

THE APPLICATION OF BROAD OAK ENERGY, INC. TO CONSIDER A NEW FIELD DESIGNATION AND TO ADOPT FIELD RULES FOR THE PROPOSED ROBLE GRANDE (STRAWN/WOODFORD) FIELD AND TO APPROVE BLANKET STATE WIDE RULE 10 COMMINGLING AUTHORITY FOR THE ROBLE GRANDE (STRAWN/WOODFORD) AND SPRABERRY (TREND AREA) FIELDS, GLASSCOCK AND REAGAN COUNTIES, TEXAS

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

DATE OF HEARING: July 6, 2011

APPEARANCES:

REPRESENTING:

APPLICANT:

H. Philip Whitworth
Greg Cloud
Ben Shelton
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Broad Oak Energy, Inc.

OBSERVER:

Sandra B. Buch
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EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Broad Oak Energy, Inc. ("Broad Oak") requests that a new field designation called the Roble Grande (Strawn/Woodford) Field be approved for its Sugg-A- Lease, Well No. 158H. Broad Oak proposes that the following field rules be adopted for the new field:

1. Designation of the field as the correlative interval from 9,477 feet to 9,941 feet as shown on the log of the Broad Oak Energy, Inc. - Sugg-A- Lease, Well No. 158H (API No. 42-383-37033);
2. 467'-0' well spacing and 100' lease line spacing for the first and last take points with special provisions for "take points", "off-lease" penetration point and a 50 foot "box rule" for horizontal wells;

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3. 80 acre density with an 80 acre tolerance per well and special provisions for 20 acre Rule 38 exceptions after notice;
4. Allocation based on 75% acres and 25% per well with a top allowable based on the Discovery Allowable of 440 BOPD until it expires and then the 1965 Yardstick Allowable of 250 BOPD;
5. Special provisions for horizontal "stacked lateral" wells.

Broad Oak also requests Blanket Statewide Rule 10 commingling authority for all wells located in Glasscock and Reagan Counties that are completed in the Spraberry (Trend Area) and Roble Grande (Strawn/Woodford) Fields.

There were no protests to this application and the examiners recommend approval of the new field designation and Field Rules for the Roble Grande (Strawn/Woodford) Field and approval of Statewide Rule 10 exceptions for all wells in the Spraberry (Trend Area) and Roble Grande (Strawn/Woodford) Fields.

DISCUSSION OF EVIDENCE

Broad Oak completed its Sugg-A- Lease, Well No. 158H, in February 2011 with perforations in the Spraberry (Trend Area) and Roble Grande (Strawn/Woodford) Fields between 5,726 feet and 9,910 feet. On initial test, the well produced pumping at a maximum rate of 89 BOPD, 294 MCFGPD and 264 BWPD. Currently, Broad Oak is the only operator in the new field.

There is no comparable production within a 2.5 mile radius of the discovery well. A new field designation should be approved for the Sugg-A- Lease, Well No. 158H. Broad Oak requests that the correlative interval from 9,477 feet to 9,941 feet as shown on the log of the Broad Oak Energy, Inc. - Sugg-A- Lease, Well No. 158H (API No. 42-383-37033), Section 158, Block 2, T&P RR Co. Survey, A-708, Reagan County, Texas, be designated as the Roble Grande (Strawn/Woodford) Field.

The correlative interval includes the Strawn, Atoka, Barnett Shale and Woodford formations and is located stratigraphically between the Base of the Wolfcamp and the top of the Devonian formations. These zones are located in the Midland Basin and are composed of submarine deposits of sandstones, siltstones, limestones and shales. Though these formations are correlative across the entire area, the sand lenses are lenticular and the porosity and permeability change quickly over short distances due to formation shaliness. Broad Oak opined that these limited reservoirs would be uneconomic completion targets for vertical wells absent downhole commingling. At least 106 Statewide Rule 10 exceptions have been approved by the Commission for many other Strawn and Atoka fields contained within the aerial extent of the Spraberry (Trend Area) Field.

