

**THE APPLICATION OF CREST RESOURCES, INC. TO AMEND AND RENUMBER  
FIELD RULES FOR THE MILLS RANCH (DES MOINES) FIELD, WHEELER COUNTY,  
TEXAS**

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**HEARD BY:** Richard D. Atkins, P.E. - Technical Examiner

**HEARING DATE:** November 1, 2011

**APPEARANCES:**

**REPRESENTING:**

**APPLICANT:**

George Neale  
Rick Johnston

Crest Resources, Inc.

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

The Mills Ranch (Des Moines) Field currently operates under Field Rules adopted in Final Order No. 10-70,477, effective November 20, 1978. The Field Rules in effect for the field are summarized as follows:

1. 1,320'-2,640' gas well spacing and 467'-1,200' oil well spacing;
2. 640 acre gas units and 40 acre oil units;
3. Gas allocation based on 100% deliverability with AOF status and a top oil allowable based on the 1965 Yardstick Allowable of 287 barrels of oil per day.

Crest Resources, Inc. ("Crest") requests that Field Rules for the Mills Ranch (Des Moines) Field be amended and renumbered, as shown below:

1. Designation of the field as the correlative interval from 11,937 feet to 12,097 feet as shown on the log of the Crest Resources, Inc. - Buckingham Lease, Well No. 1;
2. 467'-660' well spacing with no minimum well spacing between horizontal and vertical wells and special provisions for "take points", "off lease" penetration point and a 50 foot "box" rule for horizontal drainhole wells;

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3. 640 acre gas units and 40 acre oil units;
4. Gas allocation based on 100% deliverability with AOF status and a top oil allowable based on the 1965 Yardstick Allowable of 287 barrels of oil per day;
5. Special provisions for horizontal drainhole “stacked lateral” wells.

The application was unopposed and the examiner recommends that Field Rules for the Mills Ranch (Des Moines) Field be amended and renumbered, as proposed by Crest.

### **DISCUSSION OF EVIDENCE**

The Mills Ranch (Des Moines) Field was discovered in April 1977 at an average depth of 12,400 feet. There are 7 producing oil wells, 15 producing gas wells and four operators carried on the proration schedules. Field Rules currently provide for 1,320'-2,640' gas well spacing and 467'-1,200' oil well spacing with 640 acre gas units and 40 acre oil units. The allocation formula is currently suspended. Cumulative production from the field through June 2011 is 21.7 BCFG and 967.2 MBO.

There is currently no defined correlative interval for the field. Crest requests that the field be defined as the correlative interval from 11,937 feet to 12,097 feet as shown on the log of the Crest Resources, Inc. - Buckingham Lease, Well No. 1 (API No. 42-483-31582), Section 21, Block L, JM Lindsey Survey, A-471, Wheeler County, Texas. This interval includes the entire Des Moines formation.

Crest is developing the Mills Ranch (Des Moines) Field by drilling horizontal wells and requests horizontal drainhole well Field Rules in order to promote the efficient and effective development of the remaining hydrocarbons. The proposed 467'-660' well spacing with no minimum well spacing between horizontal and vertical wells and special provisions for “take points”, “off lease” penetration point and a 50 foot “box” rule for horizontal drainhole wells will allow for future development in the field. Similar horizontal drainhole well field rules have been adopted in other fields with tight reservoirs, which includes the Eagle Ford, Barnett Shale and Granite Wash formations.

Crest requests that a field rule be adopted which includes language relevant to the measurement of distances to lease lines for horizontal drainhole wells. Crest’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. For purposes of the assignment of additional acreage to horizontal drainhole wells pursuant to Statewide Rule 86, it is proposed that the distance between the first and last take-point in a horizontal well be used.

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Crest proposes a tolerance “box” rule for horizontal drainhole wells that would allow drainholes to deviate 50 feet from either side of their permitted track without the necessity of obtaining a Statewide Rule 37 exception. As drilled wells for which all points are located within the “box” would be considered in compliance with their drilling permits.

