

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

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

**Case No. 14558
Order No. R-7900-B
De Novo**

**APPLICATION OF MARBOB ENERGY CORPORATION
(NOW COG OPERATING LLC) FOR VERTICAL
EXPANSION OF THE BURCH-KEELY UNIT,
EDDY COUNTY, NEW MEXICO**

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

**Case No. 14,577
Order No. R-10,067-C
De Novo**

**APPLICATION OF COG OPERATING, LLC FOR
VERTICAL EXPANSION OF THE GRAYBURG-
JACKSON (SEVEN RIVERS-QUEEN-GRAYBURG-
SAN ANDRES) POOL TO CORRESPOND WITH
THE UNITIZED FORMATION OF THE BURCH
KEELY UNIT, EDDY COUNTY, NEW MEXICO**

**COG OPERATING LLC
PROPOSED ORDER OF THE COMMISSION**

COG Operating LLC (COG) submits the Proposed Order as set forth below in response to a directive of the Chair of the Oil Conservation Commission on July 29, 2011:

ORDER OF THE COMMISSION

THIS MATTER came on for hearing at 9:00 a.m. on July 28, 2011, at Santa Fe, New Mexico before the Oil Conservation Commission (Commission).

NOW, on this 22nd day of September, 2011, the Commission, having considered the pleadings, testimony, and evidence in the record,

FINDS THAT:

1. Due public notice has been given and the Commission has jurisdiction of this matter.

2. In Case No. 14,558, COG is seeking to extend the vertical limit of the Burch Keely Unit (Unit) to 5,000 feet below the surface of the ground. (COG Exhibit 1). In Case No. 14,577, COG is seeking to extend the vertical limit of the Grayburg Jackson (Seven Rivers-Queen-Grayburg-San Andres) Pool (Pool) to 5,000 below the surface of the ground. (COG Exhibit 1).

3. Division Orders approved the expansion of both the Unit and the Pool. (COG Exhibit 2). ConocoPhillips Company (Conoco) filed Applications for Hearing de novo in each case with the Commission.

4. Case Nos. 14,558 and 14,577 were heard de novo by the Commission on July 28, 2011 and were consolidated at the time of the hearing for the purpose of efficiency.

5. Counsel for Cimarex Energy Co. of Colorado (Cimarex) filed an entry of appearance on July 21, 2011, amended that entry of appearance to add Magnum Hunter Production, Inc, (Magnum) on July 26, 2011, and filed a Motion for a Continuance on the same day. COG opposed the Motion for a Continuance and requested that Cimarex and Magnum not be allowed to participate in the hearing. COG noted that the Motion was not timely filed by the OCD Rules, specifically Rule 19.15.4.13.C; that Cimarex had actual notice of the hearing long before the hearing; that neither Cimarex nor Magnum offered anything by way of evidence or law to show they were entitled to notice; that Cimarex and Magnum missed the deadline for filing pre-hearing statements, specifically Rule 19.15.4.23; and that Cimarex and Magnum missed the deadline to intervene in the cases, specifically Rule 19.15.4.11.

6. The Commission considered the pleadings and arguments in closed session and then returned to open session and denied the Motion for a Continuance and did not allow Cimarex and Magnum to participate in the hearing for their failures to comply with the applicable rules, including not meeting the timelines of the OCD Rules and not offering evidence in support of their requests. Transcript of July 28, 2011, pages 12 and 21. (Hereinafter cited as Tr. at ____.)

7. Conoco's Motion for a Partial Stay was considered by the Commission. Counsel for Conoco stated Conoco no longer wanted a prohibition on drilling within 330 feet of the vertical bottom of the unit and pool. (Tr. at 14).

8. COG's Motion to Limit Testimony requested that the buffer zone described in Conoco's request for a stay and all testimony regarding hydraulic fracturing be excluded from the hearing, because those issues were not relevant to the matters before the Commission. The Commission denied the motion and advised COG counsel to make objections during the hearing when appropriate.

9. David Evans, COG land manager for the New Mexico Shelf area, was accepted by the Commission as an expert petroleum landman. (Tr. at 29). He explained that the initial application for the Unit expansion was filed by Marbob Energy Corporation before its assets were purchased by COG and an affiliated company on October 1, 2010. (COG Exhibit 4). Marbob purchased its interest in the federal leases from Phillips Petroleum Company (Phillips) in 1992. The Agreement of Purchase and Sale created the 5,000 foot ownership dividing line in Section V. of the Agreement. Conoco's predecessor protected its interests by retaining the right to drill through the depths being conveyed to Marbob and also agreed not to unreasonably interfere with or hamper Marbob's operations in the depths conveyed. (Tr. at 36, COG Exhibit 5).

