



RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 02-0264837

**THE APPLICATION OF BURLINGTON RESOURCES O & G CO, LP TO CONSIDER
TEMPORARY FIELD RULES FOR THE SUGARKANE (CRETACEOUS) FIELD, BEE,
KARNES AND LIVE OAK COUNTIES, TEXAS**

HEARD BY: Donna K. Chandler, Technical Examiner

HEARING DATE: April 29, 2010

APPEARANCES:

REPRESENTING:

APPLICANT:

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Burlington Resources O & G Co, LP

INTERESTED PARTIES:

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EXAMINER'S REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

Burlington Resources O & G Co, LP originally requested that field rules be adopted for the existing Sugarkane (Cretaceous) Field. At the hearing held on April 29, 2010, Burlington amended its application to include a request that the Sugarkane (Cretaceous) Field be separated into two fields known as the Sugarkane (Austin Chalk) and Sugarkane (Eagle Ford) Fields and that wells in DeWitt County be excluded from the field. Burlington also requested that field rules be adopted for both fields, which are summarized as follows:

1. Designation of the Sugarkane (Austin Chalk) Field as the correlative interval from 11,360 feet to 11,450 feet as shown on the log of the Kunde No. 1. Designation of the Sugarkane (Eagle Ford) Field as the correlative interval from 11,450 feet to 11,662 feet as shown on the log of the Kunde No. 1;
2. 330' lease line spacing and no between well spacing with special provisions for "take points" and an off-lease penetration point for horizontal wells with an included "box rule" stating that the as-drilled location of a well will be considered in compliance with spacing rules if it falls within a rectangle of which two sides are parallel to the permitted drainhole and 33 feet on either side of the drainhole;
3. 320 acre gas proration units with 10% tolerance;
4. Allocation based on 100% acreage with AOF status for both fields; Sugarkane (Austin Chalk) Field classified as non-associated;
5. Special provisions for stacked lateral wells;
6. Elimination of semi-annual G-10 testing requirements in both fields.

Burlington has designated the appropriate field to transfer wells which are currently carried in the Sugarkane (Cretaceous) Field. Burlington also requests that 5 wells which are completed in both the Eagle Ford and Austin Chalk formations be granted Rule 10 exceptions.

Notice of the amended request was given to all affected parties and no objections were received. The examiner recommends approval of Burlington's amended request with the exception of the stacked lateral rule and classification of the Sugarkane (Austin Chalk) Field as non-associated. This recommendation was not considered to be adverse.

DISCUSSION OF THE EVIDENCE

The Sugarkane (Cretaceous) Field was discovered in 2006. On April 28, 2009, the Commission signed a Final Order in Docket No. 02-0261131 which defined the field interval and ordered that all wells in the field be permanently classified as gas wells. The field interval at that time was defined as the correlative interval from 11,360 feet to 11,662 feet as shown on the log of the Kunde No. 1. This interval included the Austin Chalk formation and the deeper Eagle Ford formation. Burlington now requests that the field be separated into the Sugarkane (Austin Chalk) and Sugarkane (Eagle Ford) Fields, with identical rules governing both fields for ease of development.

At the time of the hearing, there were 13 wells listed on the Commission's proration schedule, ten operated by Burlington and three operated by Hilcorp Energy Company. At least 14 additional wells were in various stages of drilling or completion. Almost all of the existing wells are clustered in the area of the Live Oak/Karnes County line. Two of the wells operated by Burlington are in DeWitt County about 30 miles to the northeast of this area and will be placed in another field.

In the first couple of years of development of the field, Burleson drilled 3 vertical wells and 2 horizontal wells, acquiring core information and analyzing completion methods. Since these initial wells, 6 more vertical wells and 17 more horizontal wells have been drilled by Burlington. The primary focus of development has been in the Austin Chalk, though Burlington also has Eagle Ford completions. Burlington based its Austin Chalk completion technique on the Brookeland (Austin Chalk 8800) and the Magnolia Springs (Austin Chalk) Fields. There are numerous Commission designated Austin Chalk fields on the trend going southwest to northeast from Webb County to the Louisiana state line, but these two fields appear to be more analogous, being at similar temperatures and having similar pressure gradients and reservoir fluid properties. Both the Giddings (Austin Chalk) and Pearsall (Austin Chalk) Fields are lower temperature and pressure, resulting in different reservoir fluid characteristics. The completion techniques in the Austin Chalk and Eagle Ford are very different, with the Austin Chalk horizontal laterals being open hole and Eagle Ford laterals completed with cemented casing.

Burlington is attempting to drill laterals in the Austin Chalk of over 5,000 feet. At this depth and high temperature, in combination with natural fractures and faulting, there are problems associated with steering the horizontal lateral exactly as proposed. The

requested 10% tolerance "box rule" will allow for deviations up to 33 feet from the permitted drainhole location without the necessity of obtaining a Statewide Rule 37 exception.