In some cases, it is beneficial to penetrate the reservoir off lease, while still having “take points” no closer to lease lines than allowed under the field rules. Crest requests that Field Rules for the subject field provide for an “off-lease” penetration point. Statewide Rule 86 requires that the penetration point of a horizontal drainhole well be on the lease. In this field, a well generally requires approximately 600 feet of horizontal displacement to make the 90 degree turn from vertical to horizontal. If the penetration point is required to be on the lease, then the first point of production would be about 600 feet from the lease line. The proposed rule will allow approximately 200 feet of additional producing drainhole, resulting in the recovery of additional oil and gas reserves. Similar rules allowing an “off-lease” penetration point have been adopted in other fields, after notice to the mineral owners of the “off-lease” tract on which the penetration point is to be located and if no protest is received.

Crest requests that a Field Rule be adopted to accommodate the drilling of horizontal drainhole “stacked lateral” wells. The gross thickness of the Des Moines interval is almost 200 feet. Crest believes that several separate laterals may be necessary to effectively develop the reservoir with horizontal wells. The rule would allow horizontal “stacked laterals” within the Des Moines correlative interval that are drilled from different surface locations to be considered a single well for regulatory purposes. It is proposed that a horizontal “stacked lateral” be defined to be multiple horizontal drainholes which are drilled from different surface locations.

Crest requests that the allocation formula remain suspended, as there is a 100% market demand for all of the gas produced from the field. Crest also requests that proration unit plats not be required for individual wells, but that Form P-15 be filed to designate the number of acres to be assigned to each well for proration purposes.

### **FINDINGS OF FACT**

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Mills Ranch (Des Moines) Field was discovered in April 1977 at an average depth of 12,400 feet.
  - a. There are 7 producing oil wells, 15 producing gas wells and four operators carried on the proration schedules.
  - b. Field Rules currently provide for 1,320'-2,640' gas well spacing and

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467'-1,200' oil well spacing with 640 acre gas units and 40 acre oil units.

- c. The allocation formula is currently suspended.
3. Crest is developing the Mills Ranch (Des Moines) Field by drilling horizontal drainhole wells.
4. Field Rules that provide for 467'-660' well spacing with no minimum well spacing between horizontal and vertical wells and special provisions for "take points", "off lease" penetration point and a 50 foot "box" rule for horizontal drainhole wells will provide consistency in developing the field and will allow greater flexibility in selecting future drilling locations.
5. A spacing rule which utilizes "take-points" in a horizontal well for the determination of well spacing will not harm correlative rights.
  - a. The Des Moines formation is a tight formation and is not commercially productive unless fracture-stimulated.
  - b. A "take-point" in a horizontal drainhole 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.
  - c. "Take points" will allow the horizontal drainhole length on a lease to be maximized.
  - d. For purposes of assignment of additional acreage to horizontal drainhole wells pursuant to Statewide Rule 86, the distance between the first and last take-points in a horizontal well should be used.
6. The proposed 50 foot "box" rule is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.
7. The proposed "stacked lateral" rule will allow stacked horizontal laterals within the Des Moines correlative interval that are drilled from different surface locations to be considered a single well for regulatory purposes, which will facilitate the additional recovery of gas.
8. Allowing an "off-lease" penetration point will result in maximum producing drainhole length, thereby increasing ultimate recovery from horizontal drainhole wells. The proposed rule will allow approximately an additional 200 feet of producing drainhole. To protect correlative rights, prior notice and

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opportunity to object should be given to the mineral owners of “off-lease” surface locations.

9. Similar horizontal drainhole well field rules have been adopted in other fields with tight reservoirs, which includes the Eagle Ford, Barnett Shale and Granite Wash formations.
10. Continued suspension of the allocation formula is appropriate, as there is a 100% market demand for all of the gas produced 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. Amending and renumbering Field Rules for the Mills Ranch (Des Moines) 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 amend and renumber Field Rules for the Mills Ranch (Des Moines) Field, as requested by Crest Resources, Inc.

Respectfully submitted,

Richard D. Atkins, P.E.  
Technical Examiner