



# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

### PROPOSAL FOR DECISION

OIL & GAS DOCKET NO. 09-0301496

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#### THE APPLICATION OF BUFFCO PRODUCTION, INC. TO AMEND THE FIELD RULES FOR THE NEAR (MISS) FIELD, HARDEMAN COUNTY, TEXAS

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**HEARD BY:** Paul Dubois – Technical Examiner  
Jennifer N. Cook – Administrative Law Judge

**APPEARANCES:**

**APPLICANT:**

Geroge Neale  
Rick Johnston, P. E.

**REPRESENTING:**

Buffco Production, Inc.

**PROTESTANTS:**

Greg Roberts  
Eric Gill

**REPRESENTING:**

Eagle Hydrocarbons, Inc.

### PROCEDURAL HISTORY

Application Filed:	August 17, 2016
Request for Hearing:	August 17, 2016
Notice of Hearing:	August 25, 2016
Protest Received:	September 21, 2016
Hearing Held:	September 26, 2016
Transcript Received:	October 10, 2016
Record Closed:	October 10, 2016
Proposal for Decision Issued:	December 8, 2016

### STATEMENT OF THE CASE

Buffco Production, Inc. ("Buffco") requests the Commission amend the field rules for the Near (Miss) Field (ID No. 64701 250) in Hardeman County, Texas. Buffco is one of three operators of wells in the field. Specifically, Buffco requests the following rules be amended:

Rule 1: Amend the designated correlative interval to be the depth interval from 8,563 feet to 8,690 feet as reflected on the log of the Buffco Production Inc. – Captain Bill McDonald No. 1 Well (API No. 42-197-31729)

Rule 2: Adopt a provision for a 50-foot drill box.

Rule 3: Amend the density requirements to provide for proration units of 320 acre base units and 80 acre optional units, and adopt a provision that provides for no maximum diagonal, the required filing of Forms P-15, and no required filing of proration unit plats.

The application was protested by Eagle Hydrocarbons, Inc. (“Eagle”), an operator of wells in the field. Eagle did not articulate a specific objection to the application, did not cross examine Buffco’s witness, and did not offer its own evidence or testimony.

The Technical Examiner and Administrative Law Judge (“Examiners”) recommend the field rules for the Near (Miss) Field in Hardeman County, Texas, be amended as requested by Buffco.

### **DISCUSSION OF THE EVIDENCE**

#### **APPLICANT’S EVIDENCE**

The Near (Miss) Field was discovered on April 18, 1995 at a depth of 8,507 feet. The field produces from the Mississippian-age Chappel Dolomite Formation. The discovery well for the Near (Miss) Field is the Sorensen 70 Lease (No. 28982) Well No. 1 (API No. 42-197-31322). The Sorensen 70 Well No. 1 was drilled by Ensearch Exploration, and the well is now operated by Eagle.<sup>1</sup> On initial potential testing the well produced 301 barrels of oil at a gas to oil ratio of 363 standard cubic feet per barrel.<sup>2</sup>

Field rules for the Near (Miss) Field were adopted on June 3, 1997 in the Final Order for Oil & Gas Docket No. 09-0215732. The adopted field rules established a correlative interval from 8,474 feet to 8,507 feet based on the log of the Sorensen 70 well. In addition, the field rules established the following:<sup>3</sup>

- 467-foot lease line spacing and 1,200-foot between well spacing;
- 80 acre standard proration units; and
- An allowable allocation based on 100 percent acreage.

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<sup>1</sup> Buffco Exh. No. 1.

<sup>2</sup> Buffco Exh. No. 3.

<sup>3</sup> Buffco Exh. No. 4.

There are four active wells carried on the September 2016 proration schedule: one well operated by Buffco, one by Eagle, and two by Masada Oil & Gas (“Masada”). One of the Masada wells is a well that was converted to injection service from a producing oil well. Buffco’s well, the Captain Bill McDonald Lease (No. 33502) Well No. 1, is currently listed on the proration schedule as “shut-in.”<sup>4</sup> The Captain Bill McDonald No. 1 was permitted as a horizontal well. The vertical pilot hole, located about 2,000 feet south of the Sorensen 70 well, was drilled, logged and tested. The test only produced water.<sup>5</sup> Buffco has not completed the vertical portion of the well nor drilled the lateral. The Masada wells are located about 6,000 feet southeast of the Sorensen 70 well.

