



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL & GAS DOCKET NO. 09-0302747

THE APPLICATION OF CHAPARRAL ENERGY, L.L.C. TO AMEND FIELD RULES
FOR THE SIVELLS BEND (ELLENBERGER) FIELD, COOKE COUNTY, TEXAS

HEARD BY: Paul Dubois – Technical Examiner
Clayton J. Hoover – Administrative Law Judge

HEARING DATE: February 8, 2017

CONFERENCE DATE: April 4, 2017

APPEARANCES:

APPLICANT:

Mark Hanna
Donna Chandler

Chaparral Energy, L.L.C.

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Field rules for the Sivells Bend (Ellenberger) Field were adopted on May 11, 2011 in Docket No. 09-0269518. The rules currently in effect for the field are summarized as follows:

1. Designation of the Sivells Bend (Ellenberger) Field as the correlative interval from 8,685 feet to 9,200 feet as shown on the log of the Starnes Trust Unit well No. 1 (API 097-34180), Cooke County, Texas;
2. 467-foot lease line and 933-foot between well spacing;
3. 40 acre standard oil proration units with 20 acre tolerance;
4. Top allowable of 350 barrels of oil per day with allocation based on 50 percent potential and 50 percent per well.

Chaparral Energy, L.L.C. ("Chaparral") requests that the rules be amended as follows:

1. No change;
2. 330-foot lease line spacing with no minimum requirement for between well spacing;
3. No change;
4. No change in top allowable; allocation based on 75% acreage and 25% per well.

Chaparral had originally requested adoption of a new Rule 5 for the field which would provide for a six month exception to the requirement of Statewide Rule 3.13 that flowing oil wells be produced through tubing. However, at the hearing, Chaparral withdrew its request that the new Rule 5 be adopted.

This application was unopposed and the Technical Examiner and Administrative Law Judge ("Examiners") recommend approval of the amendments to the field rules for the Sivells Bend (Ellenberger) Field as requested by Chaparral.

DISCUSSION OF THE EVIDENCE

The Sivells Bend (Ellenberger) Field was discovered in September 2010 upon completion of the Starnes Trust Unit Well No. 1 as an oil well. The field is an associated field which currently has nine active oil wells and no active gas wells. Cumulative production from the field is approximately 320,000 BO based on the Railroad Commission's January 2017 proration schedule.

Chaparral currently operates four producing oil wells in the field and also has two shut-in wells on the proration schedule. Silver Creek Oil & Gas LLC ("Silver Creek") has taken a farm-out of substantial acreage from Chaparral and plans to further develop the field using horizontal wells. There are currently no horizontal wells in the field.

The nearest comparable Ellenberger field in Texas is the Sandusky Field, approximately 25 miles to the southeast of the Sivells Bend (Ellenberger) Field. Silver Creek has drilled 14 horizontal wells in the Sandusky Field over the last 3-4 years and believes that horizontal wells in the Sivells Bend (Ellenberger) Field will have similar successful results. Vertical wells in the Sivells Bend (Ellenberger) Field have estimated ultimate recoveries of 40,000-50,000 barrels of oil. The estimated ultimate recoveries for horizontal wells in the Sandusky Field are generally 200,000 to 300,000 barrels of oil, with one well, the Renfro Unit No. 1H, predicted to recover over 400,000 barrels of oil.

Silver Creek has also been developing the Arbuckle formation in Love County, Oklahoma approximately eight miles to the southeast of the Sivells Bend (Ellenberger)

Field. The Arbuckle formation is correlative to the Ellenberger formation and is on trend with both the Sivells Bend (Ellenberger) Field and the Sandusky Field. The four horizontal wells drilled by Silver Creek in Love County have estimated ultimate recoveries of 300,000 to 400,000 barrels of oil, somewhat higher than the Sandusky Field wells.

