

APPLICATION OF PENN VIRGINIA OIL & GAS L.P. TO AMEND THE FIELD RULES FOR THE WOODLAWN (COTTON VALLEY) FIELD, HARRISON AND MARION COUNTIES, TEXAS

Heard by: Andres J. Trevino, P.E. on September 27, 2010

Appearances:

Bill Spencer
Jim Clark

Representing:

Penn Virginia Oil & Gas, L.P.

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

This is the unprotested application of Penn Virginia Oil & Gas, L.P. to amend the field rules as adopted in Order No. 06-0263732, effective February 23, 2010, as amended, for the Woodlawn (Cotton Valley) Field that currently provide for the following:

1. The entire correlative interval from 8,370' to 9,980' as shown on the Dual Induction laterolog of the Amoco Production Company, Slaughter Gas Unit "B" Well No. 2, B.L. Watkins Survey, A-750, Harrison County, Texas should be designated as the Woodlawn (Cotton Valley) Field.
2. Minimum well spacing of 467'/600', 0' between vertical and horizontal wells, take point provisions, off lease penetration;
3. 640 acre gas proration units plus 10% tolerance and optional 40 acre gas proration units with a no maximum diagonal; and
4. An allocation formula based on 95% deliverability and 5% per well with AOF Status.

Penn Virginia Oil & Gas, L.P. proposes that Field Rule No. 2 be amended to decrease leaseline spacing from 467 feet to 330 feet, eliminate between well spacing for all wells in the field, add a horizontal box rule, Field Rule No. 3 be amended to decrease the optional units from 40 acres to 20 acres and add a stacked lateral rule.

The examiner recommends that field rules for the Woodlawn (Cotton Valley) Field be amended as proposed by Penn Virginia Oil & Gas, L.P.

DISCUSSION OF THE EVIDENCE

The Woodlawn (Cotton Valley) Field was discovered in 1965 at approximately 9,592' subsurface depth. Special field rules were first adopted in 1977 and were last amended in February 2010. The gas field is designated as an associated field with the allocation formula suspended. There are 18 operators and 215 gas wells and one oil well in the field. The field has produced 188.3 BCF and 1.7 MMBC.

Penn Virginia is amending the existing horizontal field rules in the Woodlawn (Cotton Valley) Field similar to other horizontal rules currently existing in other Cotton Valley fields in the area. Penn Virginia believes that there is still unrecovered gas in the reservoir. Gas proration units of optional 20 acres should provide for the effective and efficient depletion of the reservoir. Penn Virginia performed drainage analysis on three wells. The Hordern No.1 with average reservoir parameters of 7.3% porosity, water saturation of 22.2%; net pay of 49.5'. The estimated ultimate recovery and calculated drainage area for the Hordern No.1 is 381.3 MMCF and 18 acres. The Favel No.2 with average reservoir parameters of 6.6% porosity, water saturation of 33.9%; net pay of 21'. The estimated ultimate recovery and calculated drainage area for the Favel No.2 is 177 MMCF and 27 acres. The Agnor No.1 with average reservoir parameters of 7.3% porosity, water saturation of 28.7%; net pay of 54.5'. The estimated ultimate recovery and calculated drainage area for the Agnor No.1 is 309 MMCF and 15 acres

The gross thickness of the Cotton Valley in this field is over 1,600 feet. In planning future development of the subject field, it has been determined that stacked laterals will be required to develop this thick reservoir than was not anticipated by the "standard" stacked lateral rules. Penn Virginia foresees that laterals will need to be drilled from multiple surface locations, including some locations off lease. Amending the rule as proposed will allow stacked lateral drainholes to be simultaneously drilled from multiple surface locations. Deleting the standard 250 foot surface location maximum distance will facilitate future workovers on wells without having to shut-in other wells which may have wellheads clustered close together.

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. The field rules also include take point language for determination of lease line distances.

Penn Virginia proposes a 50 foot "box rule" for horizontal drainhole wells that would allow drainholes to deviate 46 feet from either side of their permitted track without the necessity of obtaining a Statewide Rule 37 exception. Penn Virginia also requests that the allocation formula for the field remain suspended and there be no filing of individual well proration unit plats.

FINDINGS OF FACT

1. Notice of this hearing was given to all operators of wells in the Woodlawn (Cotton Valley) Field at least ten days prior to the date of hearing.
2. The Woodlawn (Cotton Valley) Field was discovered in 1965 at a depth of 9,592'.
3. There are 18 operators and 215 gas wells and one oil well in the field. Cumulative production from the field is about 188.3 BCF and 1.7 MMBC.
4. The Woodlawn (Cotton Valley) Field is an associated gas field with one oil well. Rules governing the gas wells provide for 467'-600' well spacing, 640/optional 40 acre density and 100% deliverability allocation. The allocation formula was suspended in 1993.
5. Gas proration units of optional 20 acres should provide for the effective and efficient depletion of the reservoir.
 - a. The estimated ultimate recovery and calculated drainage area for the Hordern No.1 is 381 MMCF and 18 acres.
 - b. The estimated ultimate recovery and calculated drainage area for the Favel No.2 is 177 MMCF and 27 acres.
 3. The estimated ultimate recovery and calculated drainage area for the Agnor No.1 is 309 MMCF and 15 acres.
6. Given that the gross thickness of the Cotton Valley in this field is almost 1,600 feet, multiple stacked laterals will be required to fully develop the reservoir.
7. The proposed 50 foot "box rule" is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.
8. Field Rules that provide for 330 feet lease line spacing, eliminate between well spacing for all wells in the field, 20 acre optional units, stacked laterals and a "box rule" for horizontal wells will provide consistency in developing the field and will allow greater flexibility in selecting future drilling locations.
9. Continued suspension of the allocation formula is appropriate, as there is a 100% market for all the gas produced. Elimination of the requirement to file individual well proration unit plats will reduce unnecessary paperwork.

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 Penn Virginia Oil & Gas, L.P. 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 Woodlawn (Cotton Valley) Field to reduce optional acreage from 40 acres to 20 acres, reduce lease line spacing to 330 feet, eliminate between well spacing for all wells, add stacked lateral language and a 50 foot "box " rule.

Respectfully submitted,

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