

**APPLICATION OF DEVON ENERGY PRODUCTION COMPANY LP TO AMEND THE FIELD RULES FOR THE STOCKMAN (COTTON VALLEY) FIELD, SHELBY COUNTY, TEXAS**

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**Heard by:** Andres J. Trevino, P.E. on September 14, 2011

**Appearances:**

Michael McElroy  
John P. Hebert  
Ben F. Wilson

**Representing:**

Devon Energy Production Company, LP

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

This is the unopposed application of Devon Energy Production Company, LP (Devon) to amend the field rules last amended in Order No. 06-0246258, effective April 18, 2006 for the Stockman (Cotton Valley) Field that currently provide for the following:

1. Minimum well spacing of 467'/933';
2. 640 acre gas proration units plus 10% tolerance and optional 80 acre gas proration units, with maximum diagonal of 3,250 feet; and
3. An allocation formula based on 100% acreage with AOF Status.

Devon requests that field rules be amended and adopted as follows :

1. Designation of the field as the correlative interval from 9,780 feet to 10,440 feet as shown on the log of the Franks Estate Well No. 6.
2. Minimum well spacing of 330'/0', take point provisions, a 50' horizontal box rule, off lease penetration;
3. 640 acre gas proration units plus 10% tolerance and optional 40 acre gas proration units, no maximum diagonal, Forms P-15 or plats;
4. Stacked lateral well provisions, and

5. An allocation formula based on 100% acreage with AOF Status. (no change)

The examiner recommends that field rules for the Stockman (Cotton Valley) Field be amended as proposed by Devon Energy Production Company, LP.

### **DISCUSSION OF THE EVIDENCE**

The Stockman (Cotton Valley) Field was discovered in 1976 at a depth of 10,298 feet. Special field rules were first adopted in 1977 and were last amended in April 2006. The gas field is designated as a non-associated field with the allocation formula suspended. There are 12 operators and 89 gas wells in the field. The field has produced 56.2 BCF of gas and 246 MBC.

The field interval has never been designated for the field. Devon requests that the entire correlative interval from 9,780 feet to 10,440 feet as shown on the log of the Franks Estate Well No. 6 (API No. 42-419-31013), Shelby County, Texas, be considered a single field known as the Stockman (Cotton Valley) Field. The interval begins from the base of the Travis Peak to the top of the Haynesville Shale.

Devon is amending the existing field rules in the Stockman (Cotton Valley) Field to adopt horizontal rules to allow efficient and orderly development of the Stockman (Cotton Valley) Field with horizontal wells. The proposed horizontal rules are similar to horizontal rules found in other Cotton Valley fields in the area. Devon requests to adopt 330' lease line spacing and 0' between well spacing be adopted to be consistent with the spacing rules of other fields undergoing horizontal development. The 0' between well spacing will allow the drilling of horizontal wells in between the numerous existing vertical wells.

Devon requests several standard horizontal well provisions commonly adopted when horizontal well development is anticipated. The provisions include take point language to allow flexible drilling of the laterals and off-lease penetration to allow the additional recovery of reserves by allowing the lateral to be horizontal at a legal lease line location. An additional stage frac will be placed on each lateral if off lease penetration is allowed.

Devon presented drainage calculations for three wells in the field to substantiate the requested rules. Using decline curve analysis and information taken from available well logs, drainage area calculations showed the wells drained between 35 acres and 280 acres. The EUR for the nine wells ranged from 825 MMCF to 5.1 BCF. These calculations are based on a porosity of 7.7%, water saturation of 28.6% and a recovery factor of 54%.

The gross thickness of the Cotton Valley in this field is over 550 feet with net pay of 70 feet. The interval has several potential zones that may support horizontal drilling. The primary target is the Cotton Valley E Sand while the secondary target could be the Cotton Valley D Sand. Amending the rule as proposed will allow stacked lateral drainholes to be simultaneously drilled from multiple surface locations. The stacked lateral rules also require

that each point of a stacked lateral horizontal drainhole be no more than 300 feet in a horizontal direction from any point along any other horizontal drainhole of the same stacked lateral well.

Devon proposes a 50 foot “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. Devon requests that the allocation formula for the field remain suspended.

### **FINDINGS OF FACT**

1. Notice of this hearing was given to all operators of wells in the Stockman (Cotton Valley) Field at least ten days prior to the date of hearing.
2. The Stockman (Cotton Valley) Field was discovered in 1976 at a depth of 10,298 feet.
3. There are 12 operators and 89 gas wells in the field. Cumulative production from the field is about 56.2 BCF of gas and 246 MBC.
4. The Stockman (Cotton Valley) Field is a non-associated gas field. Rules governing the gas wells provide for 467'-933' well spacing, 640/optional 80 acre density and 100% acreage allocation. The allocation formula is suspended.
5. The entire correlative interval from 9,780 feet to 10,440 feet as shown on the log of the Franks Estate Well No. 6 (API No. 42-419-31013), Shelby County, Texas, be considered a single field known as the Stockman (Cotton Valley) Field.
6. Wells in the field have drainage areas which vary significantly. Development with optional 40 acre density is necessary to maximize recovery from the field.
  - a. The Noble No. 1 has a calculated drainage area of 280 acres based on 5.1 BCF ultimate recovery.
  - b. The Adams No. 3 has a calculated drainage area of 128 acres based on 2.4 BCF ultimate recovery.
  - c. The Stamford No. 3 has a calculated drainage area of 35 acres based on 825 MMCF ultimate recovery.
7. Adopting field rules that provide for 330 feet lease line spacing and eliminating between well spacing, similar to other Cotton Valley fields, will allow horizontal wells be drilled between numerous existing vertical wells.

8. The gross thickness of the Cotton Valley in this field is almost 550 feet. There exists two potential Cotton Valley Sands, the D and the E that may require stacked laterals to fully develop the reservoir.
9. The proposed 50 foot "box rule" is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.
10. Field rules that provide for 330 feet lease line spacing, eliminate between well spacing for all wells in the field, take point language, stacked laterals and a "box rule" for horizontal wells will provide consistency with other Cotton Valley fields under going horizontal drilling.
11. Allowing off-lease penetration will allow an additional stage frac to be placed on each lateral causing the recovery of additional reserves that would otherwise be left in the ground.
12. Continued suspension of the allocation formula is appropriate, as there is a 100% market for all the gas produced.

#### **CONCLUSIONS OF LAW**

1. Proper notice of this hearing was given to all persons legally entitled to notice.
2. All things have occurred or been accomplished to give the Railroad Commission jurisdiction in this matter.
3. Amending field rules as proposed by Devon Energy Production Company, LP is necessary to prevent waste and protect correlative rights.

#### **EXAMINER'S RECOMMENDATION**

Based on the above findings and conclusions, the examiner recommends that field rules be amended for the Stockman (Cotton Valley) Field to reduce lease line spacing to 330 feet, optional 40 acre units, eliminate between well spacing for all wells, add take points, allow off lease penetration, add stacked lateral language and a 50 foot "box " rule.

Respectfully submitted,

Andres J. Trevino, P.E.  
Technical Hearings Examiner