With regard to amending the field’s correlative interval, Buffco asserts that its Captain Bill McDonald well is a more suitable representative well than the Sorensen 70 well. The pilot hole of the Captain Bill McDonald No. 1 penetrated the entire Chappel Dolomite interval of the Mississippian-aged rock, whereas the Sorensen 70 well did not penetrate the entire Chappel Dolomite Formation. Buffco therefore concludes that its log of the McDonald well more fully characterizes the correlative interval of the producing formation. Buffco requests that the correlative interval for the Near (Miss) Field be established from 8,563 feet to 8,690 feet as reflected on the log of the Buffco Production Inc. – Captain Bill McDonald No. 1 Well (API No. 42-197-31729).<sup>6</sup>

With regard to amending the standard proration unit size from 80 acres to 320 acres, Buffco combined log analysis data from its McDonald well with production data from the Sorensen 70 well to estimate reservoir drainage characteristics. The Sorensen 70 well, which is updip of the McDonald well, has produced nearly 700,000 barrels of oil, which is nearly all of the oil produced from the field. Buffco estimates that the Sorensen 70 well will produce about 3,000 additional barrels of oil. Buffco further estimates that the Sorensen 70 well drains an area of about 280.6 acres, and therefore a 320-acre standard proration unit is appropriate. Buffco’s drainage area calculations are based on an estimated ultimate recovery of 702,960 barrels of oil, 7 percent porosity, water saturation of 35 percent, oil formation volume factor of 1.1 reservoir barrels per stock tank barrel, 39-foot perforated interval, and a recovery factor of 20 percent.<sup>7</sup>

The other field rule amendments requested by Buffco—establishing 80-acre optional unit sizes, a drill box for horizontal wells and updated completion report filing provisions—are commonly adopted standard provisions in similar fields to reflect contemporary development.

### **PROTESTANT’S EVIDENCE**

Eagle did not cross examine Buffco’s expert witness or present a direct case of its own.

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<sup>4</sup> Buffco Exh. No. 1.

<sup>5</sup> Buffco Exh. No. 14.

<sup>6</sup> Buffco Exh. No. 6.

<sup>7</sup> Buffco Exh. No. 9.

### EXAMINERS' ANALYSIS

The Examiners recommend that the field rules for the Near (Miss) Field in Hardeman County be amended as requested by Buffco.

Buffco provided evidence demonstrating the full geological log of the Chappel Dolomite producing interval. The Sorensen well was completed within this interval, but did not fully penetrate it. Both logs illustrated comparable geologic characteristics. The Examiners conclude that the depth interval from 8,563 feet to 8,690 feet as reflected on the log of the Buffco Production Inc. – Captain Bill McDonald No. 1 Well (API No. 42-197-31729), represents the correlative interval of the Chappel Dolomite and is thus, a more representative correlative interval for the intended formation of the Near (Miss) Field in Hardeman County, Texas.

Buffco provided calculations indicating the Sorensen 70 well drains about 280 acres, which corresponds to a standard proration unit size of 320 acres. Buffco combined reservoir characteristics obtained from modern geophysical logs run on its Captain Bill McDonald well—which tested negative for hydrocarbons—with production characteristics from Eagle’s nearby Sorensen 70 well, which has produced for about 10 years and is by all accounts a very successful well. The Examiners in this case find that Buffco’s approach and methodology to be reasonable.<sup>8</sup> The Examiners conclude that Buffco has demonstrated that 320 acre standard proration units with 80 acre optional units are appropriate for this field.

