

**OIL AND GAS DOCKET NO. 06-0254690**

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**THE APPLICATION OF PENN VIRGINIA OIL & GAS, L.P. TO CONSIDER PERMANENT FIELD RULES FOR THE HARDWOOD (COTTON VALLEY) FIELD, HARRISON COUNTY, TEXAS**

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**Heard by:** Donna K. Chandler on January 11, 2008

**Appearances:**

Bill Spencer  
Jim Clark

Lloyd Muennink

**Representing:**

Penn Virginia Oil & Gas, L.P.

Smith Resources, Inc.

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Penn Virginia Oil & Gas, L.P. requests that field rules be adopted for the Hardwood (Cotton Valley) Field. The proposed rules are summarized as follows:

1. Designation of the field as the correlative interval from 8,350 feet to 10,134 feet as shown on the log of the L. Justice No. 1;
2. 467'-600' well spacing;
3. 40 acre/optional 20 acre density with no maximum diagonal and no requirement to file plats and Form P-15;
4. Allocation based on 95% deliverability and 5% per well, with AOF status continued.

This application was unopposed and the examiner recommends that the rules proposed by Penn Virginia be adopted on a permanent basis for the Hardwood (Cotton Valley) Field.

### **DISCUSSION OF EVIDENCE**

The Hardwood (Cotton Valley) Field was discovered in 1985 at a depth of approximately 9,800 feet. The field is non-associated and operates under Statewide Rules and is AOF. After the first two wells were completed in the field, there was no additional development until 2005. There are currently more than 50 wells in the field which have cumulative production of over 9.7 BCF of gas. Penn Virginia recently took over operations of acreage controlled by Block "T" Petroleum and plans to drill additional wells in the field.

There is currently no defined field interval for the field. Penn Virginia requests that the field be defined as the correlative interval from 8,350 feet to 10,134 feet as shown on the L. Justice No. 1. This interval includes the entire Cotton Valley series. Because the proposed interval includes multiple separate reservoirs, a two factor allocation formula is required by statute. Penn Virginia proposes that allocation be based on 95% deliverability and 5% per well.

Penn Virginia requests that a density rule be adopted for the field which provides for 40/optional 20 acres. The Fogle No. 1 and the Brown No. 1 are recent wells completed in the field which are now operated by Penn Virginia. The Fogle No. 1 is expected to ultimately recover 709 MMCF of gas. This well is perforated in several sands and has 88 feet of pay. Average porosity is 9.4% and average water saturation is 27.5%. The calculated drainage area for the well is 18 acres. The Brown No. 1 is expected to ultimately recover 264 MMCF of gas. This well is perforated only in the Taylor and has net pay of 37 feet. The calculated drainage area for the Brown No. 1 is also 18 acres. Other wells in the field have better quality pay and will drain larger areas.

Penn Virginian requests a spacing rule that requires a minimum of 467 feet from lease lines and 600 feet between wells. This proposed spacing will accommodate 20 acre development. Identical spacing and density rules have recently been adopted for the nearby Carthage, N. (Cotton Valley) Field.

### **FINDINGS OF FACT**

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Hardwood (Cotton Valley) Field was discovered in 1985 at a depth of approximately 9,800 feet.
3. The field is non-associated and operates under Statewide Rules and is AOF.
4. There are currently more than 50 wells in the field which have cumulative production of over 9.7 BCF of gas.
5. The Hardwood (Cotton Valley) Field should be defined as the correlative

interval from 8,350 feet to 10,134 feet as shown on the L. Justice No. 1. This interval includes the entire Cotton Valley series.

6. Adoption of a 20 acre optional density rule for the field is appropriate.
  - a. The Fogle No. 1 is expected to ultimately recover 709 MMCF of gas and has a calculated drainage area of 18 acres.
  - b. The Brown No. 1 is expected to ultimately recover 264 MMCF of gas and has a calculated drainage area of 18 acres.
  - c. Other wells in the field have better quality pay and will drain larger areas.
  - d. The nearby Carthage, N. (Cotton Valley) Field operates under rules providing for 40/optional 20 acre density.
7. A spacing rule providing for a minimum of 467 feet from lease lines and 600 feet between wells will provide flexibility in developing the field on 20 acres. The Carthage, N. (Cotton Valley) Field operates under the same spacing rule.
8. Allocation based on 95% deliverability and 5% per well 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. Adoption of the proposed field rules for the Hardwood (Cotton Valley) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

#### **RECOMMENDATION**

Based on the above findings and conclusions of law, the examiner recommends that the Commission adopt the field rules proposed by Penn Virginia Oil & Gas, L.P.. for the Hardwood (Cotton Valley) Field.

Respectfully submitted,

Donna K. Chandler  
Technical Examiner