

THE APPLICATION OF LINN OPERATING, INC. TO AMEND FIELD RULES FOR THE FRYE RANCH (CONSOLIDATED) FIELD, WHEELER COUNTY, TEXAS

Heard by: Andres J. Trevino, P.E. on May 3, 2010

Appearances:

John Camp
Rick Johnston
Miles C. Wilke

Bill Spencer

Representing:

Linn Operating, Inc.

Chesapeake

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Field rules for the Frye Ranch (Consolidated) Field were adopted in Order No. 10-0262668, effective September 29, 2009. The rules in effect for the field are summarized as follows:

1. Designation of the field as the correlative interval from 11,754 feet to 15,431 feet as shown on the log of the Ona Black Well No. 1;
2. 467'-933' well spacing; with no limitation between vertical and horizontal wells and special language for "take points" in horizontal wells;
3. 320 acre density; optional 40 acre density;
4. Allocation based on 95% deliverability and 5% acreage, with AOF status.

Linn Operating, Inc. requests that the Rule 2 be amended to allow off-lease penetration points and adopt Rule 5 to include special provisions for stacked lateral wells. The examiner recommends that the field rules for the Frye Ranch (Consolidated) Field be amended as proposed by Linn Operating, Inc.

DISCUSSION OF EVIDENCE

The Frye Ranch (Consolidated) Field was consolidated in October 2007 by renaming the Frye Ranch (Granite Wash 'A') Field and expanding the designated interval

to include the Des Moines and Britt intervals. The field is designated as an associated field with 76 gas wells and 14 oil wells in the field. Linn Operating operates 18 gas wells and 11 oil wells in the field. The field has a cumulative production of 30.2 BCF of gas and 500 MBO. The field operates under Special Rules that allow 320/40 acre density and 467'/933', 0' between vertical/horizontal well spacing, take point language and the allocation formula is currently suspended.

Operators are currently developing similar Granite Wash fields in the area with horizontal wellbores. Linn requests similar horizontal well rules that are approved for other horizontal plays in Texas.

Linn requests that field rules for the subject field provide for off-lease penetration points. Statewide Rule 86 requires that the penetration point of a horizontal drainhole be on the lease. 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. 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. A wellbore requires up to 600 feet of lateral distance to turn from vertical to horizontal. By allowing off-lease penetration an additional 330 feet of the reservoir is exposed to the horizontal lateral and drained. These reserves are estimated to be an additional 10% of a well's original estimated ultimate recovery. These reserves would go unrecovered if off-lease penetration is not approved.

It is also requested that spacing rules for the field be adopted to accommodate the drilling of stacked horizontal lateral wells. The gross thickness of the Frye Ranch (Consolidated) Field interval is almost 3,700 feet. Within the correlative interval there are four distinct intervals that are productive, the Upper, Middle, Lower Granite Wash and the Upper Atoka Wash. Linn believes that several separate laterals may be necessary to effectively develop the reservoirs with horizontal wells. Similar stacked lateral rules have already been adopted in several Granite Wash fields in the area, as well as in the Newark, East (Barnett Shale) Field and the Carthage (Haynesville) Field. The rule would allow stacked horizontal laterals within the field's correlative interval that are drilled from different wellbores 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 (1) from different surface locations on the same lease unit no more than 250 feet from each other at the surface and (2) no more than 300 feet from each other in a horizontal plane within the correlative interval.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Frye Ranch (Consolidated) Field is an associated field with 76 gas wells and 14 oil wells which operates under Special Rules and has AOF status. The field is under going horizontal development.
3. The Frye Ranch (Consolidated) Field was consolidated in October 2007 by renaming the Frye Ranch (Granite Wash 'A') Field and expanding the designated interval to include the Des Moines and Britt intervals. The field has a cumulative production of 30.2 BCF of gas and 500 MBO
4. A vertical well completed in the Frye Ranch (Consolidated) Field requires up to 600 feet of lateral distance to complete a turn from vertical to horizontal.
5. Allowing off-lease penetration points, after notice to mineral owners of the offsite tract, will result in maximizing the producing drainhole length, thereby increasing ultimate recovery from horizontal drainhole wells.
6. A typical horizontal well may gain up to 330 feet of horizontal drainhole contact with the reservoir. The gain in contact with the reservoir it is estimated to increase the ultimate recovery of a well by 10%.
7. The correlative interval for the Frye Ranch (Consolidated) Field is designated from 11,754 feet to 15,431 feet as shown on the log of the Ona Black Well No. 1. The interval includes the Des Moines, Britt, Granite Wash and Atoka Wash and is almost 3,700 feet thick.
8. The proposed "stacked lateral" rule for the Frye Ranch (Consolidated) Field will allow stacked horizontal laterals within the thick correlative interval that are drilled from different wellbores to be considered a single well for regulatory purposes.
9. Numerous other Granite Wash and shale fields that are developed with horizontal wells have adopted similar rules to help maximize recovery and prevent waste.

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. Amending the field rules for the Frye Ranch (Consolidated) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiner recommends that the Commission amend the field rules for the Frye Ranch (Consolidated) Field as proposed by Linn Operating, Inc.

Respectfully submitted,

Andres J. Trevino, P.E.
Technical Examiner