In order to effectively develop the field with horizontal wells, it will be necessary to drill between existing vertical wells. For this reason, Chaparral requests the elimination of a minimum between well spacing requirement. Additionally, Chaparral requests that the minimum distance to lease lines be reduced from 467 feet to 330 feet. Based on the estimated ultimate recoveries for wells in the Sivells Bend (Ellenberger) Field, drainage radii were calculated for the vertical wells using standard volumetric calculations. None of the vertical wells have a drainage radius in excess of 300 feet. Therefore, amending the lease line spacing for the field will not harm correlative rights. Ultimate recovery will also be increased if horizontal drainholes have additional length under the closer spacing rule.

The current allocation formula for the field is based on 50% potential and 50% per well. In the Examiner's Report associated with Docket No. 09-0269518, the examiner referred to the Ellenberger formation as being "...highly lenticular and heterogeneous" and that "...acreage does not determine a well's reserves." The designated interval for the Sivells Bend (Ellenberger) Field is over 500 feet thick and some vertical wells have been completed over this entire gross interval. Chaparral does not disagree that a two factor allocation formula is necessary for the field. However, because horizontal wells will be completed within a single Ellenberger member, Chaparral believes that the acreage should be 75% of the allocation formula. Reserves from a horizontal well will be generally represented by the length of the drainhole and the extent of drainage from the member of the Ellenberger through which the horizontal drainhole exists. Chaparral also requests that additional acreage be assignable to horizontal wells based on the length of horizontal drainholes, pursuant to Statewide Rule 86.

FINDINGS OF FACT

1. Notice of this hearing was given to all parties entitled to notice at least ten days prior to the date of the hearing.
2. The Sivells Bend (Ellenberger) Field was discovered in September 2010 upon completion of the Starnes Trust Unit Well No. 1 as an oil well.
3. Based on the January 2017 proration schedules, there are nine active oil wells and no active gas wells in this associated field.
4. There have been no horizontal wells drilled in the subject field. Silver Creek Oil & Gas, LLC has taken a farm-out of substantial acreage from Chaparral Energy, L.L.C., an active operator in the field, and Silver Creek

plans to further develop the field using horizontal wells.

5. Silver Creek has recently been developing the Ellenberger in this area of North Texas and Oklahoma with horizontal wells. This development has been primarily in the Sandusky Field approximately 25 miles to the southeast.
6. Silver Creek has drilled 14 wells in the Sandusky Field over the last 3-4 years and these horizontal wells have estimated ultimate recoveries of generally 200,000 to 300,000 barrels of oil. This compares to estimated ultimate recoveries of vertical wells in the range of 40,000 to 50,000 barrels of oil.
7. Silver Creek has drilled four horizontal wells in the Arbuckle formation in Love County, Oklahoma approximately eight miles to the southeast of the Sivells Bend (Ellenberger) Field. The Arbuckle formation is correlative to the Ellenberger formation and is on trend with both the Sivells Bend (Ellenberger) Field and the Sandusky Field.
8. The four horizontal wells drilled by Silver Creek in Love County have estimated ultimate recoveries of 300,000 to 400,000 barrels of oil, similar to the Sandusky Field wells.
9. Eliminating the between-well spacing requirement will allow the drilling of horizontal wells as necessary between existing vertical wells.
10. Drainage calculations indicate that vertical wells in the subject field will not drain in excess of 300 feet and therefore amending the minimum lease line spacing from 467 feet to 330 feet will not result in drainage across lease lines.
11. Allocation of allowable based on 75% acreage and 25% per well is a reasonable method for this field as horizontal wells are drilled to further develop the field.
12. At the hearing, the applicant agreed on the record that a Final Order in this case is to be effective when the Master Order is signed.

CONCLUSIONS OF LAW

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051.
2. All notice requirements have been satisfied. 16 Tex. Admin. Code §§ 1.43 and 1.45.

3. Amending the field rules for the Sivells Bend (Ellenberger) Field is necessary to prevent waste, protect correlative rights, and promote orderly development of the field.
4. Pursuant to §2001.144(a)(4)(A), of the Texas Government Code, and the agreement of the applicant, this Final Order is effective when a Master Order relating to this Final Order is signed on April 4, 2017.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the Examiners recommend the field rules for the Sivells Bend (Ellenberger) Field be amended as set out in the attached Final Order.

Respectfully submitted,



Paul Dubois
Technical Examiner



Clayton J. Hoover
Administrative Law Judge