

December 17, 1998

OIL AND GAS DOCKET NO. 06-0220580

THE APPLICATION OF HALLWOOD PETROLEUM TO ADOPT TEMPORARY FIELD RULES IN THE SAND BRANCH CREEK (BUDA) FIELD, HOUSTON COUNTY, TEXAS

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: October 30, 1998

Hearing held: December 17, 1998

Appearances

Dale Miller

Michael Murray

Representing

Hallwood Petroleum

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Hallwood is proposing the following temporary field rules for the Sand Branch Creek (Buda) Field:

1. Designated from 9050 feet to 9575 feet , including both the Buda and Georgetown reservoirs, as shown on the log of the Prudential Energy, LaRue B Lease, Well No. 1;
2. Spacing: 467'/933 vertical well spacing; horizontal wellbores the penetration point or terminus location can be no nearer than 100' to any line, lease line or subdivision line; the perpendicular distance for a horizontal well from any point on the horizontal drainhole to any point on the property line, lease line or subdivision line shall be a minimum of 933'. Additionally, no point on a horizontal well within the correlative interval shall be closer than 933' to such point on another horizontal well on the same lease, provided that this restriction on spacing between wells shall not apply to horizontal drainhole wells which are parallel or subparallel (within 45 degrees of parallel) and do not overlap more than 300';

3. Density: for vertical wells, 160 acre proration units, 80 acre tolerance to last well on the lease, maximum diagonal of 4500'; for horizontal wells a well may contain more than 160 acres with the acreage assignable as follows:

Formula: $A=(L \times 0.11488)+160$ =acres

Where A = calculated area assignable, if available, to a horizontal drainhole for proration purposes rounded upward to the next whole number divisible by 40; acres

L = the horizontal drainhole distance measured in feet between the point at which the drainhole penetrates the top of the correlative interval designated as the Sand Branch (Buda) Field and the horizontal drainhole and point within the designated interval.

The two farthestmost points in an horizontal drainhole well proration unit shall be determined by the formula; maximum diagonal = \sqrt{A} where A is determined above, but not less than 2000' plus horizontal displacement.

An operator may present evidence to substantiate a drainage area up to twice the size determined by the formula as set out above in this rule. After review of this evidence the Commission may grant an exception and provide for larger proration units than determined by this formula if necessary to prevent waste or protect correlative rights. The application may be filed before a well is drilled and based upon evidence of interference problems between nearby wells. The acreage assignable to a horizontal drainhole well must reasonably be anticipated to be drained by the horizontal drainhole well.

4. The maximum daily oil allowable for a well in the field shall be determined by multiplying 2.2 barrels by the number of acres in the proration unit authorized in Rule 3 above exclusive of tolerance acreage.

DISCUSSION OF THE EVIDENCE

The Sand Branch Creek (Buda) Field was discovered in October of 1998, with the completion of the Hallwood Petroleum H. Larue Well No. 1H. This well had an initial potential of 527 BOPD and 461 MCF/D with no water. The true vertical depth of the wellbore is 9270 feet and the lateral completion extends from 9244 to 13,500 feet.

Between September 3 and December 14, the well produced 10,000 BO and the daily production increased to over 800 BOPD. Daily production should continue to increase as the well cleans up and the choke size is increased further. The applicant expects that production will be as good as that established in the ICI (Georgetown) Field, where the discovery well had an initial potential of 1365 BOPD. The applicant is also requesting the same field rules as were adopted in the ICI (Georgetown) Field. Most of the Austin Chalk, Buda and Georgetown fields have basic proration units of 160 acres, as is proposed for this field.

The field rule hearings for the ICI (Georgetown) Field established that wells have experienced interference at distances up to 8900', with the average between-well distance for wells

that show interference being 6600'. A well with a 4000-foot diagonal that can drain 6600 feet laterally will drain 1200 acres. Thus, the applicant requests the option to assign up to 1280 acres if it can prove this much drainage area to the Commission.

The Larue No. 1H is completed only in the Buda but the applicant intends to drill another parallel lateral in this well through the Georgetown Formation and is asking for a designated interval which will include the Buda and Georgetown Formations. The type log is from a nearby non-producing, vertical well, the Prudential Energy Larue -B- Well No. 1, and the requested interval that includes both the Buda and Georgetown Formations, extends from 9050 feet to 9575 feet.

The average matrix porosity in the Buda is 5% and the estimated matrix porosity in the Georgetown is 7%. The water saturations are estimated to be 39% in the Buda and 30% in the Georgetown. The initial reservoir pressure in the Buda Formation was 4107 psi, with the bubble point at 3102 psi.

FINDINGS OF FACT

1. Notice of this hearing was given to all operators in the Sand Branch Creek (Buda) Field and to all offset operators and unleased mineral interest owners on December 2, 1998.
2. The Sand Branch Creek, (Buda) Field was discovered in October of 1998, with the completion of the Hallwood H. Larue Well No. 1H.
3. The discovery well produces only from the Buda Formation but the applicant intends to drill a lateral into the Georgetown Formation.
4. Several fields which are developed with horizontal laterals into both the Buda and Georgetown Formations have been drilled in this part of the state and a designated interval which includes both formation will prevent the drilling of unnecessary wellbores.
5. This field is similar to the ICI (Georgetown) Field which was also developed with horizontal drianholes in the Buda and Georgetown Formations.
6. The same rules as are in effect in the ICI (Georgetown) Field are appropriate for temporary field rules in the subject field.
7. The interval between 9050 and 9575 feet as shown on the log of a nearby vertical well demonstrates the entire productive Buda and Georgetown Formations in the subject field.
8. The discovery well for the subject field is producing over 800 BOPD and is increasing, while the initial potential of the discovery well in the ICI (Georgetown) Field was 1365 BOPD.
9. Interference between wells in the ICI (Georgetown) Field suggests that wells can drain up to 6600 feet laterally, which will drain 1200 acres if the lateral is 4000 feet long.

10. Because there is little production history to date in the subject field and it is difficult to estimate the volume of recoverable oil in the drainage areas of horizontal wellbores, a hearing should be required before these rules can be modified or made permanent.
11. There is no reason to require that the discovery well make up overproduction which occurred before the field rules could be adopted which will provide for a reasonable allowable.

CONCLUSIONS OF LAW

1. Proper notice as required by statute was given to all operators in the field.
2. All things have been done or occurred to give the Railroad Commission jurisdiction to resolve this matter.
3. The requested temporary field rules will protect correlative rights, prevent waste and promote an orderly development of the reservoir.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that the requested temporary field rules be adopted for a period of 18 months. Notice and hearing must be held in 18 months or on its own motion the Commission should rescind the rules.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action _____

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Exhibits

1. Area map
2. Proration schedule
3. Form W-2 for the discovery well
4. Discovery approval letter
5. Production tabulation
6. Graph of production
7. Type log
8. Field rules for the ICI (Georgetown) Field
9. Comparison with ICI (Georgetown) production
10. Discussion of proposed rules
11. Tabulation of horizontal rules
12. Reservoir data sheet