OIL AND GAS DOCKET NO. 01-0277584

THE APPLICATION OF BLACKBRUSH O & G, LLC TO ADOPT FIELD RULES FOR THE HUGH FITZSIMMONS (SAN MIGUEL) FIELD, DIMMIT AND MAVERICK COUNTIES, TEXAS

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

HEARING DATE: August 31, 2012

APPEARANCES:	**REPRESENTING:**
APPLICANT:	
Paul Tough	Blackbrush O & G, LLC
John McBeath	
OBSERVER:	
Rick Johnston	Prime Operating Company

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Blackbrush O & G, LLC ("Blackbrush") requests that Field Rules for the Hugh Fitzsimmons (San Miguel) Field be adopted. Blackbrush requests the following Field Rules:

1. Designation of the field as the correlative interval from 3,846 feet to 3,950 feet as seen on the log of the Blackbrush O & G, LLC - San Pedro Ranch Lease, Well No. 860 (API No. 42-127-33508);

2. 330'-1,200' well spacing and no minimum between well spacing limitation between horizontal drainhole wells and vertical or horizontal drain hole wells with special provisions for "take points", 150' lease line spacing for the first and last take points, a 33 foot "box" rule and "off-lease" penetration point for horizontal drainhole wells;

3. 40 acre units;

4. Allocation based on 100% acres with AOF status:

5. Special provision for an exception to Statewide Rule 13(b)(5)(a) requiring flowing oil wells to be produced through tubing;

6. Special provision for an exception to Statewide Rule 51(a) regarding the 10 day rule for filing the potential test.

The application is unprotested and the examiners recommend that Field Rules for the Hugh Fitzsimmons (San Miguel) Field be adopted, as proposed by Blackbrush.

DISCUSSION OF THE EVIDENCE

The Hugh Fitzsimmons (San Miguel) Field was discovered in March 1959 at an average depth of 3,700 feet. The field is classified as associated-100% AOF and operates under Statewide Rules. There are 187 producing oil wells, one producing gas well and five operators carried on the proration schedules. Cumulative production from the field through July 2012 is 2.7 MMBO and 27.0 BCFG.

There is currently no defined correlative interval for the field. Blackbrush requests that the field be defined as the correlative interval from 3,846 feet to 3,950 feet as seen on the log of the Blackbrush O & G, LLC - San Pedro Ranch Lease, Well No. 860 (API No. 42-127-33508), Section 16, Juan Francisco Lombrano Survey, A-1360, Dimmit County, Texas. The correlative interval includes the productive San Miguel sand formation.

Blackbrush is proposing to drill vertical and horizontal infill wells and requests Field Rules to promote the efficient and effective development of the remaining hydrocarbons. Blackbrush requests 330'-1,200' well spacing and no minimum between well spacing limitation between horizontal drainhole wells and vertical or horizontal drain hole wells with special provisions for "take points", 150' lease line spacing for the first and last take points, a 33 foot “box” rule and “off-lease” penetration point for horizontal drainhole wells. Similar rules have been adopted in other tight reservoirs, including the Eagle Ford, Cotton Valley and Barnett Shale formations.

Blackbrush requests that a field rule be adopted which includes language relevant to the measurement of distances to lease lines for horizontal drainhole wells. Blackbrush’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.

Blackbrush 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. Blackbrush 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 300 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. 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.

Borehole Image Interpretation logs analyzed from two vertical wells in the trend area suggest that the induced fracture strike direction is located within a narrow corridor running generally northeast-southwest centered on the wellbore. The orientation of hydraulically induced transverse fractures in this low permeability formation within the Hugh Fitzsimmons (San Miguel) Field will be generally northeast-southwest. The orientation of the maximum stress appears to be uniform across the field and horizontal wells in the field will be drilled generally northwest-southeast to more effectively stimulate the rock with transverse fractures and therefore maximize recovery.

The very low permeability of the formation limits the effective drainage in the northwest-southeast direction of individual stages. Consequently, the drainage in a northwest-southeast direction from the first and last take points will be minimal. The 150' leaseline spacing for the first and last take points will result in an additional recovery of reserves. Blackbrush calculated that the resulting 180' of take points would result in the additional recovery of 187.2 MMCFG and 17.3 MBO per well.

To minimize formation damage, the San Miguel sand formation is fracture stimulated using gelled propane in 10 stages. The fracture stimulation requires high pressures and large volumes of frac fluid and proppant that exceed a tubing's burst strength and volume capacity. It typically takes 2 to 6 months for wells to recover the load propane and establish production representing stabilized flow of native reservoir fluids. Wellhead control is maintained as a "frac tree" is typically kept on the well until tubing is run into the well. Since snubbing operations have inherent safety risks and high costs, once surface pressures are manageable, usually less than 300 psi, the tubing can be installed.