Finally, Buffco requests several minor field rule amendments that are consistent with contemporary Commission practice, including the removal of the maximum diagonal requirement for proration units, the amended filing requirements for Forms P-15, and no required filing of proration unit plats.<sup>9</sup> These amendments have become standard provisions for contemporary development in similar fields throughout Texas, although not yet adopted on a statewide basis.

However, Buffco also requests the amended field rules include a 50-foot drill box for horizontal wells. This provision has been established in Statewide Rule 86(b)(5), and therefore operators in the field already have access to the relief offered by the Statewide Rule. Therefore the Examiners recommend that the drill box provision not be included in the amended Near (Miss) Field rules.

### FINDINGS OF FACT

1. On August 25, 2016, the Commission mailed notice of the application and hearing to all three operators of wells in the field—Buffco Production, Inc., Eagle Hydrocarbons, Inc., and Masada Oil and Gas.

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<sup>8</sup> See Railroad Commission of Texas. “Discussions of Law, Practice and Procedure.” April 1991. Page 5, which states: “*The density provision is intended to establish the acreage that wells in the field can drain effectively.*”

<sup>9</sup> See Oil & Gas Docket No. 09-0296465, The Application of Newark E&P Operating, LLC To Amend Field Rules for the KRS (Marble Falls) Field, Jack, Young, Parker and Palo Pinto Counties, Texas. Final Order issued on August 25, 2015. Field Rule No. 4C.

2. Eagle Hydrocarbons, Inc. appeared at the hearing in protest of the application.
3. The Near (Miss) Field was discovered on April 18, 1995 at a depth of 8,507 feet.
  - a. The field produces from the Chappel Dolomite.
  - b. The discovery well for the Near (Miss) Field is the Sorensen 70 Lease (No. 28982) Well No. 1 (API No. 42-197-31322).
  - c. The Sorensen 70 Well No. 1 was drilled by Ensearch Exploration, and the well is now operated by Eagle.
  - d. The Sorensen 70 well has produced nearly 700,000 barrels of oil, which is nearly all of the oil produced from the field.
4. Field rules for the Near (Miss) Field were adopted on June 3, 1997 in the Final Order for Oil & Gas Docket No. 09-0215732, and include:
  - a. Correlative interval from 8,474 feet to 8,507 feet;
  - b. 467-foot lease line spacing and 1,200-foot between well spacing;
  - c. 80-acre standard proration units; and
  - d. Allowable allocation based on 100 percent acreage.
5. The depth interval from 8,563 feet to 8,690 feet as reflected on the log of the Buffco Production Inc., Captain Bill McDonald No. 1 Well (API No. 42-197-31729), represents the correlative interval of the Mississippian-age Chappel Dolomite Formation which is the intended formation of the regulatory Near (Miss) Field in Hardeman County, Texas. Thus, a correlative interval for the Near (Miss) Field of 8,563 to 8,690 is a more accurate correlative interval than the interval in the current field rules.
6. Data obtained from the Captain Bill McDonald Well No. 1 and the Sorensen 70 Well No. 1, indicates a drainage area of about 280.6 acres based on the following parameters:
  - a. An estimated ultimate recovery of 702,960 barrels of oil;
  - b. 7 percent porosity;
  - c. 35 percent water saturation;
  - d. 1.1 reservoir barrels per stock tank barrel oil formation volume factor;
  - e. 39-foot perforated interval; and
  - f. 20 percent a recovery factor.

7. A 320-acre standard proration unit is appropriate for a field with a drainage area of 280 acres.
8. A provision establishing a 50-foot drill box for horizontal wells has been established in Statewide Rule 86(b)(5).

**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 § 1.143 and §1.145.
3. The field rule amendments requested by Buffco Production, Inc. will protect correlative rights and promote the orderly development of the Near (Miss) Field.

**EXAMINERS' RECOMMENDATION**

Based on the above findings of fact and conclusions of law, the Examiners recommend the Commission enter an order granting the application of Buffco Production, Inc. to amend the field rules for the Near (Miss) Field, Hardeman County, Texas.

Respectfully,



Paul Dubois  
Technical Examiner



Jennifer N. Cook  
Administrative Law Judge