

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING CALLED  
BY THE OIL CONSERVATION DIVISION FOR  
THE PURPOSE OF CONSIDERING:**

**CASE NO. 14124  
ORDER NO. R-13013**

**APPLICATION OF CIMAREX ENERGY COMPANY  
OF COLORADO FOR SPECIAL RULES AND  
REGULATIONS FOR THE APACHE RIDGE-  
BONE SPRING POOL, LEA COUNTY, NEW  
MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on June 26, 2008, at Santa Fe, New Mexico, before Examiner Richard Ezeanyim.

NOW, on this 5<sup>th</sup> day of November, 2008, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

**FINDS THAT:**

(1) Due public notice has been given, and the Division has jurisdiction of this case and of the subject matter.

(2) Cimarex Energy Company of Colorado ("applicant" or "Cimarex") seeks an order establishing special rules and regulations for the Apache Ridge-Bone Spring Pool (the "Pool"), including a depth bracket allowable of 1,300 barrels of oil per day with a limiting gas-oil ratio (GOR) of 3,000 cubic feet of gas for each barrel of oil produced. Applicant further requests that the pool rules be effective as of August 1, 2007.

(3) The Pool was created by Division Order No. R-8075, dated November 8, 1985, and currently covers the following lands in Lea County, New Mexico.

Township 19 South, Range 33 East, N.M.P.M.  
Section 36: SE/4

Oil Conservation Division  
Case No. \_\_\_\_\_  
Exhibit No.   D

- (j) Multiple engineering methods, including volumetric calculations, show that there are 9 million barrels of oil in place and at a 19% recovery factor reservoir recovery will be 1.7 million barrels.
- (k) Reservoir analysis using material balance decline type curve methodology shows that Cimarex' production has exceeded the estimated ultimate recovery (EUR) from an expected 19% to 25% with all production greater than 19% coming from the adjacent tracts.
- (l) Bottomhole pressure data shows that reservoir pressure was depleted from 3800 PSI to 2000 PSI or less by the two first wells in the pool which confirms that drainage occurs over a large area and results in pressure depletion and reduced production pressure in the total reservoir.
- (m) Similar pressure exists across the field from the Pennzoil No.1 to the Mescalero No. 1 in the direction that is across the Fasken tract in Section 31.
- (n) Since assuming operations of properties in the Apache Ridge-Bone Spring Pool, Cimarex has drilled the Pennzoil B 36 State Well No. 2 which is 19,440 barrels overproduced and the Pennzoil B 36 state Well No. 7 that is 13,317 barrels overproduced.

(10) Fasken argued that granting the application of Cimarex will accelerate the drainage of offsetting acreage operated by Fasken, rapidly deplete the reservoir and adversely affect future recoverable oil from the offsetting Fasken acreage.

**The Division concludes the following:**

(11) The Apache Ridge Bone Springs reservoir is a solution gas drive reservoir. However, there is no gas cap present in this reservoir because the reservoir consists of thinly laminated sections, and does not have very good vertical permeability.

(12) The initial pressure in the reservoir is approximately 3,800 pounds per square inch (psi), and the bubble point pressure lies between 2,500 to 3,000 psi. At the current reservoir pressures of 1,800 to 2,000 psi, the wells are now producing below the bubble point of the reservoir, thereby leading to increases in the high gas-oil ratios found in the wells.

(13) From the testimony presented by both parties, the Division believes that there are four (4) producing intervals in the zone of interest, namely: (i) the First Bone Spring Sand; (ii) the Upper Airstrip; (iii) the Airstrip Dolomite; and (iv) the Basal Bone Spring Sand. Each of these intervals contributes to the overall production from each well. However, in some zones of the reservoir, all the four producing intervals may not be present.