

THE APPLICATION OF EOG RESOURCES, INC. TO ADOPT TEMPORARY FIELD RULES FOR THE LIN (WOLFCAMP) FIELD, IRION COUNTY, TEXAS

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

DATE OF HEARING: June 28, 2011

APPEARANCES:

REPRESENTING:

APPLICANT:

Flip Whitworth
Rick Johnston
Greg Palko
Allen Harp
Betsy Wells

EOG Resources, Inc.

OBSERVER:

Jamie Nielson

ConocoPhillips Company

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

EOG Resources, Inc. ("EOG") requests that Temporary Field Rules be adopted for the Lin (Wolfcamp) Field. The proposed rules are summarized as follows:

1. Designation of the field as the correlative interval from 6,005 feet to 7,100 feet as shown on the log of the EOG Resources, Inc. - University 40 Lease, Well No. 1401H (API No. 42-235-34462);
2. 330'-0' well spacing, 100' lease line spacing for the first and last take points and special provisions for "take points", a "box rule" and "off-lease" penetration point for horizontal drainhole wells;
3. Allocation based on 95% deliverability and 5% per well with AOF status;
4. Stacked lateral provisions for horizontal wells.

This application was unopposed and the examiner recommends that the Field

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Rules proposed by EOG be adopted on a temporary basis for the Lin (Wolfcamp) Field, subject to review in 24 months.

DISCUSSION OF EVIDENCE

The Lin (Wolfcamp) Field was discovered in October 1984 at a depth of 6,600 feet. The field is classified as associated-49B and operates under Statewide Field Rules. There are three producing oil wells, four producing gas wells and five operators carried on the proration schedules. Cumulative production from the field through March 2011 is 3.7 BCFG and 190.6 MBO.

There is no defined correlative interval for the field. EOG requests that the Lin (Wolfcamp) Field be defined as the correlative interval from 6,005 feet to 7,100 feet as shown on the log of the EOG Resources, Inc. - University 40 Lease, Well No. 1401H (API No. 42-235-34462), Section 14, Block 40, University Lands Survey, A-U19, Irion County, Texas. The interval includes the Upper and Middle Wolfcamp formations and lies stratigraphically between the Dean and Lower Wolfcamp formations.

EOG requests that a field rule be adopted which includes language relevant to measurement of distances to lease lines for horizontal drainhole wells. EOG'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, if a horizontal well 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 Newark, East (Barnett Shale), Carthage (Haynesville Shale) and Eagleville (Eagle Ford-1) Fields.

EOG requests a spacing rule that requires a minimum of 330 feet from lease lines and no minimum between well requirement. This proposed spacing is similar to other fields being developed using horizontal wells. EOG requests that the first and last take points be no closer than 100 feet from the lease lines. This will allow at least one additional frac stage to take place at each end of the lateral to recover additional reserves that would otherwise remain unrecovered. Reservoir drainage is expected to occur along the perpendicular fractures from the laterals and not in a radial pattern as in a conventional reservoir.

The proposed rule would allow operators to drill horizontal wells with penetration points, as defined by Rule 86, at distances closer than 330 feet to a lease line, as long as no take-point, other than the first and last take points, is closer than 100 feet to any lease line. Horizontal drainhole length on a lease is then maximized, resulting in the additional recovery of gas. For purposes of the assignment of additional acreage, it is proposed that the distance between the first and last take-point in a horizontal well be used.

EOG proposes a 10% tolerance "box rule" for horizontal drainhole wells that would

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allow drainholes to deviate 50 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. EOG 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 700 feet from the lease line. Since there is a requested 100' lease line spacing for the first and last take points, the proposed rule will allow approximately 600 feet of additional producing drainhole, resulting in the recovery of additional gas reserves. Similar rules allowing offsite penetration points have been adopted in other fields, after notice to the mineral owners of the off-lease tract on which the penetration point is to be located and if no protest is received.

To satisfy state statutes, EOG requests that the allocation formula be based on 95% deliverability and 5% per well and that it be suspended, as there is a 100% market demand for all of the gas produced from the field. Since the field is lenticular with no defined gas cap, EOG also requests that the field be classified as associated-prorated.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Lin (Wolfcamp) Field was discovered in October 1984 at a depth of 6,600 feet.
 - a. The field is classified as associated-49B and operates under Statewide Field Rules.
 - b. There are three producing oil wells, four producing gas wells and five operators carried on the proration schedules.
3. The Lin (Wolfcamp) Field should be defined as the correlative interval from 6,005 feet to 7,100 feet as shown on the log of the EOG Resources, Inc. - University 40 Lease, Well No. 1401H (API No. 42-235-34462), Section 14, Block 40, University Lands Survey, A-U19, Irion County, Texas.
4. Field Rules that provide for 330'-0' well spacing, 100' lease line spacing for the first and last take points and special provisions for “take points”, a “box rule” and “off-lease” penetration point for horizontal drainhole wells will

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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 not harm correlative rights.
 - a. The Upper and Middle Wolfcamp intervals are tight formations and are not commercially productive unless fracture-stimulated.
 - b. A take-point in a horizontal well in this field may be a perforation, if a horizontal well is cased and cemented, an external casing packer in a cased well, or any open-hole section in an uncased portion of the wellbore.
 - c. “Take points” will allow the horizontal drainhole length on a lease to be maximized.
 - d. Allowing the first and last take points to be as close as 100 feet from the lease lines will allow at least one additional frac stage to take place at each end of the lateral to recover additional reserves that would otherwise remain unrecovered.
6. The proposed 50 foot “box rule” will allow operators reasonable minor deviations from the wellbore track that has been permitted without the need to re-permit the well.
7. Allowing an off-lease penetration point will result in maximum producing drainhole length, thereby increasing ultimate recovery from horizontal drainhole wells. The proposed rule will allow approximately an additional 700 feet of producing drainhole. To protect correlative rights, prior notice and opportunity to object should be given to the mineral owners of offsite surface locations.
8. For purposes of assignment of additional acreage to horizontal drainhole wells, the distance between the first and last take-point in a horizontal drainhole well should be used.
9. Allocation based on 95% deliverability and 5% per well is a reasonable formula which will protect correlative rights of mineral owners in the field.
10. Suspension of the allocation formula is appropriate, as there is a 100% market demand for all of the gas produced from the field.

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11. The field is lenticular with no defined gas cap and should be classified as associated-prorated.

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 Lin (Wolfcamp) Field on a temporary basis 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 examiner recommends that the Commission adopt the Field Rules proposed by EOG Resources, Inc. for the Lin (Wolfcamp) Field on a temporary basis, subject to review in 24 months.

Respectfully submitted,

Richard D. Atkins, P.E.
Technical Examiner