For consistency, Broad Oak proposes the same spacing and density rules for the

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new field that exist in the shallower Spraberry (Trend Area) Field. This will enable the zones to be downhole commingled in both fields without burdensome Statewide Rule 10 exceptions. Broad Oak requests 467'-0' well spacing and 80 acre density with an 80 acre tolerance per well and special provisions for 20 acre Rule 38 exceptions after notice. Broad Oak is proposing to drill horizontal wells and requests horizontal rules in order to promote the efficient and effective development of the remaining hydrocarbons. Broad Oak requests a spacing rule that also has 100' lease line spacing for the first and last take points with special provisions for "take points", an "off-lease" penetration point and a 50 foot "box rule" for horizontal wells.

Broad Oak requests that a field rule be adopted which includes language relevant to measurement of distances to lease lines for horizontal drainhole wells. Broad Oak'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 Wolfbone (Trend Area), Eagleville (Eagle Ford-1) and Newark, East (Barnett Shale) Fields.

Broad Oak 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. Broad Oak 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. With 100' lease line spacing for the first and last take points, the proposed rule will allow approximately 400 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.

Broad Oak proposes a "stacked lateral" rule that would allow stacked horizontal laterals within the 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.

To satisfy state statutes, Broad Oak requests that a two factor allocation formula based on 75% acres and 25% per well be adopted for the field. Broad Oak also requests

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the cancellation of any overproduction that may have accrued to wells in the proposed new field.

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. Broad Oak completed its Sugg-A- Lease, Well No. 158H, in February 2011 with perforations in the Spraberry (Trend Area) and Roble Grande (Strawn/Woodford) Fields between 5,726 feet and 9,910 feet. On initial test, the well produced pumping at a maximum rate of 89 BOPD, 294 MCFGPD and 264 BWPD.
3. The Sugg-A- Lease, Well No. 158H, is entitled to a new field designation as there is no comparable production within a 2.5 mile radius of the discovery well.
4. The correlative interval from 9,477 feet to 9,941 feet as shown on the log of the Broad Oak Energy, Inc. - Sugg-A- Lease, Well No. 158H (API No. 42-383-37033), Section 158, Block 2, T&P RR Co. Survey, A-708, Reagan County, Texas, should be designated as the Roble Grande (Strawn/Woodford) Field. This interval includes the Strawn, Atoka, Barnett Shale and Woodford formations and is located stratigraphically between the Base of the Wolfcamp and the top of the Devonian formations.
5. Adoption of 80 acre density with an 80 acre tolerance per well and special provisions for 20 acre Rule 38 exceptions after notice are appropriate for the field.
6. A spacing rule which utilizes "take-points" in a horizontal well for determination of well spacing will not harm correlative rights.
 - a. The Strawn and Woodford formations 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.
7. Field Rules that provide for 467'-0' well spacing and 100' lease line spacing

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for the first and last take points with special provisions for “take points”, “off-lease” penetration point, 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. Similar rules have been adopted in other tight reservoirs, including the Wolfbone (Trend Area), Eagleville (Eagle Ford-1) and Newark, East (Barnett Shale) Fields.

8. 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.
9. The proposed “stacked lateral” rule will allow stacked horizontal laterals within the 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.
10. 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 400 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.
11. Allocation based on 75% acres and 25% per well is a reasonable formula which will protect the correlative rights of mineral owners in the field.
12. At least 106 Statewide Rule 10 exceptions have been approved by the Commission for many other Strawn and Atoka fields contained within the aerial extent of the Spraberry (Trend Area) 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.
3. Approval of the requested new field designation and adoption of Field Rules for the Roble Grande (Strawn/Woodford) Field will prevent waste, protect correlative rights and promote the orderly development of the field.
4. Approval of the requested Statewide Rule 10 commingling authority for all wells in the Spraberry (Trend Area) and the Roble Grande (Strawn/Woodford) Fields will prevent waste and will not harm correlative rights.

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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 Roble Grande (Strawn/Woodford) Field and approve Statewide Rule 10 commingling authority for all wells in the Spraberry (Trend Area) and Roble Grande (Strawn/Woodford) Fields, as requested by Broad Oak Energy, Inc.

Respectfully submitted,

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