

**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:**

**APPLICATION OF COG OPERATING, LLC FOR THE CREATION OF A NEW  
POOL, SPECIAL POOL RULES AND CONTRACTION OF THE GRAYBURG  
JACKSON POOL WITHIN THE BURCH-KEELY UNIT, EDDY COUNTY, NEW  
MEXICO**

**CASE NO. 14670  
ORDER NO. R-10067-E**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on June 23, 2011 and again on September 29, 2011, at Santa Fe, New Mexico before Examiner William V. Jones.

NOW, on this 25<sup>th</sup> day of January, 2012, 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 its subject matter.
- (2) COG Operating, LLC ("Concho") seeks:
  - a. To create a new pool limited to the horizontal extent of the Burch-Keely Unit for oil production from the Glorieta and Yeso formations extending from the top of the Glorieta formation to the base of the Burch-Keely Unit, currently defined as a depth of 5000 feet below ground level;
  - b. Concurrent vertical contraction of the Grayburg Jackson Pool (Pool Code 28509) within the Burch-Keely Unit, redefining the lower extent of that pool to be at the top of the Glorieta formation; and
  - c. Special Rules for the newly created Glorieta-Yeso pool allowing a depth bracket allowable of 300 barrels of oil per day and no limiting gas-oil ratio.

(3) The nomenclature (pool contraction and creation) portion of this Case No. 14670 (as well as Case No. 14669) was presented by Concho at the June 23<sup>rd</sup> hearing and both cases were then continued to await resolution of related Division Case No. 14613 and De Novo Case No. 14577. The results of De Novo Case No. 14577 are detailed in subsequent paragraphs below.

(4) On September 8, 2011, the Division issued Order No. R-13382-E in Case No. 14613 granting the applicant's request to combine numerous Yeso formation pools into a new pool called the Mar Loco-Glorieta-Yeso Pool (which does not include acreage under the Burch-Keely or Dodd Units) and in addition created Special Pool Rules for this new Yeso formation pool granting an increased depth bracket allowable and limiting gas oil ratio. Case No. 14613 has since been taken De Novo to the Oil Conservation Commission where it is pending.

(5) On September 29, Concho presented further evidence to support requested increase in the oil and gas allowable for production from the Upper Yeso formation. At the conclusion of that hearing, the Division took Case Nos. 14670 and 14669 under advisement. This Order addresses the nomenclature issues only. A separate order is being issued to resolve the issue of the requested increase in depth bracket allowable and limiting gas oil ratio.

(6) Concho is the designated operator of the Burch-Keely Unit which consists of the following acreage:

**TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM**

Section 12:	SE/4 SE/4
Section 13:	All
Sections 23 through 26:	All

**TOWNSHIP 17 SOUTH, RANGE 30 EAST, NMPM**

Sections 18 and 19:	All
Section 30:	All

(7) Order No. R-7900 and amendments thereto have involved the approval of the Burch-Keely Waterflood within the Grayburg and San Andres formations, the [statutory] creation of the Burch-Keely Unit, then subsequent modifications to said unit.

(8) The Grayburg Jackson Pool (Pool Code 28509) was created by Division Order No. 850, dated January 1, 1950, and has since been vertically expanded to include the Seven Rivers and Lower San Andres formations and laterally expanded to include portions of seven townships. The current extent of said pool is specifically identified in Concho's application in this case.

(9) The Grayburg Jackson Pool in most areas extends vertically from the top of the Seven Rivers formation to the base of the San Andres formation (top of the Glorieta formation). However, within the Dodd Unit, the Burch-Keely Unit, and the

Grayburg Jackson West Coop Unit, the depth of the Grayburg Jackson Pool has been extended into the Yeso formation. The portion of the Grayburg Jackson Pool within the Grayburg-Jackson West Cooperative Unit has pool code 97558, while the original and larger Grayburg Jackson Pool has pool code 28509.

(10) Order No. R-10067, as amended, has modified the vertical depths of the Grayburg Jackson Pool within the Burch-Keely Unit horizontal boundaries. Ordering Paragraph (2) of R-10067 specifically identifies the well, electric log, and depth of the top of said pool within the Burch-Keely Unit.

(11) The Division in Order No. R-7900-C issued in Case No. 14558 on January 31, 2011 and Order No. R-10067-B issued in Case No. 14577 on February 1, 2011, approved the current base of the Burch-Keely Unit and extended the Grayburg Jackson Pool to the base of said unit. Cases 14558 and 14577 were taken De Novo to the Commission.

