RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 08-0283648

THE APPLICATION OF CIMAREX ENERGY CO. TO AMEND AND MAKE PERMANENT THE FIELD RULES FOR THE FORD, WEST (WOLFCAMP) FIELD, CULBERSON COUNTY, TEXAS

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner
Marshall F. Enquist - Legal Examiner

DATE OF HEARING: August 26, 2013

APPEARANCES:	**REPRESENTING:**
APPLICANT:	
Michael E. McElroy	Cimarex Energy Co.
Michael DeShazer	
Dave Rittersbacher	
OBSERVER:	
Ana Maria Marsland-Griffith	COG Operating LLC

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Temporary Field Rules for the Ford, West (Wolfcamp) Field were adopted in Final Order No. 08-0269098, effective March 22, 2011, as amended. The current Field Rules in effect for the field are summarized as follows:

1. Designated correlative interval from 8,230 feet to 10,637 feet, as shown on the log of the Devon Energy Production Company, LP - Sebring 60-1-47, Well No. 1;

2. 467'-933' well spacing with special provisions for "take points", 100 foot "overlapping" laterals and "off-lease" penetration point in horizontal drainhole wells;

3. 320 acre gas units with a special formula for the assignment of acreage to horizontal drainhole wells;

4. Allocation based on 75% acres and 25% per well with AOF status.

Cimarex Energy Co. ("Cimarex") requests that the Field Rules for the Ford, West (Wolfcamp) Field be amended to provide for a permanent gas well classification for all wells producing with a gas-oil ratio of 3,000 cubic feet per barrel and above and that the Field Rules be made permanent.

The application is unprotested and the examiners recommend that the Field Rules for the Ford, West (Wolfcamp) Field be amended and made permanent, as proposed by Cimarex.

DISCUSSION OF THE EVIDENCE

The Ford, West (Wolfcamp) Field was discovered in November 2010 at an average depth of 10,000 feet. The field is classified as associated-100% AOF. There 13 producing gas wells, one producing oil well and five operators carried on the proration schedules. The field operates under Field Rules that provide for 467'-933' well spacing and 320 acre gas units and Statewide Rules for oil wells. Cumulative production from the field through August 2013 is 10.6 BCFG and 564.4 MBO.

Cimarex requests that the Field Rules for the Ford, West (Wolfcamp) Field be amended so that all wells demonstrating a gas-oil ratio of 3,000 cubic feet per barrel and above be permanently classified as gas wells, effective the date of first production for each well, and that the Field Rules be made permanent. There is no defined gas cap in the field and well logs of the tight Wolfcamp formation cannot determine if a well will produce gas of oil or if the well will produce commercial quantities of hydrocarbons. The majority of the wells are classified as gas wells. Cimarex submitted a mathematically recombined wellstream analysis for five wells operated by Cimarex. The analysis included the producing gas-oil ratio at the test date, heptanes-plus mole percent and API gravity. The gas-oil ratios for the subject wells ranged from 3,651 up to 17,212 cubic feet per barrel. Current Commission policy allows for any well that exhibits a heptanes-plus mole % of 12.5% or less to be classified as a permanent gas well. This is supported by research published in William D. McCain, *The Properties of Petroleum Fluids*, and by Phillip L Moses, *Engineering Applications of Phase Behavior of Crude Oil and Condensate Systems*. The mole % heptanes-plus in the subject samples analyzed ranged from 2.393% up to 7.533%. For a gas-oil ratio on initial test of less than 3,000 cubic feet per barrel, most of the wells would have more than 12.5 mole % heptanes-plus and would be classified as an oil well. For a gas-oil ratio on initial test of 3,000 cubic feet per barrel and above, most of the wells would have 12.5 mole % or less heptanes-plus and would be classified as a gas well. Any additional wells completed in the field are expected to exhibit

similar fluid characteristics, since they produce from a retrograde condensate gas reservoir. Additional mathematically recombined heptanes-plus wellstream analyses are unnecessary for classification of wells as permanent gas wells.

FINDINGS OF FACT

1. Notice of this hearing was provided to all persons entitled to notice at least ten (10) days prior to the date of the hearing and no protests were received.

2. The Ford, West (Wolfcamp) Field was discovered in November 2010 at an average depth of 10,000 feet.

   a. The field is classified as associated-100% AOF.

   b. There 13 producing gas wells, one producing oil well and five operators carried on the proration schedules.

   c. The field operates under Field Rules that provide for 467'-933' well spacing and 320 acre gas units and Statewide Rules for oil wells.

3. All wells completed with a gas-oil ratio of 3,000 cubic feet per barrel and above in the Ford, West (Wolfcamp) Field should be permanently classified as gas wells because they produce from a retrograde condensate gas reservoir.

   a. There is no defined gas cap in the field and well logs of the tight Wolfcamp formation cannot determine if a well will produce gas of oil or if the well will produce commercial quantities of hydrocarbons.

   b. There are mathematically recombined mole % heptanes-plus wellstream analysis for five wells in the field.

   c. The mole % heptanes-plus in the subject samples analyzed ranged from 2.393% up to 7.533%.

   d. For a gas-oil ratio on initial test of less than 3,000 cubic feet per barrel, most of the wells would have more than 12.5 mol% heptanes-plus and would be classified as an oil well.

   e. For a gas-oil ratio on initial test of 3,000 cubic feet per barrel and above, most of the wells would have 12.5 mol% or less heptanes-plus and would be classified as a gas well.

f. Any additional wells completed in the field are expected to exhibit similar fluid characteristics.

g. Additional mathematically recombined heptanes-plus wellstream analyses are unnecessary for classification of wells as permanent gas wells.

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 and making permanent the Field Rules for the Ford, West (Wolfcamp) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

4. All wells completed with a gas-oil ratio of 3,000 cubic feet per barrel and above in the Ford, West (Wolfcamp) Field, Culberson County, Texas, are gas wells, effective the date of first production, based on the definition of a gas well pursuant to Statewide Rule 79.

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission amend and make permanent the Field Rules for the Ford, West (Wolfcamp) Field, as requested by Cimarex Energy Co.

Respectfully submitted,

Richard D. Atkins, P.E.
Technical Examiner

Marshall F. Enquist
Legal Examiner