



# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

OIL AND GAS DOCKET NO. 05-0281326

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THE APPLICATION OF TRIVIUM OPERATING, LLC TO CONSIDER A NEW FIELD DESIGNATION AND TO ADOPT FIELD RULES FOR THE PROPOSED HOFFMAN LANE (WOODBINE A) FIELD, LEON COUNTY, TEXAS

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HEARD BY: Richard D. Atkins, P.E. - Technical Examiner  
Terry Johnson - Legal Examiner

DATE OF HEARING: April 22, 2013

APPEARANCES: REPRESENTING:

**APPLICANT:**

Bill Spencer Trivium Operating, LLC  
Cary McGregor

**EXAMINERS' REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Trivium Operating, LLC ("Trivium") requests that a new field designation called the Hoffman Lane (Woodbine A) Field (ID No. 41945 500) be approved for its Swift Lease, Well No. 2H. Trivium proposes that the following Field Rules be adopted for the new field:

1. Designation of the field as the correlative interval from 6,662 feet to 6,800 feet as shown on the log of the Trivium Operating, LLC - Swift Lease, Well No. 1 (API No. 42-289-32003);
2. 330'-0' well spacing, 100' lease line spacing for the first and last take point in horizontal drainhole wells and special provisions for "take points", a 33' "box" rule and "off-lease" penetration point for horizontal drainhole wells;
3. 160 acre oil units with a special provision for an additional acreage assignment to horizontal drainhole wells based on the formula  $A = (L \times 0.11488) + 160$  and a maximum assignment of 640 acres;

4. Allocation based on 100% acres with a Top Oil Allowable based on the 1965 Yardstick Allowable of 331 barrels of oil per day.

Trivium 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 with no maximum diagonal limitation.

There is no protest to the application and the examiners recommend approval of the new field designation and adoption of Field Rules for the Hoffman Lane (Woodbine A) Field, as requested by Trivium.

### **DISCUSSION OF EVIDENCE**

Trivium completed its Swift Lease, Well No. 2H, in September 2012 with perforations in the Woodbine A formation between 6,916 feet (MD) and 12,586 feet (MD). The horizontal drainhole well was drilled from the Swift Lease, Well No. 1, pilot hole and, on initial test, the well produced flowing at a maximum rate of 130 BOPD, 448 MCFGPD and 2,668 BWPD with a gas-oil ratio of 3,446 cubic feet per barrel. Currently, Trivium is the only operator in the new field. Cumulative production from the field through April 2013 is 6.4 MBO and 50.0 MMCFG.

A new field designation should be approved for the Swift Lease, Well No. 2H, as there is no comparable production within a 2.5 mile radius of the discovery well. The proposed field is the first Woodbine A field in the area and there are 15 dry holes within the 2.5 mile radius. Trivium requests that the correlative interval from 6,662 feet to 6,800 feet as shown on the log of the Trivium Operating, LLC - Swift Lease, Well No. 1 (API No. 42-289-32003), R De La Garza Survey, A-8, Leon County, Texas, be designated as the Hoffman Lane (Woodbine A) Field. The correlative interval includes the entire Woodbine A formation.

Trivium is proposing to develop the field with horizontal drainhole wells and requests Field Rules to promote the efficient and effective development of the remaining hydrocarbons. Trivium proposes 330'-0' well spacing, 100' lease line spacing for the first and last take point in horizontal drainhole wells and special provisions for "take points", a 33' "box" rule and "off-lease" penetration point for horizontal drainhole wells. Similar Field Rules have been adopted in other tight reservoirs, including the Eagle Ford, Wolfcamp, Cotton Valley, Bone Springs and Barnett Shale formations.

Trivium requests that a field rule be adopted which includes language relevant to the measurement of distances to lease lines for horizontal drainhole wells. Trivium's proposed rule specifies that, for purposes of lease line spacing, the nearest "take point" in a horizontal well be used. This take-point could be a perforation in a horizontal well that is cased and cemented, an external casing packer in a cased well, or any open-hole

section in an uncased well. Similar rules have been adopted in other tight reservoirs, including the Eagle Ford, Cotton Valley and Barnett Shale formations.

Trivium proposes a tolerance "box rule" for horizontal drainhole wells that would allow drainholes to deviate 33 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. Trivium 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 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. The Commission has adopted similar rules allowing offsite penetration points in other fields, after the operator has given notice to the mineral owners of the off-lease tract on which the penetration point is to be located and received no protest.

The Hoffman Lane (Woodbine A) Field is located in the East Texas Basin and the Woodbine A formation is correlative across the entire area. The Woodbine A formation is a low permeability sandstone reservoir that requires fracture stimulation and has a solution gas drive as the primary drive mechanism. Trivium is requesting that the first and last take points of a lateral be as close as 100' to lease lines. The Woodbine reservoir has oriented fractures and most of the drainage is along the fracture orientation with little contribution from the matrix in a perpendicular direction. A wellbore can be presumed to be drilled to encounter the maximum number of fractures and, therefore, be perpendicular to the fracture direction. The end points of such a lateral will not drain over 100' from the matrix in a direction perpendicular to fracture direction. The 100' leaseline spacing for the first and last take points will result in the additional recovery of reserves.