Statewide Rule 13(b)(5)(a) requires flowing oil wells to be produced through tubing and the rule does not allow for exceptions. Without an exception to this rule, flowing oil wells will be required to be rapidly depleted or killed. Blackbrush fears that killing a well

may permanently damage the well's completion, as the kill fluid will remain in the reservoir and may negatively impact the long term production characteristics of the well. A six month exception is needed, as typically, new oil wells have high initial rates of production, followed by a steep decline and wells perform better on restricted choke sizes, resulting in longer flowback periods to clean up.

Blackbrush also requests that an oil well be granted administratively a six month exception to the provisions of Statewide Rule 51(a) regarding the 10 day rule for filing the potential test. This will allow for the backdating of allowables on the oil wells without requiring a waiver to be secured from all field operators. While allowables are needed to cover oil and gas volumes recovered during flowback and load recovery, early-time well test results are not representative of reservoir conditions in terms of flowing pressures and volumes of substances produced. This rule will grant the Commission the authority to issue an allowable back to the initial completion date for all oil wells in the field and will prevent unnecessary shut-ins to alleviate potential overproduction issues related to completion paperwork filings.

The proposed Field Rule Nos. 5 and 6 will allow operators of flowing oil wells in this field the flexibility to run tubing and file completion paperwork, without penalties, once the pressure and production rates have declined. Commission staff in the Field Operations Section have no issues with approving the proposed rules.

Blackbrush requests that allocation be based on 100% acres and that the allocation formula remain suspended, as there is a 100% market demand for all of the gas produced from the field. Blackbrush 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.

FINDINGS OF FACT

1. Notice of this application and hearing was provided to all persons entitled to notice at least ten (10) days prior to the date of the hearing.

2. The Hugh Fitzsimmons (San Miguel) Field was discovered in March 1959 at an average depth of 3,700 feet.

    a. The field is classified as associated-100% AOF and operates under Statewide Rules.

    b. There are 187 producing oil wells, one producing gas well and five operators carried on the proration schedules.

3. The Hugh Fitzsimmons (San Miguel) Field should be defined as the correlative interval from 3,846 feet to 3,950 feet as seen on the log of the

Blackbrush O & G, LLC - San Pedro Ranch Lease, Well No. 860 (API No. 42-127-33508), Section 16, Juan Francisco Lombrano Survey, A-1360, Dimmit County, Texas. The correlative interval includes the productive San Miguel sand formation.

4. The Hugh Fitzsimmons (San Miguel) Field is actively being developed with vertical and horizontal drainhole wells.

5. Field Rules providing for 330'-1,200' well spacing and no minimum between well spacing limitation between horizontal drainhole wells and vertical or horizontal drain hole wells with special provisions for "take points", 150' lease line spacing for the first and last take points, a 33 foot “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.

6. 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.

7. The proposed 33 foot “box” rule 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. A 150' leaseline spacing for the first and last take points will result in an additional recovery of reserves.

a. Borehole Image Interpretation logs analyzed from three recently drilled vertical wells in the trend area suggest that the induced fracture strike direction is located within a narrow corridor running generally northeast-southwest centered on the wellbore.

b. The orientation of hydraulically induced transverse fractures in this low permeability formation within the Hugh Fitzsimmons (San Miguel) Field will be generally northeast-southwest.

c. The orientation of the maximum stress appears to be uniform across the field and horizontal wells in the field will be drilled generally northwest-southeast to more effectively stimulate the rock with transverse fractures and therefore maximize recovery.

d. The very low permeability of the formations limits the effective drainage in the northwest-southeast direction of individual stages.

e. The resulting 180' of take points will result in the additional recovery of 187.2 MMCFG and 17.3 MBO per well.

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

11. Allocation based on 100% acres and a top allowable based on the 1947 Yardstick Allowable of 84 barrels of oil per day is a reasonable formula which will protect correlative rights and meet statutory requirements.

12. Continued suspension of the allocation formula is appropriate, as there is a 100% market demand for all the gas produced from the field.

13. The filing of Form P-15 to designate the number of acres to be assigned to each well for proration purposes with no proration unit plats will eliminate unnecessary paperwork.

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. Adopting Field Rules for the Hugh Fitzsimmons (San Miguel) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission adopt Field Rules for the Hugh Fitzsimmons (San Miguel) Field, as requested by Blackbrush O & G, LLC.

Respectfully submitted,

Richard D. Atkins, P.E.
Technical Examiner

Randall Collins
Legal Examiner