10. The Unit consists of 5149.44 acres of federal minerals and surface. COG and an affiliated company own all of the working interest in the Unit and the Pool and in the proposed expansion area. (Tr. 40, 44-45). The purpose of the applications was to extend the vertical limit of the Unit and Pool a few hundred feet downwards to the 5,000 foot ownership dividing line in order to increase the likelihood that oil and gas resources in the area of the proposed extension will be captured and produced. (Tr. at 52, 58, 67-68, 81 and 85-86; COG Exhibit 1).

11. Phillips applied for a cooperative waterflood in the area of the Unit in 1984 and the OCD Director approved the application. (Order R-7900, COG Exhibit 6). In 1993, Marbob sought approval for a statutory unit pursuant to the Statutory Unitization Act. OCD approved the Burch Keely Unit Area, the Unit Agreement and the Unit Operating Agreement and made all the findings necessary to meet the statutory requirements. The vertical depth was set at the lesser of the base of the San Andres formation (which the Order said was also the limit of the Grayburg-Jackson Pool) or a true vertical depth of 5,000 feet below the surface. (Order R-7900-A, COG Exhibit 6). OCD Order 7900-B noted that the vertical limits of the Grayburg-Jackson Pool were extended in 1994 to include the interval from the top of the Seven Rivers formation to 500 feet below the top of the Paddock formation. (COG Exhibit 6).

12. The approved Unit Agreement allows for expansion of the Unit with the approval of the Bureau of Land Management (BLM) Administrative Officer. (Tr. at 41, COG Exhibit 7, Section 4). The BLM approved the expansion of the Unit to include the top 500 feet of the Paddock formation on March 11, 1994. (Tr. at 42, COG Exhibit 8). The BLM concurred with Marbob's application for expanding the Unit to 5,000 feet on October 5, 2010 and said it agreed with the intent to capture incremental production. (Tr. at 43, COG Exhibit 9). On March 10, 2011, the BLM approved the expansion of the Unit to a true vertical depth of 5,000 feet below

the surface and concurred with OCD's approval of the expansion of the Pool within the boundaries of the Unit. (COG Exhibit 9).

13. On February 22, 1984, OCD ordered that within the Unit area, the vertical limits of the Pool consisted of the interval from the top of the Seven Rivers Formation to 500 feet below the top of the Paddock formation. (Tr. at 47, Order No. R-10067, COG Exhibit 10).

14. The OCD website has 99 pages listing the thousands of pools it has designated in New Mexico. It is not uncommon for OCD-recognized pools to have a set elevation as a vertical boundary rather than the top or bottom of a formation as a vertical boundary. (Tr. at 48, 56, and 72; COG Exhibit 11).

15. The horizontal boundaries of the Unit comprise the following lands:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NNPM	
Section 12:	SE/4 SE/4
Section 13:	All
Section 23 through 26:	All
TOWNSHIP 17 SOUTH, RANGE 29 EAST, NNPM	
Sections 18 and 19:	All
Section 30:	All

16. There are now 366 wells within the Unit. Thirty of those wells were drilled after COG took over the asset from Marbob and five of those will produce from the expansion area. (Tr. at 32 and 102).

17. Working interest ownership in the expansion area is identical to that of the Unit. COG and an affiliated company own the entire working interest in the expansion area. Additionally, all royalty and overriding royalty interests are the same in the Unit and the expansion area, so no new allocation of production from the expansion area is required and all other terms in the Unit Agreement remain the same. (Tr. at 38).

18. Notice was provided pursuant to OCD Rules by COG landmen and three outside counsel. (Tr. at 49-50, COG Exhibits 12, 13, and 14).

19. Harvin Broughton, COG geologist responsible for the New Mexico Shelf area, was accepted by the Commission as an expert petroleum geologist. (Tr. at 64).

20. The proposed expansion would extend the vertical Unit boundary from 500 feet from the top of the Paddock down to the 5,000 foot mark. That expansion would include parts of the Paddock and Blinberry formations. (Tr. at 66). Both formations are members within the

Yeso formation and there is very little difference in the rock in the two formations. (Tr. at 69-70). The rock is generally of low porosity and low permeability and is heterogeneous. (Tr. at 73). There are changes from well to well as the wellbore encounters different lenses within the reservoir. (Tr. at 75). The lenticular nature of the reservoir is illustrated in Exhibit 16 as the production areas are disconnected vertically and horizontally. (COG Exhibit 16). The Blinebry and the Paddock formations are a common source of supply. (Tr. at 71).

21. The expansion area is more than 500 feet thick on the west side of the Unit and to the east it is closer to 200 feet thick. (Tr. at 70, COG Exhibit 18). The expansion area is so small that it has not been drilled as a separate producing zone below the original Unit vertical boundary. (Tr. at 76, COG Exhibit 17). Adding the expansion area to the Unit will make it more likely to be drilled because a well could be completed in several formations, including the expansion area. Generally, it has not been thought to be economically worthwhile to drill a separate vertical well to capture hydrocarbons from only the expansion area. (Tr. at 67-68 and 81).

