrels of condensate, and 18 barrels of water.

(10) That the depth to the top of the formation in applicant's Pawnee Deep Unit Well No. 1 is 12,505 feet, and to qualify for designation as a tight formation, CFR Section 271.703(c)(2)B prescribes for this depth a maximum stabilized production rate, against atmospheric pressure without stimulation of 1432 MCF of gas per day.

(11) That no tests were made of the subject well prior to stimulation and to presume a maximum stabilized production of 1432 MCF/day for the well under such conditions is speculative and unsupported by the evidence presently available.

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(12) That CFR Section 271.703(c)(2)A prescribes a maximum in situ gas permeability, throughout the pay section, of 0.1 millidarcy or less to qualify for designation as a tight formation.

(13) That no cores or other reliable data are available to calculate the in situ gas permeability of the reservoir in this case; that certain calculations were presented which indicate a present permeability of some 0.43 millidarcies at the wellbore and extending outward for some 129 feet into the reservoir, with a substantial discontinuity in permeability apparent at that point.

(14) That the calculated permeability beyond 129 feet (estimated at 0.075 millidarcies) is based on certain assumptions and cannot be relied upon as a definitive average in situ permeability for the reservoir.

(15) That CFR Section 271.703(c)(2)(C) prescribed a maximum rate of production, without stimulation, of five barrels of crude oil per day to qualify for designation as a tight formation.

(16) That applicant's Pawnee Deep Unit Well No. 1 apparently produces no crude oil, although its rate of production of condensate, after stimulation, was 46 barrels per day during June, 1980, its first full month of production (Finding No. (8) above).

(17) That considering all aspects of production characteristics, reservoir data, and other available evidence, it would appear that the Strawn reservoir underlying the lands described in Finding No. (2) above may not be so much a "tight formation" as defined by the Federal Energy Regulatory Commission guidelines as it is simply a small high pressure reservoir of limited extent and reserves.

(18) That based on the record in this case, no recommendation for designation of a tight formation for the Strawn formation underlying the lands described in Finding No. (2) above should be made to the Federal Energy Regulatory Commission.

IT IS THEREFORE ORDERED:

(1) That it is not recommended to the Federal Energy Regulatory Commission pursuant to Section 107 of the Natural Gas Policy Act of 1978 and 18 C.F.R. Section 271.703 that the Strawn formation underlying approximately 7,040 acres, more or less, as

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described in Finding No. (2) of this order, be designated as a tight formation.

(2) That jurisdiction of this cause is 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



JOE D. RAMEY,
Director

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