The fracture orientation of the Austin Chalk is known and wells are drilled perpendicular to these vertical fractures in order to maximize recovery from the fracture system. For this reason, Burlington is requesting a spacing rule requiring a minimum of 100 feet to the lease line from the first and last take points of a horizontal drainhole, with 330 feet from lease lines on all points on the drainhole perpendicular to the lease line.

The spacing rules requested for both Sugarkane fields are similar to those adopted in the Brookeland (Austin Chalk 8800) Field, the Magnolia Springs (Austin Chalk) Field, and the nearest Eagle Ford field, the Hawkville (Eagle Ford) Field. The proposed 320 acre density rule is common to both the Hawkville and Magnolia Springs fields. Both fields also have a rule in place providing for a multiplying factor for acreage assignment to horizontal wells. Magnolia Springs has a factor of 0.2 and Hawkville has a factor of 0.16. Burlington requests the factor of 0.2 for both Sugarkane fields.

For each field, Burlington requests that allocation be based on 100% acreage. Further, it is requested that the allocation formula be suspended in each field, as there is a 100% market for all the gas produced from wells in the fields.

Additionally, Burlington requests that the field rules for both fields exempt wells from semi-annual G-10 testing. Both the Austin Chalk and Eagle Ford are tight formations and G-10 testing of wells in such reservoirs does not provide meaningful information due to the short pressure drawdown seen in a 24 hour period. Further, shutting-in wells for testing can result in difficulties in returning the wells to production. Testing the wells twice yearly is not necessary for proration purposes.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Sugarkane (Cretaceous) Field was discovered in 2006 and is currently designated as the correlative interval from 11,360 feet to 11,662 feet as shown on the log of the Kunde No. 1. This interval includes the Austin Chalk formation and the deeper Eagle Ford formation.
3. At the time of the hearing, there were 13 wells listed on the Commission's proration schedule in the Sugarkane (Cretaceous) Field. At least 14 additional wells were in various stages of drilling or completion.
4. The Sugarkane (Austin Chalk) Field should be defined as the correlative interval from 11,360 feet to 11,450 feet as shown on the log of the Kunde No. 1. The Sugarkane (Eagle Ford) Field should be defined as the correlative interval from 11,450 feet to 11,662 feet as shown on the log of the Kunde No. 1.

5. The proposed spacing rule including special provisions for "take points" and an off-lease penetration point for horizontal wells will provide consistency in developing the fields and will allow greater flexibility in selecting future drilling locations.
6. Field rules providing for 320 acre density are appropriate on a temporary basis.
 - a. The Brookeland (Austin Chalk 8800) and the Magnolia Springs (Austin Chalk) Fields are more analogous to the Sugarkane fields than other fields on the trend, being at similar temperatures and having similar pressure gradients and reservoir fluid properties.
 - b. The Magnolia Springs (Austin Chalk) Field operates under rules providing for 320 acre density.
 - c. The nearest Eagle Ford field is the Hawkville (Eagle Ford) Field, which also operates under 320 acre density rules.
7. The requested spacing rule requiring a minimum of 100 feet from lease lines to the first and last take points of a horizontal drainhole, with 330 feet minimum distance measured perpendicular from all points between the first and last take points on the drainhole to the lease line, will provide flexibility in developing both fields with horizontal drainholes. Similar language has been adopted in the Brookeland (Austin Chalk 8800) Field, the Magnolia Springs (Austin Chalk) Field, and the Hawkville (Eagle Ford) Field.
8. Because the reservoirs are high temperature and pose difficulties in steering, the proposed box rule is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.
9. Allocation based on 100% acreage in both fields is will protect correlative rights.
10. Suspension of the allocation formula in both fields is appropriate, as there is a 100% market for all the gas produced from each field.
11. Semi-annual G-10 testing for wells in the two fields is not necessary to allocate allowable to wells in either field.
12. Almost all of the existing wells are clustered in the area of the Live Oak/Karnes County line. Two of the wells operated by Burlington are in DeWitt County about 30 miles to the northeast of this area and should be placed in the DeWitt (Eagle Ford Shale) 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 new field designations for the Sugarkane (Austin Chalk) and Sugarkane (Eagle Ford) Fields and adoption of field rules for each field is necessary to prevent waste, protect correlative rights and promote the orderly development of the field.
4. The fields meet the requirements for suspension of the allocation formulas pursuant to Statewide Rule 31(j).

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiner recommends that the Commission approve the field separation, field rules for each field, and field transfers, as set forth in the attached Final Order.

Respectfully submitted,



Donna K. Chandler
Technical Examiner