



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 03-0278262

THE APPLICATION OF CRIMSON EXPLORATION OPER., INC. TO AMEND FIELD RULES FOR THE MADISONVILLE, W. (WOODBINE -A-) FIELD, BRAZOS, GRIMES AND MADISON COUNTIES, TEXAS

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner
Randall Collins - Legal Examiner

DATE OF HEARING: November 8, 2012

APPEARANCES:

REPRESENTING:

APPLICANT:

Clark Jobe
John Burger
Carl Isaac
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Crimson Exploration Oper., Inc.

OBSERVERS:

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EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Field Rules for the Madisonville, W. (Woodbine -A-) Field were originally adopted in Final Order No. 3-68,195, effective February 13, 1978, as amended. The Field Rules currently in effect for the field are summarized as follows:

1. Correlative interval from 8,510 feet to 9,200 feet as shown on the log of the Goldsmith Operating, LLC - A.Y. Goldsmith-Benge Lease, Well No. 2 (API No. 42-313-30388);

2. 330'-0' well spacing;
3. 160 acre oil units with optional 40 acre density and a formula for assigning additional acreage to horizontal drainhole wells;
4. Allocation based on 100% acres with a top oil allowable based on the 1965 Yardstick Allowable of 402 barrels of oil per day with an allowable gas-oil ratio of 2,000 cubic feet per barrel.

Crimson Exploration Oper., Inc. ("Crimson") requests that the Field Rules be amended to provide for 330'-0' well spacing with special provisions for "take points", 100' leaseline spacing for the first and last take points, a 33 foot "tolerance box" and "off-lease" penetration point provisions for horizontal drainhole wells. Crimson proposes 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.

The application is unopposed and the examiners recommend that the Field Rules for the Madisonville, W. (Woodbine -A-) Field be amended, as proposed by Crimson.

DISCUSSION OF EVIDENCE

The Madisonville, W. (Woodbine -A-) Field was discovered in July 1976 at an average depth 8,700 feet. There are 82 producing oil wells and 18 operators carried on the proration schedule. Field Rules currently provide for 330'-0' well spacing and 160 acre oil units with optional 40 acre density. The top oil allowable is based on the 1965 Yardstick Allowable of 402 barrels of oil per day with an allowable gas-oil ratio of 2,000 cubic feet per barrel. Cumulative production from the field through October 2012 is 8.5 MMBO and 5.9 BCFG.

The Madisonville, W. (Woodbine -A-) Field is located in the East Texas Basin between the LLano and Sabine uplifts. The Woodbine formation is correlative across the entire area and lies between the Sub-Clarksville and Buda formations. The Woodbine formation is a low permeability sandstone reservoir that requires fracture stimulation and has a solution gas drive as the primary drive mechanism.

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

Crimson also requests that a Field Rule be adopted which includes language relevant to the measurement of distances to lease lines for horizontal drainhole wells. Crimson'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.

Crimson 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.

Crimson proposes a "tolerance box" for horizontal drainhole wells that would allow horizontal 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. Crimson 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 500 feet of additional producing drainhole, which will result in the recovery of additional 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. For purposes of the assignment of additional acreage pursuant to Statewide Rule 86, it is proposed that the distance between the first and last take-point in a horizontal drainhole well be used.

Additionally, Crimson 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.

FINDINGS OF FACT

1. Notice of this hearing was given to all parties entitled to notice at least ten days prior to the date of hearing.

2. The Madisonville, W. (Woodbine -A-) Field was discovered in July 1976 at an average depth 8,700 feet.
 - a. There are 82 producing oil wells and 18 operators carried on the proration schedule.
 - b. Field Rules currently provide for 330'-0' well spacing and 160 acre oil units with optional 40 acre density.
 - c. The top oil allowable is based on the 1965 Yardstick Allowable of 402 barrels of oil per day with an allowable gas-oil ratio of 2,000 cubic feet per barrel.
 - d. The field is actively being developed with horizontal drainhole wells.
3. The Madisonville, W. (Woodbine -A-) Field is located in the East Texas Basin between the LLano and Sabine uplifts.
 - a. The Woodbine formation is correlative across the entire area and lies between the Sub-Clarksville and Buda formations.
 - b. The Woodbine formation is a low permeability sandstone reservoir that requires fracture stimulation and has a solution gas drive as the primary drive mechanism.
4. Field Rules providing for 330'-0' well spacing with special provisions for "take points", 100' lease line spacing for the first and last take points, a 33 foot "tolerance box" and "off-lease" penetration point provisions 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 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 Statewide Rule 86, the distance between the first and last take-point in a horizontal well should be used.
6. The 100' leaseline spacing for the first and last take points will result in the additional recovery of reserves.
 - a. 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.
 - b. A wellbore can be presumed to be drilled to encounter the maximum number of fractures and therefore be perpendicular to the fracture direction.
 - c. The end points of such a lateral will not drain over 100' from the matrix in a direction perpendicular to fracture direction.
7. The proposed 33 foot "tolerance box" is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.
8. 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.
9. Similar rules have been adopted in other tight reservoirs, including the Spraberry, Eagle Ford, Wolfcamp, Bone Springs, Cotton Valley and Barnett Shale formations.
10. 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.

CONCLUSIONS OF LAW

1. Notice of this hearing was given as specified in the provisions of all regulatory codes.
2. All things have occurred or been accomplished to give the Commission jurisdiction in this matter.
3. Amending the Field Rules for the Madisonville, W. (Woodbine -A-) 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 examiners recommend that the Commission amend the Field Rules for the Madisonville, W. (Woodbine -A-) Field, as requested by Crimson Exploration Oper., Inc.

Respectfully submitted,



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