

THE APPLICATION OF CIMAREX ENERGY, CO. TO AMEND THE FIELD RULES FOR THE PHANTOM (WOLFCAMP) FIELD, WARD COUNTY, TEXAS

Heard by: Andres J. Trevino, P.E. on October 24, 2007

Appearances:

Mickey R. Olmstead
Greg Cloud
Paul Tough

Representing:

Cimarex Energy, Co.

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

The Phantom (Wolfcamp) Field currently operates under Special field rules adopted by Order No. 08-90,945 issued effective November 9, 1987 .

1. Minimum well spacing of 467' from lease lines and 1,200' between wells on a lease/unit;
2. 40 acre units with a 20 acre tolerance for the last well on the lease; the maximum diagonal distance is 2,100', and,
3. Allocation is based on 95% acreage and 5% per well.

At the hearing Cimarex Energy proposed a designated correlative interval for the field¹. Cimarex requests that the following rules be adopted for the field :

1. Designation of the field as the interval from the top and bottom of the Wolfcamp as found between approximately 10,446 feet and 10,933 feet as shown on the log of the Bernice Howard Well No. 1;
2. 467'-933' well spacing, providing that the restrictions on spacing between wells shall not apply to horizontal wells that are parallel or subparallel and do not overlap more than 100 feet ;

¹ Notice of Hearing did not include a designated interval. Request to add an interval at hearing.

3. For vertical wells: 320 acre oil units with optional 40 acre units. Maximum diagonal of 6,000' for 320 acre units and a maximum diagonal of 2,100' for 40 acre units. For horizontal wells: additional acreage assignment formula ($A = (L \times .16249) + 320$) for horizontal drainholes and maximum diagonal = $475.933 \times (\text{acreage})^{1/2}$ and,;
4. Allocation based on 95% acreage and 5% per well.

This application was unopposed and the examiner recommends that the field rules for the Phantom (Wolfcamp) Field be adopted as proposed by Cimarex Energy, Co.

DISCUSSION OF EVIDENCE

The Phantom (Wolfcamp) Field was discovered in 1983 at a depth of 11,002 feet. The discovery well for the field was the HNG Lee 128 No. 1. There are two producing oil wells on the October 2007 proration schedule. However, Cimarex has recently completed two new horizontal wells in the field and is currently drilling a third well. In 1987, field rules were adopted for the field which provided for 40 acre density.

Cumulative production from the four original vertical wells in the field is 91,416 BO and 55 MMCF of gas. The two existing wells are now marginal producers, each producing less than 3 BOPD. The wells produce from various Wolfcamp sand members. Although the Phantom (Wolfcamp) name implies it is producing from the Wolfcamp carbonates in actuality the productive reservoir is the Bone Spring Sands. Numerous other fields in the area that produce from the Bone Spring Sands such as the War-Wink, S. (Wolfcamp) Field and the Two Georges (Bone Spring) Field are also undergoing redevelopment by drilling horizontal wells.

Cimarex completed its first two horizontal wells in September 2007, the Barnes Estate No. 1AH and the Howard 33-22 No. 2H. The Barnes Estate No. 1AH has a 2,600 foot lateral in the Wolfcamp from 11,200 to 13,801 feet. This well produced at a rate of 572 BOPD, 709 MCFD and 684 BWPD on initial test. The Howard 33-22 No. 2H had an initial oil rate of 490 BOPD, over a 13 day period.

Cimarex has plans to redevelop the Phantom (Wolfcamp) Field by drilling additional horizontal wells. Drainage calculations were not made on the two horizontal wells drilled due to the short production history. Using 12% porosity, 40% water saturation, 25 feet of net pay and a 10% recovery factor, drainage area calculations for the four vertical wells indicate the wells will drain between 17 and 69 acres. The most productive vertical well (Howard No. 1) had an initial potential of 66 BOPD and a drainage area calculation of 69 acres. The two horizontal wells had initial potentials 5.2 and 7.4 times higher than the Howard No.1 (vertical well). Cimarex believes the horizontal wells will drain up to 320 acres and that vertical wells will drain around 40 acres. Cimarex requests additional acreage be

assigned to horizontal wells where acreage is equal to lateral length x .16249 + 320 acres. Cimerax requests the horizontal rules in order to promote the efficient and effective development of the remaining hydrocarbons.

Cimarex requests that the field be designated as the correlative interval from 10,446 feet and 10,933 feet as shown on the log of the Bernice Howard Well No. 1. This interval includes the entire Wolfcamp/Bone Spring Sands, which consists of several separate sand members. A two factor allocation formula based on 95% acreage and 5% per well will meet statutory requirements.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Phantom (Wolfcamp) Field was discovered in 1983 at a depth of 11,002 feet.
3. There are two marginal producing oil wells on the October 2007 proration schedule.
4. Cimarex has recently completed two new horizontal wells in the field, is drilling a third and has plans to drill several more.
5. Adoption of a 320/optional 40 acre density and horizontal rules for the subject field is appropriate.
 - a. Development of the Wolfcamp/Bone Spring with horizontal wellbores is relatively new in this area.
 - b. Drainage area calculations for the four vertical wells in the Phantom (Wolfcamp) Field indicate the wells will drain between 17 and 69 acres.
 - c. The most productive vertical well (Howard No. 1) had an initial potential of 66 BOPD and a drainage area calculation of 69 acres. The two horizontal wells had initial potentials 5.2 and 7.4 times higher than the Howard No.1 (vertical well).
 - d. The War-Wink, S. (Wolfcamp) Field and the Two Georges (Bone Spring) Field are currently being redeveloped with horizontal wells and both produce from an interval correlative to the Phantom (Wolfcamp) Field.

6. The Phantom (Wolfcamp) Field should be designated as the correlative interval from 10,446 feet and 10,933 feet as shown on the log of the Bernice Howard Well No. 1. This interval includes the entire Bone Spring, which consists of several separate sand members.
7. A two factor allocation formula based on 95% acreage and 5% per well will meet statutory requirements.

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. Adoption of the proposed field rules for the Phantom (Wolfcamp) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

RECOMMENDATION

Based on the above findings and conclusions of law, the examiner recommends that the Commission adopt the field rules proposed by Chesapeake Operating, Inc. for the Phantom (Wolfcamp) Field on a temporary basis, subject to review in 24 months.

Respectfully submitted,

Andres J. Trevino, P.E.
Technical Examiner