

THE APPLICATION OF CHESAPEAKE OPERATING, INC. TO ADOPT FIELD RULES FOR THE INDIO TANKS (PEARSALL) FIELD, DIMMIT, LA SALLE, MAVERICK AND ZAVALA COUNTIES, TEXAS

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

HEARING DATE: June 16, 2011

APPEARANCES:

REPRESENTING:

APPLICANT:

Bill Spencer
James M. Clark

Chesapeake Operating, Inc.

OBSERVERS:

Ana Maria Marsland-Griffith

Cheyenne Petroleum Company

David Nelson

New field Exploration Company

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Chesapeake Operating, Inc. ("Chesapeake") requests that Field Rules be adopted for the Indio Tanks (Pearsall) Field. The proposed rules are summarized as follows:

1. Designation of the field as the correlative interval from 9,220 feet to 10,090 feet as shown on the log of the TXCO Resources Inc. - Glass Ranch "B" Lease, Well No. 177 (API No. 42-323-32970);
2. 330'-0' well spacing, 100' lease line spacing for the first and last take points with special provisions for "take points", no perf zones and a 50 foot "box" rule for horizontal wells;
3. 320 acre gas units with optional 40 acre density and special provisions for the assignment of acreage to horizontal wells with a maximum acreage assigned to a well of 640 acres;
4. Allocation based on 100% acres with AOF status;

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5. Special provisions for horizontal “stacked lateral” wells.

At the hearing, Chesapeake amended its application to include an “off-lease” penetration point for horizontal wells. A notification letter was mailed to all operators in the field and no protest was received. The application is unopposed and the examiner recommends that Field Rules be adopted for the Indio Tanks (Pearsall) Field, as requested Chesapeake.

DISCUSSION OF EVIDENCE

The Indio Tanks (Pearsall) Field was discovered in November 2007 at a depth of 10,100 feet. The field is classified as non-associated with AOF status and operates under Statewide Rules. There is currently nine producing gas wells and three operators carried on the proration schedule. The field is currently undergoing rapid development and Chesapeake plans to drill only horizontal wells. Cumulative production from the field through April 2011 is 4.8 BCFG and 0.9 MBO.

There is currently no defined correlative interval for the field. Chesapeake requests that the field be defined as the correlative interval from 9,220 feet to 10,090 feet as shown on the log of the TXCO Resources Inc. - Glass Ranch “B” Lease, Well No. 177 (API No. 42-323-32970), Section 77, A. Rivas Survey, A-788, Maverick County, Texas. This interval includes the entire Pearsall formation, which is approximately 900 feet in thickness.

Chesapeake is in the early stages of development for the Indio Tanks (Pearsall) Field and believes it should be developed with similar Field Rules as the shallower Brisco Ranch (Eagleford) and Hawkville (Eagleford Shale) Fields. Chesapeake is proposing to drill additional horizontal wells and requests horizontal rules in order to promote the efficient and effective development of the remaining hydrocarbons. Chesapeake requests a spacing rule that requires 330'-0' well spacing, 100' lease line spacing for the first and last take points with special provisions for “take points”, no perf zones, an “off-lease” penetration point and a 50 foot “box” rule for horizontal wells.

Chesapeake requests that a field rule be adopted which includes language relevant to measurement of distances to lease lines for horizontal drainhole wells. Chesapeake’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 Brisco Ranch (Eagleford), Hawkville (Eagleford Shale) and Eagleville (Eagle Ford-1) Fields.

Chesapeake 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

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and not in a radial pattern as in a conventional gas reservoir.

Chesapeake proposes a 10% tolerance “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. 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. Chesapeake 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. Since there is a requested 100 lease line spacing for the first and last take points, the proposed rule will allow approximately 500 feet of additional producing drainhole, resulting in the recovery of additional oil and 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.

Chesapeake proposes a “stacked lateral” rule that would allow stacked horizontal laterals within the Pearsall formation correlative interval that are drilled from different surface locations to be considered a single well for regulatory purposes. It is proposed that a stacked lateral be defined to be multiple horizontal drainholes which are drilled from different surface locations.

Chesapeake requests 320 acre gas units with optional 40 acre density and additional acreage assigned to horizontal wells based on a formula. The maximum acreage assigned to any well will be limited to 640 acres regardless of lateral length. The horizontal rules proposed by Chesapeake for purposes of assigning acreage and allowing take points are similar to those which have been adopted in the shallower Hawkville (Eagleford Shale) Field.

Chesapeake calculated drainage areas for two vertical wells in the adjoining Los Cuatros (Lower Cretaceous) Field. One of the wells had a drainage area of 342 acres and the other well had a drainage area of 18 acres. Chesapeake felt that the two drainage areas justified 320 acre units with optional 40 acre density.

Chesapeake requests that allocation be based on 100% acreage as the Pearsall interval is not lenticular. Chesapeake also requests that the allocation formula remain suspended, as there is a 100% market demand for all of the gas produced from the field.

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FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Indio Tanks (Pearsall) Field was discovered in November 2007 at a depth of 10,100 feet.
 - a. The field is classified as non-associated with AOF status and operates under Statewide Rules.
 - b. There is currently nine producing gas wells and three operators carried on the proration schedule.
 - c. The field is currently undergoing rapid development and Chesapeake plans to drill only horizontal wells.
3. The Indio Tanks (Pearsall) Field should be defined as the correlative interval from 9,220 feet to 10,090 feet as shown on the log of the TXCO Resources Inc. - Glass Ranch "B" Lease, Well No. 177 (API No. 42-323-32970). This interval includes the entire Pearsall formation, which is approximately 900 feet in thickness.
4. Adoption of 320 acre gas units with optional 40 acre density and additional acreage assigned to horizontal wells based on a formula is appropriate.
 - a. The maximum acreage assigned to any horizontal well will be limited to 640 acres regardless of lateral length.
 - b. Chesapeake calculated drainage areas for two vertical wells in the adjoining Los Cuatros (Lower Cretaceous) Field. One of the wells had a drainage area of 342 acres and the other well had a drainage area of 18 acres.
 - c. The Indio Tanks (Pearsall) Field is in the early stages of development and should be developed with similar Field Rules as the shallower Hawkville (Eagleford Shale) Field.
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 Pearsall Shale formation is a tight formation and is not commercially productive unless fracture-stimulated.

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- 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.
6. Field Rules that provide for 330'-0' well spacing, 100' lease line spacing for the first and last take points with special provisions for "take points", "off-lease" penetration point, no perf zones, a "box rule" and "stacked laterals" for a horizontal drainhole well will provide consistency in developing the field and will allow greater flexibility in selecting future drilling locations.
 7. 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.
 8. The proposed "stacked lateral" rule will allow stacked horizontal laterals within the Mississippian correlative interval that are drilled from different surface locations to be considered a single well for regulatory purposes, which will facilitate the additional recovery of oil.
 9. 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 500 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.
 10. Allocation based on 100% acreage is a reasonable formula which will protect correlative rights of mineral owners in the field.
 11. Continued suspension of the allocation formula is appropriate, as there is a 100% market demand for all of the gas produced from the field.

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.

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3. Adoption of the proposed Field Rules for the Indio Tanks (Pearsall) 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 examiner recommends that the Commission adopt Field Rules for the Indio Tanks (Pearsall) Field, as requested by Chesapeake Operating, Inc.

Respectfully submitted,

Richard D. Atkins, P.E.
Technical Examiner