(12) The Commission in Order Nos. R-7900-E and R-10067-D, dated September 22, 2011, approved the redefined vertical depth of the "Unitized Formation" within the Burch-Keely Unit as extending to a depth of 5000 feet below the surface of the ground and vertically extended the Grayburg-Jackson Pool within the Burch-Keely Unit to correspond with the depth of that "Unitized Formation".

(13) In support of the request to create a separate Yeso formation pool within the Burch-Keely Unit, Concho presented the following testimony:

a. The Glorieta formation is an easy marker to pick off electric logs, it is not too thick in this area, is low permeability, non-productive and provides a natural vertical barrier between production from the San Andres formation and production from the Upper Yeso formation.

b. The 5000 foot lower limit of the proposed Yeso pool is an ownership barrier and not related to production or reservoir issues. (That matter was considered by the Commission who issued Order Nos. R-7900-E and R-10067-D on September 22, 2011.)

c. The Yeso formation is almost completely a dolomite while the San Andres formation has lenses of both dolomite and limestone.

d. The oil production from the Paddock formation is higher in gravity than the oil production from the San Andres formation.

e. The San Andres is being waterflooded and the Yeso will be developed, at least at first, with vertical and possibly horizontal drilled wells producing under primary recovery, solution gas drive.

f. The Division Rules limit well density to four wells per 40 acres, making it logical and necessary to separate the reservoirs into separately named and regulated pools.

g. The Paddock formation has been defined by development within the central portions of the Burch-Keely Unit. Other areas may be developed if the new pool is created.

(14) Supporting the need for a separate Upper Yeso formation pool, the Commission in Order No R-10067-D, stated "The Blinebry and the Paddock are members of the Yeso formation and are a common source of supply."

(15) Following Division Rules, Concho provided notice to all Division designated operators in the Grayburg Jackson Pool and to all operators of wells completed within any formation (included in that pool) within one mile of the pool boundary. ConocoPhillips as successor to Phillips Petroleum Company owns rights below 5000 feet underlying the Burch-Keely Unit. Notice was not required and was not provided to ConocoPhillips.

(16) Cimarex Energy Co. and ConocoPhillips Company both entered appearances in this case and ConocoPhillips appeared through counsel at the hearing but did not present evidence.

(17) No other party appeared or otherwise opposed this application.

(18) The Paddock and Blinebry members are considered by Division geologists to constitute the "Upper Yeso" formation.

(19) The Upper Yeso formation should be considered by the Division as a separate source of supply from formations above the Glorieta formation and should be placed in a separate oil pool to be called the Burch-Keely-Glorieta-Upper Yeso Pool.

(20) The portion of Concho's proposal in this case to contract the Grayburg Jackson Pool and create the Burch-Keely-Glorieta-Upper Yeso Pool for production from the Paddock and Blinebry members of the Upper Yeso formation within the Burch-Keely Unit should be approved in order to prevent waste and protect correlative rights.

**IT IS THEREFORE ORDERED THAT:**

(1) A new pool for oil production from the Glorieta and Upper Yeso formation (Paddock and Blinebry members) is hereby created and named the **Burch-Keely-Glorieta-Upper Yeso Pool**.

(2) This pool shall be limited to the areal extent of the Burch-Keely Unit as specifically described in Finding Paragraph (6) of this Order, and shall not be extended beyond the horizontal limits of the Burch-Keely Unit.

(3) This pool shall extend vertically from the top of the Glorieta formation to correspond with the lower vertical limits of the "Unitized Formation" of the Burch-Keely Unit, as amended by Order No. R-7900-E, issued in Case No. 14558 on September 22, 2011 and referenced in Finding Paragraph (12) of this Order.

(4) Accordingly, the base of the Burch-Keely-Glorieta-Upper Yeso Pool is hereby established as a depth of 5000 feet below the surface of the ground.

(5) The horizontal portion of the Grayburg Jackson Pool (Pool Code 28509) located within the Burch-Keely Unit is contracted vertically and shall hereafter extend vertically from the top of the Seven Rivers formation down to the top of the Glorieta formation.

(6) The effective date of these pool changes shall be February 1, 2012.

(7) Any operator of any well within the Burch-Keely Unit completed above 5000 feet and below the top of the Glorieta formation shall submit the appropriate forms C-102 with the new pool name to the Artesia district office of the Division prior to April 1, 2012.

(8) The operator of any well completed within the vertical extent of the Burch-Keely Unit both below and above the top of the Glorieta formation shall submit application for downhole commingling prior to April 1, 2012.

(9) Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

JAMI BAILEY  
Director