

**THE APPLICATION OF CHESAPEAKE OPERATING, INC. TO CONSIDER NEW FIELD DESIGNATION AND TEMPORARY FIELD RULES FOR THE (PROPOSED) MCKITTRICK (UPPER BONE SPRINGS) FIELD, CULBERSON COUNTY, TEXAS**

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**Heard by:** Donna K. Chandler on June 29, 2009

**Appearances:**

Cary McGregor  
Bill Spencer

**Representing:**

Chesapeake Operating, Inc.

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Chesapeake Operating, Inc. requests that a new field designation be approved for its DF Ranch State 63-3 Well No. 1H-ST called the McKittrick (Upper Bone Springs) Field. Range requests that the following temporary field rules be adopted for the McKittrick (Upper Bone Springs) Field:

1. Designation of the field as the correlative interval from 4,150 feet (TVD) to 4,698 feet (TVD) as shown on the log of the DF Ranch State 63-3 Well No. 1H-ST;
2. 660'-1,320' well spacing, with special "take point" provisions;
3. 640 acre gas units plus 10% tolerance and a maximum diagonal of 8,500 feet;
4. Allocation based on 25% deliverability and 75% acreage.

It is recommended that the new field be approved and that temporary field rules be adopted which provide for 320 acre density, with special provisions for assignment of acreage to horizontal wells. Chesapeake did not consider this to be an adverse recommendation.

**DISCUSSION OF EVIDENCE**

Chesapeake Operating, Inc. completed its DF Ranch State 63-3 Well No. 1H-St in January 2009. The well is a horizontal drainhole in the upper Bone Springs interval, the top of which is found at approximately 4,150 feet. The drainhole length is approximately 4,000 feet. The well produced at a maximum rate of 1,319 MCFD on initial test and has produced approximately 265 MMCF of gas.

The proposed correlative interval for the field is from 4,150 feet (TVD) to 4,698 feet (TVD) as shown on the log of the DF Ranch State 63-3 No. 1H-ST. This interval includes the entire Upper Bone Springs formation. The only production within a 2½ mile radius of the subject well is from the Whitehorse (Shale) Field at approximately 8,500 feet and the No. 1H-ST is therefore entitled to a new field designation.

There is very little data available for this reservoir on which to base drainage calculations. The initial reservoir pressure was 2,053 psi and Chesapeake estimates that recoverable reserves are 6,364 MCF/acre. This estimate is based on 10% average porosity, 25% average water saturation and 100 feet of pay. The estimated ultimate recovery for the discovery well is 3-4 BCF of gas.

The nearest Bone Springs field is the Two Georges (Bone Spring) Field in Loving County, an oil field which currently operates under 320 acre density, with 467'-933' well spacing. The Wolfcamp and Bone Springs formations are similar in age, the Wolfcamp being slightly deeper. There are at least 18 Wolfcamp gas fields in the area which operate under rules providing for 640 acre density.

Additional horizontal development is planned for the McKittrick (Upper Bone Springs) Field. Chesapeake requests that language be adopted in the field rules which provide for spacing of wells based on "take points" instead of penetration point and terminus. This language will provide for maximum horizontal drainhole length.

A two-factor allocation formula is required for this new field to meet statutory requirements for combining multiple stratigraphic intervals into a single field. Chesapeake requests that allocation be based on 25% deliverability and 75% acreage. Chesapeake also requests that the allocation formula be suspended.

**FINDINGS OF FACT**

1. Notice of this hearing was given to all persons entitled to notice at least ten days prior to the date of hearing.
2. The DF Ranch State 63-3 No. 1H-ST is a horizontal well completed with a 4,000 foot lateral in the Upper Bone Springs formation at approximately 4,150 feet.
3. A new field designation is appropriate for the DF Ranch State 63-3 No. 1H-ST because there is no comparable production within 2½ miles of the well.
4. Field rules providing for 320 density is appropriate for the new field.
  - a. There is very little data available for this reservoir on which to base

- drainage areas for vertical wells.
- b. Recoverable reserves are estimated to be 6,364 MCF/acre.
  - c. The estimated ultimate recovery for the discovery well is 3-4 BCF of gas.
  - d. The nearest Bone Springs field is the Two Georges (Bone Spring) Field in Loving County, an oil field which currently operates under 320 acre density, with 467'-933' well spacing.
  - e. There are at least 18 Wolfcamp gas fields in the area which operate under rules providing for 640 acre density.
5. The McKittrick (Upper Bone Springs) Field should be defined as the correlative interval from 4,150 to 4,698 feet (TVD) as shown on the log of the DF Ranch State 63-3 Well No. 1H-ST.
  6. Well spacing a minimum of 660 feet from lease lines and 933 feet between wells and horizontal well spacing based on "take points" will provide flexibility in further development of this field with horizontal wells.
  7. Allocation based on 75% acreage and 25% deliverability is a reasonable formula which will protect correlative rights and meet statutory requirements.

#### **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. Approval of the requested new field designation and adoption of temporary field rules will prevent waste, protect correlative rights and promote the orderly development of the field.

**RECOMMENDATION**

Based on the above findings and conclusions of law, the examiner recommends approval of the new field designation and adoption of temporary field rules for the McKittrick (Upper Bone Springs) Field.

Respectfully submitted,

Donna K. Chandler  
Technical Examiner