

THE APPLICATION OF CHESAPEAKE OPERATING, INC. FOR TEMPORARY FIELD RULES FOR THE BUSH (PERMIAN) FIELD, REEVES COUNTY, TEXAS

Heard by: Donna K. Chandler on July 30, 2009

Appearances:

Bill Spencer
Cary McGregor

Representing:

Chesapeake Operating, Inc.

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Chesapeake Operating, Inc. requests that temporary field rules be adopted for the Bush (Permian) Field. The proposed rules are summarized as follows:

1. Designation of the field as the correlative interval from 9,827 feet to 12,852 feet as shown on the log of the J. W. Bush Well No. 1;
2. 660'-933' well spacing for horizontal and vertical wells, with no limitation between vertical and horizontal wells; special language for "take points" in horizontal wells;
3. 640 acre gas units plus 10% tolerance and a maximum diagonal of 8,500 feet;
4. Allocation based on 75% acreage and 25% deliverability with AOF status.

The application was unopposed and the examiner recommends adoption of the proposed field rules for the Bush (Permian) Field on a temporary basis, subject to review in 18 months.

DISCUSSION OF EVIDENCE

The Bush (Permian) Field was discovered in 1975 at a depth of approximately 11,300 feet. Three oil wells were completed in the field and all three have been plugged and abandoned for many years. Cumulative production from the three wells was less than 25,000 BO.

In May 2009, Chesapeake completed its Toone 13-157 Well No. 1 as a gas well in the Bush (Permian) Field. The well is perforated in the Wolfcamp from 10,039 feet to 12,519 feet. On initial test, the well produced at a rate of 2,207 MCFD and no condensate. The well has produced 213 MMCF of gas through July 2009. The well now produces about 4 MMCFD with no decline.

Average porosity of the productive Wolfcamp interval in the Toone 13-157 No. 1 is 6.5% and average water saturation is 45%. Recoverable gas beneath 640 acres is estimate to be 9.8 BCF of gas. Chesapeake believes that the Toone 13-157 No. 1 will ultimately recover this volume of gas based on its production and pressure history to date. Flowing tubing pressure is still almost 3,000 psi. Assuming a 10% decline, the well will recover at least 10 BCF of gas. Additionally, there are many other Wolfcamp fields in the area which operate under 640 acre rules.

The Toone 13-157 No. 1 is a vertical well. However, it is expected that horizontal wells will be drilled to further develop the field. Chesapeake requests that a field rule be adopted for the field which includes language relevant to measurement of distances to lease lines for horizontal drainhole wells. Chesapeake's proposed rule specifies that, for purposes of lease line and between-well spacing, the nearest "take point" in a horizontal well be used. This take-point could be a perforation, if a horizontal well is cased and cemented, an external casing packer in a cased well, or any open-hole section in an uncased well. The proposed rule would allow operators to drill horizontal wells with penetration points, as defined by Rule 86, at distances closer than 660 feet to a lease line, as long as no take-point is closer than 660 feet to any lease line. Horizontal drainhole length on a lease is then maximized, resulting in additional recovery of gas. For purposes of assignment of additional acreage pursuant to Rule 86, it is proposed that the distance between the first and last take-point in a horizontal well be used.

Chesapeake requests that the Bush (Permian) Field be designated as the correlative interval between 9,827 feet and 12,852 feet as shown on the log of the J. W. Bush No. 1. This proposed interval contains the entire Wolfcamp, several sections of which are not in communication. A two factor allocation formula is therefore required by statute. Chesapeake requests that the allocation formula be based on 25% deliverability and 75% acreage. Chesapeake further requests that the allocation formula be suspended in the gas field and that the gas field be classified as associated-prorated because there is no oil production from the field.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.

2. The Bush (Permian) Field was discovered in 1975. Three oil wells produced from the field and have been plugged and abandoned.
3. The Toone 13-157 No. 1 was completed by Chesapeake as a gas well in the field in May 2009.
4. The Toone 13-157 No. 1 can reasonably be expected to drain 640 acres.
 - a. Recoverable gas beneath 640 acres is estimate to be 9.8 BCF of gas.
 - b. Estimated ultimate recovery for the Toone 13-157 No. 1 is at least 10 BCF of gas, assuming 10% decline.
 - c. The Toone 13-157 No. 1 continues to produce approximately 4,000 MCFD with no decline, and flowing tubing pressure of almost 3,000 psi.
 - d. There are many other Wolfcamp fields in the area which operate under 640 acre rules.
5. It is anticipated that this Wolfcamp reservoir will be developed with horizontal lateral wells.
6. A spacing rule which utilizes “take-points” in a horizontal well for determination of distances to lease lines will prevent waste and will not harm correlative rights.
 - a. A take-point in a horizontal well in this field may be a perforation, if a horizontal well is cased and cemented, an external casing packer in a cased well, or any open-hole section in an uncased portion of the wellbore.
 - b. Adoption of the proposed rule would allow operators to drill horizontal wells with penetration points, as defined by Rule 86, at distances closer than 660 feet to a lease line, as long as no take-point is closer than 660 feet to any lease line.
 - c. Adoption of the proposed rule will allow the horizontal drainhole length on a lease to be maximized.
 - d. For purposes of assignment of additional acreage pursuant to Rule 86, the distance between the first and last take-point in a horizontal well should be used.

7. The proposed minimum lease line spacing of 660 feet and minimum spacing of 933 feet between wells, with no limitation between horizontal and vertical wells, will provide flexibility in developing the field.
8. The Bush (Permian) Field should be designated as the correlative interval between 9,827 feet and 12,852 feet as shown on the log of the J. W. Bush No. 1.
9. There is a market for all gas produced from the Bush (Permian) Field.
10. The proposed correlative interval contains numerous productive sands which are not in communication. Allocation based on 25% deliverability and 75% acreage will satisfy statutory requirements.
11. Classification of the Bush (Permian) Field as associated-prorated will not cause waste because there is no current oil production from the field.

CONCLUSIONS OF LAW

1. Proper notice of this hearing was issued.
2. All things have been accomplished or have occurred to give the Commission jurisdiction in this matter.
3. Adoption of the proposed temporary field rules for the Bush (Permian) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiner recommends that the Commission adopt temporary field rules for the Bush (Permian) Field as proposed by Chesapeake Operating, Inc..

Respectfully submitted,

Donna K. Chandler
Technical Examiner