



# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

**OIL AND GAS DOCKET NO. 08-0299178**

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**THE APPLICATION OF BRIGHAM RESOURCES OPERATING LLC TO AMEND  
FIELD RULES FOR THE HOEFS T-K (WOLFCAMP) FIELD, REEVES COUNTY,  
TEXAS**

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**HEARD BY:** Brian Fancher, P.G. – Technical Examiner  
Ryan Lammert – Administrative Law Judge

**HEARING DATE:** February 24, 2016  
**RECORD CLOSED:** February 24, 2016  
**SUBMISSION DATE:** March 16, 2016  
**CONFERENCE DATE:** March 29, 2016

**APPEARANCES:**

**REPRESENTING:**

**APPLICANT:**

George Neale  
Emaka Madu  
Ed Parma  
Matt Weber

Brigham Resources Operating, LLC

**EXAMINERS' REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

The existing special field rules for the Hoefs T-K (Wolfcamp) Field provide the following:<sup>1</sup>

1. Designation of the field as the correlative interval from 7,692 feet to 11,750 feet as shown on the log of the El Paso Natural Gas Co. - Hoefs Lease, Well No. 1 (API No. 42-389-00310);
2. 467'-933' well spacing with a special provision for "take points" in horizontal wells;

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<sup>1</sup> BRO Exh. No. 3 – O&G Final Order 08-0286970.

3. 160 acre oil units with a special provision for the assignment of acreage to horizontal wells based on a formula. Form P-15s for acreage credit. No maximum diagonal limitation;
4. Allocation based on 75% acres and 25% per well with a 1965 Yardstick Top Allowable.

Dated January 5, 2016, the captioned docket's Notice of Hearing ("NOH") indicates that Brigham Resources Operating LLC ("BRO") seeks to amend the above mentioned field rules, and proposes the following:

1. No change;
2. 330' - 0' well spacing with 200' first and last take points
3. No change
4. No change;
5. Administrative exception to Statewide Rule 13(b)(4)(a) – tubing requirement;
6. Administrative exception to Statewide Rule 51(a) – filing of potential test; and
7. Stacked lateral wells.

The application is unopposed. The examiners recommend that it be granted.

### DISCUSSION OF THE EVIDENCE

Mrs. Emaka Madu, Ed Parma and Matt Weber testified on behalf of BRO. They are employed at BRO as a Regulatory Manager, Vice President Delaware Basin - Geologist and a Reservoir Engineering Manager, respectively.

Notice of the subject application was sent by U.S. mail directed to operators of record in the subject field, as well as the Oil and Gas Division.<sup>2</sup> BRO was the only party to appear at the hearing.

BRO submitted copies of the existing field rules for the Wolfbone (Trend Area) and Phantom (Wolfcamp) Fields. The field rules governing the Wolfbone (Trend Area) and Phantom (Wolfcamp) Fields provide as follows: (1) a designated correlative interval; (2) 330' lease line spacing, 0' between well spacing, 200' first and last take points; (3) varying minimum density requirements; (4) administrative exceptions to the tubing requirements for oil wells prescribed in Statewide Rule 13(b)(4); (5) provisions that allow for initial potential tests to be filed after ten days; and (6) stacked lateral well provisions.<sup>3</sup>

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<sup>2</sup> BRO Exh. No. 1 – Copy of the subject application's February 24, 2016, Notice of Hearing and Service List.

<sup>3</sup> BRO Exh. No. 8 – Field Rules Summary for the subject field, Wolfbone (Trend Area) and Phantom (Wolfcamp) Fields.

In this application, BRO seeks to amend the subject field's governing field rules to mirror those field rules that govern the nearby Wolfbone (Trend Area) and Phantom (Wolfcamp) Fields. The subject field was discovered in February 1988, and currently holds 109 wells on its proration schedule.<sup>4</sup> The existing field rules for the subject field were executed in Oil and Gas Final Order 08-0286970, effective April 8, 2014.

The Wolfbone (Trend Area) Field is predominately made of wells located immediately north of the subject field, while the Phantom (Wolfcamp) Field consists of wells mostly located immediately north of the Wolfbone (Trend Area) Field.<sup>5</sup> BRO evidenced that intermingling of those three fields occurs throughout the Wolfbone (Trend Area) Field's aerial expanse.

BRO submitted a multi-well cross-section made of well logs completed in the three mentioned fields.<sup>6</sup> That cross-section identifies the Avalon, Bone Springs, and Wolfcamp Formations. The subject field and the Wolfbone (Trend Area) Fields' designated correlative intervals span from the top of the Avalon Formation through the middle Wolfcamp Formation. The Phantom (Wolfcamp) Field's designated correlative interval only includes the lower Bone Springs Formation through the Wolfcamp Formation. That cross-section indicates that those three fields are continuous throughout the region.

