

**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 NOS. 14669, 14670, 14758, 14759 (Re-Opened)
ORDER NO. R-13523-A**

**APPLICATION OF COG OPERATING, LLC TO MAKE PERMANENT THE
SPECIAL RULES ADOPTED UNDER ORDER NO. R-13523 FOR THE DODD-
GLORIETA-UPPER YESO POOL AND THE BURCH KEELY-GLORIETA-
UPPER YESO POOL, EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

These cases came on for hearing at 8:15 a.m. on October 2, 2014, at Santa Fe, New Mexico, before Examiner Phillip R. Goetze.

NOW, on this 8th day of December, 2014, 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 these cases and subject matter.

(2) By Order No. R-13523, issued on March 12, 2012, the Division adopted the **Special Rules for the Dodd-Glorieta-Upper Yeso Pool and for the Burch Keely-Glorieta-Upper Yeso Pool** (the "Special Rules").

(3) The Special Rules for the Dodd-Glorieta-Upper Yeso Pool (Pool code 97917) and for the Burch Keely-Glorieta-Upper Yeso Pool (Pool code 97918) provided for:

(a) a standard oil spacing and proration unit for vertical wells based on a depth bracket allowable of 300 stock tank barrels of oil per day;

- (b) an exception allowing the operator to produce the allowable assigned to a 40-acre proration unit in any proportion if there is more than one well in the unit;
 - (c) a limiting Gas Oil Ratio (GOR) within these Pools of 3000 standard cubic feet of gas per stock tank barrel of oil;
 - (d) pre-approval of oil well locations within these Pools, whether standard or unorthodox locations, except for locations within 330 feet of either the Dodd Unit or Burch Keely Unit boundaries, or within 330 feet of any non-identically owned tract;
 - (e) no more than four (4) vertical wells shall produce simultaneously from the Blinbry formation within any one standard-sized oil spacing and proration unit;
 - (f) no more than seven (7) vertical wells shall produce simultaneously from the Paddock formation within any one standard-sized oil spacing and proration unit;
 - (g) each standard-sized oil spacing and proration unit to have simultaneously up to seven (7) producing completions from vertical wells in the Paddock formation and four (4) producing completions from vertical wells in the Blinbry formation; and
 - (h) the Special Rules to be effective retroactively as of the date of pool creation.
- (4) Ordering Paragraph (5) of Order No. R-13523 provides that the Special Rules shall expire on September 1, 2014, unless extended or made permanent by an order of the Division entered in a case filed on or before the expiration date.
- (5) COG Operating, LLC ("Applicant" or "Concho") seeks an order making the Special Rules permanent, effective retroactively from September 1, 2014, the date of termination provided in Order No. R-13523.
- (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) Concho is also the designated operator of the Dodd Federal Unit which consists of the following acreage:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM

Section 10:	E/2 and E/2 W/2
Section 11:	All
Section 14:	All
Section 15	E/2
Section 22:	SE/4; SE/4 SW/4; E/2 NE/4; and SW/4 NE/4

(8) Applicant appeared at hearing through counsel and presented land, geologic, and engineering testimony with exhibits as follows:

- (a) the ownership and acreage within each Unit remains unchanged since the approval of Order No. R-13523;
- (b) the reservoir of the Yeso group, which includes the Paddock and Blinbry formations, has no sharply defined gas-oil or oil-water contact and is under primary recovery from solution gas drive;
- (c) the reservoir matrix has very low permeability that is heterogeneous in areal distribution. The increased density of wells per standard-sized oil spacing and proration unit, approved under Order No. R-13523, has increased the effective production of the reservoir;
- (d) previous well development of the Paddock formation in the two Units does not permit the use of horizontal drilling and Applicant's future development with infilling wells will require unorthodox well locations to optimize the heterogeneous permeability characteristics of the reservoir;
- (e) Applicant provided example of the Burch Keely Unit Well No. 410 (API No. 30-015-37133) that was completed in the Paddock formation during 2010. This well location was approved, pursuant to Order No. R-13523, at the center of the proration unit and was the fifth well within a proration unit with four (4) existing Paddock completions. The well produced an average rate of 100 barrels of oil per day (BOPD) for the first year and a half, then declined to a current production range of 9 to 10 BOPD. The cumulative production of the well was 48,000 barrels of oil (BO) with an Estimated Ultimate Recovery (EUR) of 70,000 to 80,000 BO;

(f) the allowable of 300 BOPD in any standard 40-acre oil spacing and proration unit has not shown any indication of prematurely dissipating reservoir energy or causing waste of oil or gas; and

(g) the limiting GOR of 3000 standard cubic feet of gas per stock tank barrel of oil is appropriate to avoid premature loss of reservoir energy, prevent waste of oil, and not impact GORs granted for surrounding Yeso wells that are not within either Unit.

(9) ConocoPhillips Company appeared through counsel, but did not submit evidence and did not oppose this application. No other party appeared at the hearing or otherwise opposed this application.

(10) Notice was provided in these Cases as required by Division rules.

(11) At the request of the Examiner, Applicant provided supplementary production history over the past four years for the two Units. GORs for both Units have shown a slight increase in 2014, with current GOR for each Unit equal to or slightly above historical GOR levels in 2011.

The Division concludes as follows:

(12) The reservoir produces by solution-gas drive or dissolved-gas drive mechanism. There is no primary or pre-existing gas cap; further, upon depletion, there is no secondary or developed gas cap. As a result, there is no segregation or gravity drainage in this reservoir. In this type of solution-gas drive or dissolved-gas drive reservoir, the available predominate energy is the expansion of the solution gas, probably aided initially by connate water expansion or pore volume contraction. Accordingly, production rates are independent of the EUR.

(13) The reservoir is heterogeneous with very low porosity and permeability and produces essentially by solution-gas drive mechanism. These characteristics indicate that the reservoir will not be damaged by high production rates. Correlative rights will be protected by the setback requirements originally described in Order No. R-13523. Under these circumstances, it is advantageous to produce as much liquid hydrocarbons as possible from this very low-permeability reservoir before and after the bubble point pressure of the reservoir is reached. The vertical wells in these Pools should be allowed to produce at their Maximum Efficient Rate in order to effectively produce the reservoir in these Pools.

(14) The granting of this application will prevent waste by allowing production of additional hydrocarbons that might not otherwise be produced, and will not impair correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) Pursuant to the application of COG Operating, LLC (the "Applicant"), the **Special Rules for the Dodd-Glorieta-Upper Yeso Pool and for the Burch Keely-Glorieta-Upper Yeso Pool** are hereby made permanent, effective from and after September 1, 2014.

(2) Special Rules granted herein shall be limited to govern only vertical wells drilled and producing within these two Pools and shall not extend beyond Pool boundaries.

(3) The top and bottom footage depths of both the Paddock formation and the Blinebry formation for each well completed or recompleted into these Pools shall be subject to approval by the Division's Artesia district geologist.

(4) Nothing in this Order shall preclude Applicant from applying for further increased allowable in these Pools if it deems such necessary for efficient exploitation of the Pools with resultant increased Estimated Ultimate Recovery.

(5) Jurisdiction of these cases 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


for JAMI BAILEY
Director