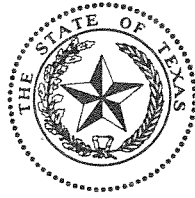


RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

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AUSTIN, TEXAS 78711

March 19, 1980

DOCKET NO. 7B-74,778

APPLICATION OF BORDER EXPLORATION COMPANY TO AMEND FIELD RULES IN THE X-RAY
(MARBLE FALLS) FIELD, ERATH COUNTY, TEXAS:

HEARD BY: Eugene W. Day, Jr. on February 14, 1980

FOR APPLICANT: Richard M. Blumberg, Will Odom, Russell Wade,
David G. Campbell and Charles H. Dobbs

FOR PROTESTANT: None

EXAMINER'S REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

This hearing was to consider the application of Border Exploration Company to amend the field rules in the X-Ray (Marble Falls) Field, Erath County, Texas. Rule 2 of the field rules adopted April 3, 1963 by Special Order No. 7-52,001 provided for 320 acre gas proration units. The proposed amendment of Rule 2 would provide for optional 160 acre gas proration units, with a maximum diagonal of 4500 feet.

APPLICANT'S EVIDENCE

Geological evidence including 7 exhibits was submitted by Mr. Charles H. Dobbs, District Exploitation Geologist for the applicant. The X-Ray (Marble Falls) Field is a non-associated gas reservoir which produces from a depth of approximately 3200 feet in northwest Erath County, Texas. The field is located approximately 15 miles northwest of the town of Stephenville. Discovery date was February 6, 1920 with completion of the Texas Pacific Coal and Oil Company No. 1 Alice Garner well which potentialed 30 million MCF/D. A market for the gas was not developed until 1928, after which time drilling activity increased. Border Exploration recently acquired the properties previously owned by Coastal States Gas Producing Company.

The witness submitted four cross-sections of the field, and pointed out that the Marble Falls formation includes several separate zones of porosity. These zones vary in thickness from well to well, and are not continuous over the entire field. The accumulation of hydrocarbons is restricted by the lenticular and sporadic occurrence of effective porosity. The formation thickness has no effect on the accumulation of hydrocarbons which is determined by the net porosity within the formation. The net pay varies from 10' to 74' in thickness, and can vary as much as 64' or more in off-setting wells. There are areas within the field which will require further development to obtain optimum gas recovery from the reservoir.

Mr. David Campbell offered engineering evidence including recoverable reserves and drainage data for certain wells in the field. There are 84 wells, 76 of which are productive and there are 10 operators in the subject field. Of the 76 producers, 20 are assigned proration units of 320 acres or more, and 56 wells have substandard units. From 1928 through 1959, a total of 23 producing wells had produced a cumulative total of 24.8 BCF gas. The field was extended to the south and west after an active drilling program was commenced in 1959. The cumulative field production to November 1, 1979 was 100.854 BCF gas. After completion of the drilling program, an immediate production decline was observed. From 1966 through 1968 the decline rate was approximately 19% per year. The decline rate was approximately 14% per year from 1969 through 1973, and since 1974 the rate has been approximately 5% per year. In 1969 the average production had declined to 150 MCF per well per day, and the majority of the wells were limited by capacity rather than allowable. Salvage classification was approved for the field in September, 1969, exempting the field from well testing. The average decline rate was slowed to an average of 5% by 1974. In October, 1979 production from the field averaged 50 MCF per well per day.

Reservoir calculations of gas in place and recoverable gas were submitted for four example wells. These data indicate that only 56.8 acres of the 292 acre proration unit assigned to the A. H. Dennison No. 1 well will be drained. Similar data for the H. T. Wylie No. 1 and V. Gordon No. 1 wells indicate that 120.4 acres of a 315 acre unit, and 54.2 acres of a 277 acre unit respectively will be drained. Of the example wells, only the M. F. McInroe No. 1 appears that the entire proration unit (320 acres) will be drained.

FINDINGS OF FACT

Based on the evidence and all facts of record, the examiner makes the following findings of fact:

1. The X-Ray (Marble Falls) Field is a non-associated gas reservoir producing from a depth of approximately 3200 feet in northwest Erath County, Texas.

2. There are ten (10) operators of some 76 producing gas wells in the subject field.
 - A. Border Exploration Company operates forty-two (42) producing gas wells in the field.
 - B. Total field production is slightly more than 100 MMCF/month for an average of 50 MCF per well per day.
3. Hydrocarbon accumulations within the subject reservoir are determined by the net effective porosity within the formation and not by the formation thickness.
 - A. The Marble Falls reservoir includes separate zones of porosity within the reservoir.
 - B. The zones of effective porosity vary in thickness from well to well.
 - C. The zones of effective porosity are not continuous over the entire field.
4. Hydrocarbon accumulations within the subject reservoir are restricted by the lenticular and sporadic occurrence of the effective porosity.
5. Current rules in the X-Ray (Marble Falls) Field provide for development of 320 acre gas proration units.
6. There are areas within the subject field which will require additional development on existing proration units to insure effective and efficient reservoir drainage.
 - A. Only 57 acres of a 292 acre proration unit will be drained by the A. H. Dennison well.
 - B. Only 120 acres of a 315 acre proration unit will be drained by the H. T. Wylie No. 1 well.
 - C. Only 54 acres of a 277 acre proration unit will be drained by the V. Gordon No. 1 well.
7. Additional development of the subject field with optional 160 acre gas proration units will result in the recovery of gas not otherwise produced, thus resulting in prevention of waste and the protection of correlative rights.

CONCLUSIONS OF LAW

Based on the foregoing findings and statutory powers and duties of the Commission, the examiner makes the following conclusions of law:

1. The amendment of field rules to provide for the drilling and production of natural gas is a conservation measure properly within Commission jurisdiction.
2. The Commission has the duty to prevent waste and protect correlative rights, and the amendment of Rule 2 of the X-Ray (Marble Falls) Field rules to provide for optional 160-acre gas proration units will prevent waste and protect correlative rights.

RECOMMENDATION

Based on the foregoing findings and conclusions, the examiner recommends the attached order amending Rule 2 of the X-Ray (Marble Falls) Field rules to provide for optional 160-acre gas proration units.

Respectfully submitted,



Eugene W. Day, Jr.
Senior Staff Engineer

EWD:bs

RECOMMENDATION APPROVED:

RECOMMENDATION DENIED:

Bob R. Harris Chief Engineer _____

Date of Commission Action 4-14-80