

THE APPLICATION OF SWAN PC, LP TO ADOPT FIELD RULES FOR THE KRS (MARBLE FALLS) FIELD, JACK COUNTY, TEXAS

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

HEARING DATE: April 3, 2012

APPEARANCES: **REPRESENTING:**

APPLICANT:

Flip Whitworth
John Hicks
Rick Johnston

Swan PC, LP

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Swan PC, LP ("Swan") requests that Field Rules for the KRS (Marble Falls) Field be adopted. Swan requests the following Field Rules:

1. Designation of the field as the correlative interval from 5,070 feet to 5,481 feet as seen on the log of the Swan PC, LP - W.B. Owen Lease, Well No. 1 (API No. 42-237-30424);
2. 330'-0' well spacing with special provisions for "take points", a 50 foot "box" rule and "off-lease" penetration point for horizontal drainhole wells;
3. 160 acre oil units;
4. Allocation based on 100% acres with a top oil allowable based on the 1965 Yardstick Allowable of 310 barrels of oil per day;
5. Maximum permitted gas-oil ratio for oil wells of 5,000 cubic feet of gas per barrel of oil;
6. Special provisions for "stacked lateral" horizontal drainhole wells.

Swan proposes to transfer the following wells into the KRS (Marble Falls) Field:

<u>Operator</u>	<u>Well Name</u>	<u>API Number</u>
Cobra Oil & Gas	Richards Ranch Lease, Well No. 9	42-237-39166
DTE Gas Resources	Hamman Lease, Well No. 1	42-237-39472
DTE Gas Resources	Prothro Lease, Well No. 2	42-237-39409

Swan 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.

The application was unopposed and the examiners recommend that Field Rules for the KRS (Marble Falls) Field be adopted, as proposed by Swan.

DISCUSSION OF THE EVIDENCE

The KRS (Marble Falls) Field was discovered in October 2010 at an average depth of 5,300 feet. The field operates under Statewide Rules. There are eight producing oil wells and one operator carried on the proration schedule. The top oil allowable is the Discovery Yardstick Allowable of 160 barrels of oil per day. Cumulative production from the field through December 2011 is 162.7 MBO and 1.4 BCFG.

There is currently no defined correlative interval for the field. Swan requests that the field be defined as the correlative interval from 5,070 feet to 5,481 feet as seen on the log of the Swan PC, LP - W.B. Owen Lease, Well No. 1 (API No. 42-237-30424), G. Gates Survey, A-238, Jack County, Texas. This interval includes the entire Marble Falls formation, which is located stratigraphically between the base of the Bend Conglomerates and the top of the Barnett Shale formations. The interval also includes the Forestburg Lime formation where it occurs.

Swan is proposing to drill vertical and horizontal infill wells and requests Field Rules to promote the efficient and effective development of the remaining hydrocarbons. Swan requests 330'-0' well spacing with special provisions for "take points", a 50 foot "box" rule and "off-lease" penetration point for horizontal drainhole wells. Swan proposes 160 acre oil units, as the Marble Falls formation is similar to the Austin Chalk formation, which was initially developed on 160 acre density. Swan submitted Field Rules for five Austin Chalk fields that had 160 acres density, which included the Giddings and Brookeland Fields.

Swan also requests that a field rule be adopted which includes language relevant to the measurement of distances to lease lines for horizontal drainhole wells. Swan'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. Similar rules have been adopted in other tight reservoirs, including the Eagle Ford, Cotton Valley and Barnett Shale formations.

Swan proposes a 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. Swan 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.

Swan also requests that a Field Rule be adopted to accommodate the drilling of stacked horizontal lateral wells. The gross thickness of the Marble Falls interval is almost 500 feet. Swan believes that several separate laterals may be necessary to effectively develop the reservoir with horizontal wells. The rule would allow stacked horizontal laterals within the Marble Falls 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.

Swan requests that allocation be based on 100% acres with an oil allowable based on the 1965 Yardstick Allowable of 310 barrels of oil per day. Additionally, Swan 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 KRS (Marble Falls) Field was discovered in October 2010 at an average depth of 5,300 feet.
 - a. The field operates under Statewide Rules.

- b. There are eight producing oil wells and one operator carried on the proration schedule.
 - c. The top oil allowable is the Discovery Yardstick Allowable of 160 barrels of oil per day.
3. The KRS (Marble Falls) Field should be defined as the correlative interval from 5,070 feet to 5,481 feet as seen on the log of the Swan PC, LP - W.B. Owen Lease, Well No. 1 (API No. 42-237-30424). This interval includes the entire Marble Falls formation, which is located stratigraphically between the base of the Bend Conglomerates and the top of the Barnett Shale formations.
4. The KRS (Marble Falls) Field is actively being developed with vertical and horizontal drainhole wells.
5. Field Rules providing for 330'-0' well spacing with special provisions for "take points", a 50 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 50 foot "box" rule is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.
8. The proposed "stacked lateral" rule will allow stacked horizontal laterals within the Marble Falls 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 gas.

9. Similar rules have been adopted in other tight reservoirs, including the Eagle Ford, Cotton Valley and Barnett Shale formations.
10. Allocation based on 100% acres and a top allowable based on the 1965 Yardstick Allowable of 310 barrels of oil per day is a reasonable formula which will protect correlative rights and meet statutory requirements.
11. 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. 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 KRS (Marble Falls) 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 KRS (Marble Falls) Field, as requested by Swan PC, LP.

Respectfully submitted,

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Technical Examiner

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