#### Well Spacing

Again, BRO seeks field rules that provide for 330' lease line spacing, 0' between well spacing, and 200' first and last take points. In support of its requested relief, BRO evidenced that Wolfcamp and Bone Spring Formation are considered to be "tight" zones. In other words, their in-situ permeabilities are very low. Therefore, those formations are largely commercially productive only when hydraulic fracturing stimulation is placed upon them. BRO evidenced that the estimated fracture half-length in a horizontal well that is fracture stimulated is less than 300' from the center of the well. BRO evidenced that lowering the field's spacing requirements, as requested by BRO, would allow for one additional well to be drilled and completed on a 640-acre section. That additional well would recover up to 630 million barrels of oil equivalent in the upper Wolfcamp Formation, or up to 1,890 MBOE through the upper three members of the Wolfcamp Formation.<sup>7</sup>

#### Exception to Statwide Rule 13(b)(4)(a)

Mr. Madu testified that BRO seeks a tubing requirement exception for oil wells completed in the subject field to provide operators additional time to better evaluate those wells after their completion. He reemphasized that operators in the nearby Wolfbone (Trend Area) and Phantom (Wolfcamp) Fields operate under field rules that provide for the same tubing requirement exception.

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<sup>4</sup> BRO Exh. No. 2.

<sup>5</sup> BRO Exh. No. 9 – Aerial map depicting well locations in those three fields.

<sup>6</sup> BRO Exh. No. 10.

<sup>7</sup> BRO Exh. No. 13.

Exception to Statewide Rule 51(a)

Mr. Madu testified that BRO seeks exception to the ten day initial potential test filing requirement to allow it additional time for evaluation of its wells completed in the subject field. Again, he reemphasized that the field rules governing the Wolfbone (Trend Area) and Phantom (Wolfcamp) Fields provide for the same relief it seeks in the subject application.

Stacked Lateral Wells

BRO submitted a type log for its Black Stone 2-11 Lease, Well No. 1H.<sup>8</sup> That well log provides petrophysical descriptions of the Avalon, Bone Springs, and Wolfcamp Formations. Mr. Parma testified that BRO has targeted multiple zones of interest throughout those formations. By allowing the drilling of stacked lateral wells, operators are able to increase recoverable reserves from the large designated correlative interval that defines the subject field. Again, BRO's request for stacked lateral provisions in the subject field mirrors the existing field rules for the Phantom (Wolfcamp) Field.

**FINDINGS OF FACT**

1. Brigham Resources Operating LLC ("BRO") seeks to amend the existing special field rules for the Hoefs T-K (Wolfcamp) Field ("Subject Field"), Reeves County, Texas ("Subject Application").
2. Notice of Hearing for the Subject Application was sent by U.S. mail to all operators of record in the Subject Field at least 10 days prior to the hearing held for the Subject Application.
3. The subject application is unopposed.
4. The Subject Field was discovered in February 1988.
5. The current special field rules that govern the Field are memorialized in writing as seen in Oil & Gas Final Order No. 08-0286970.
6. BRO requests that the Subject Field's existing field rules be amended to include:
  - a. 330' lease line spacing, 0' between well spacing, and 200' first and last take points;
  - b. administrative exception to Statewide Rule 13(b)(4)(a) – tubing requirement;
  - c. administrative exception to Statewide Rule 51(a) – filing of potential test; and
  - d. Stacked lateral provisions.

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<sup>8</sup> Exh. No. 11.

7. The Subject Field's designated correlative interval consists of the Avalon, Bone Springs, and Wolfcamp Formations.
8. The Bone Springs and Wolfcamp Formations are tight zones with in-situ permeability that requires hydraulic fracture stimulation to produce in commercial quantities.
9. The estimated fracture half-length in a horizontal well that is fracture stimulated in the Subject Field is less than 300 feet.
10. Lowering the Subject Field's minimum well spacing requirements to 330' from the nearest lease line, 0' between wells and 200' first and last take points will result in increased recoverable reserves from the Subject Field.
11. The Wolfbone (Trend Area) Field is predominately made of wells located immediately north of the Subject Field, while the Phantom (Wolfcamp) Field consists of wells mostly located immediately north of the Wolfbone (Trend Area) Field.
12. Similar field rules sought in the Subject Application govern the Wolfbone (Trend Area) and Phantom (Wolfcamp) Fields.

#### 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. Legally sufficient notice has been provided to all affected persons.
3. Amending the special field rules for the Hoefs T-K (Wolfcamp) Field, as proposed by Brigham Resources Operating LLC, will prevent waste and protect correlative rights.

#### EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the special field rules for the Hoefs T-K (Wolfcamp) Field be amended, as proposed by Brigham Resources Operating LLC and modified by the Examiners.

Respectfully submitted,

  
Brian Fancher, P.G.  
Technical Examiner

  
Ryan Lammert  
Administrative Law Judge