Trivium requests 160 acre oil units with a special provision for an additional acreage assignment to horizontal drainhole wells based on the formula  $A = (L \times 0.11488) + 160$  and a maximum assignment of 640 acres. Trivium believes that horizontal drainhole wells will drain up to 640 acres and the proposed formula is similar to the one used in other tight Woodbine A formation fields. Trivium submitted a table of seven fields in RRC Districts 3 and 5 that had similar spacing and base density Field Rules. For purposes of the assignment of additional acreage pursuant to the formula above, it is proposed that the distance between the first and last take points in a horizontal drainhole well be used.

Trivium 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 with no

maximum diagonal limitation. Trivium proposes allocation based on 100% acres with a Top Oil Allowable based on the 1965 Yardstick Allowable of 331 barrels of oil per day.

### 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. Trivium Operating, LLC ("Trivium") completed its Swift Lease, Well No. 2H, in September 2012 with perforations in the Woodbine A formation between 6,916 feet (MD) and 12,586 feet (MD).
  - a. The horizontal drainhole well was drilled from the Swift Lease, Well No. 1, pilot hole and, on initial test, the well produced flowing at a maximum rate of 130 BOPD, 448 MCFGPD and 2,668 BWPD with a gas-oil ratio of 3,446 cubic feet per barrel.
  - b. Currently, Trivium is the only operator in the new field.
  - c. The Swift Lease, Well No. 2H, is entitled to a new field designation, as there is no comparable production within a 2.5 mile radius of the discovery well.
  - d. The Hoffman Lane (Woodbine A) Field is actively being developed with horizontal drainhole wells.
3. The correlative interval from 6,662 feet to 6,800 feet as shown on the log of the Trivium Operating, LLC - Swift Lease, Well No. 1 (API No. 42-289-32003), R De La Garza Survey, A-8, Leon County, Texas, should be designated as the Hoffman Lane (Woodbine A) Field. The correlative interval includes the entire Woodbine A formation.
4. Field Rules providing for 330'-0' well spacing, 100' lease line spacing for the first and last take point in horizontal drainhole wells and special provisions for "take points", a 33' "box" rule and "off-lease" penetration point 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 determination of distances to lease lines will prevent waste and will not harm correlative rights.
  - a. A take-point in a horizontal drainhole well in this field may be a perforation in a horizontal well that is cased and cemented, an

- external casing packer in a cased well, or any open-hole section in an uncased portion of the wellbore.
- b. Adoption of the proposed rule will allow the horizontal drainhole length on a lease to be maximized.
  - c. For purposes of assignment of additional acreage pursuant to the special formula, the distance between the first and last take points in a horizontal drainhole well should be used.
6. The proposed 33' "box" rule is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.
  7. Allowing an "off-lease" penetration point will result in maximum producing drainhole length, thereby increasing ultimate recovery from horizontal drainhole wells. To protect correlative rights, prior notice and opportunity to object should be given to the mineral owners of "off-lease" surface locations.
  8. A 100' leaseline spacing for the first and last take points will result in an additional recovery of reserves.
    - a. The Woodbine formation is a low permeability sandstone reservoir that requires fracture stimulation.
    - b. The Woodbine reservoir has oriented fractures and most of the drainage is along the fracture orientation with little contribution from the matrix in a perpendicular direction.
    - c. A wellbore can be presumed to be drilled to encounter the maximum number of fractures and, therefore, be perpendicular to the fracture direction.
    - d. The end points of such a lateral will not drain over 100' from the matrix in a direction perpendicular to fracture direction.
  9. Adoption of 160 acre oil units with a special provision for an additional acreage assignment to horizontal drainhole wells based on the formula  $A = (L \times 0.11488) + 160$  and a maximum assignment of 640 acres is appropriate for the field.
    - a. Horizontal drainhole wells will drain up to 640 acres and the proposed formula is similar to the one used in other tight Woodbine A formation fields.

- b. A table of seven fields in RRC Districts 3 and 5 shows similar spacing and base density Field Rules have already been adopted.
10. Similar Field Rules have been adopted in other tight reservoirs, including the Eagle Ford, Wolfcamp, Cotton Valley, Bone Springs and Barnett Shale formations.
11. The filing of Form P-15 to designate the number of acres to be assigned to each well for proration purposes with no proration plats will eliminate unnecessary paperwork.
12. Allocation based on 100% acres with a Top Oil Allowable based on the 1965 Yardstick Allowable of 331 barrels of oil per day 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 Field Rules for the Hoffman Lane (Woodbine A) Field will prevent waste, protect correlative rights and promote the orderly development of the field.

#### **RECOMMENDATION**

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission approve the new field designation and adopt Field Rules for the proposed Hoffman Lane (Woodbine A) Field, as requested by Trivium Operating, LLC.

Respectfully submitted,



Richard D. Atkins, P.E.  
Technical Examiner



Terry Johnson  
Legal Examiner