22. COG has significantly developed the Blinebry formation in areas outside the Unit, but no wells have produced from the Blinebry within the Unit before the Division approved the expansion area. (COG Exhibit 17). Marbob completed a well in the Blinebry, but a cast iron bridge plug was put into place to seal off that formation, so the well did not produce from the Blinebry. (Tr. at 230-232, COG Exhibits 23 and 24). Under existing regulations, COG can drill wells in the Blinebry without the expansion area being included in the Unit and the Pool, but having the option of completing a well in the expansion area and in other zones above it makes it more likely wells will be drilled. (Tr. at 67-68, 81, and 112-113). Including the expansion area in the boundaries of the Unit will prevent waste and protect correlative rights. (Tr. at 81).

23. Ken Craig, COG lead reservoir engineer for the New Mexico shelf area, was accepted by the Commission as an expert petroleum engineer. (Tr. at 108).

24. At the time of the original hearing in this case, October, 2010, COG planned to drill vertical wells into the expansion area and planned more than 200 new wells in the Unit over the next five years. The Blinebry zone of the expansion area is expected to produce 4.8 to 5 million barrels of oil. (Tr. at 112-113). The upper Blinebry would be a perfect add-on to a well drilled to the Paddock zone. (Tr. at 111). Wells are far less likely to be drilled in the expansion area if it is not included in the Unit and Pool. (Tr. at 109 and 112-113, COG Exhibits 20 and 21). COG is testing horizontal wells in the area, but does not know yet if they will be used. (Tr. at 106-107, 109).

25. COG witnesses repeatedly stated that combining the upper Blinebry with the Paddock would offer them the most economical development opportunities, extend the life and value of the Unit, allow for the use of existing surface facilities without numerous filings for commingling orders, allow for the use of existing wellbores, avoid wasting the resource by not drilling wells in the area, and allowing them an opportunity to develop their reserves. (Tr. at 52, 81, 85-86). COG observed that the definition of the term "waste" within the Statutory Unitization Act specifically includes developing tracts separately that could best be developed and operated as a unit. (Tr. at 237-238).

26. Conoco is the operator for the Grayburg Deep Unit. Tom Scarbrough, landman for Conoco assets in southeast New Mexico, originally testified and offered Conoco Exhibit 1 to show the surface area of the Grayburg Deep Unit is almost coterminous with that of the Burch Keely Unit. He later recanted this testimony and said the Grayburg Deep Unit covers less than half of the area of the Burch Keely Unit. (Tr. at 183). He also stated the ownership in the two units varied slightly and then later acknowledged that the majority of overriding royalty owners are not the same in both Units. (Tr. at 125, 132, 144 and 227, COG Exhibit 22).

27. Conoco agreed that the 5,000 foot dividing line between COG's leasehold interest and Conoco's leasehold interest was not based upon geological factors. (Tr. at 123, 126 and 154).

28. Conoco proposed a discussion with COG about jointly developing all of the Yeso formation and claimed there was no response from COG. (Tr. at 133, Conoco Exhibit 5). Nevertheless, Mr. Scarbrough acknowledged that after the proposal had been made there had been conversations between counsel for the two companies and acknowledged a previous attempt by the companies to agree upon confidentiality parameters. (Tr. at 133 and 135). The most efficient means of development would include all of the Blinebry formation without regard for the ownership dividing line established by Phillips when it assigned the shallower depths to Marbob in 1992. (Tr. at 158 and 189).

29. Conoco has no wells producing from the Blinebry formation in the Grayburg Deep Unit and none are proposed in the current Unit drilling program. (Tr. at 139 and 168). Conoco has performed no study to determine if producing its portion of the Blinebry formation alone is or is not economic. (Tr. at 172). Conoco has produced from the Blinebry in four wells in the Maljamar area. (Tr. at 172-173). Nothing prohibits Conoco from producing in the Blinebry below 5,000 feet or from perforating its well just below the 5,000 foot mark. (Tr. at 172-174).

30. Conoco offered exhibits indicating that if COG completes wells down to 5,000 feet and fractures them, then the fractures could extend below the 5,000 foot ownership dividing line and impair Conoco's correlative rights in the oil and gas existing in the Blinebry in its ownership area. (Tr. at 157 and 194). The data was from simulations run with theorized data not provided from COG as to the treatment formula and used Conoco's fracturing practices instead of COG's practices. (Tr. at 197 and 216). The simulation model did not allow for heterogeneity in any direction other than vertical and was a forward only model with no comparison afterwards to confirm its accuracy. (Tr. at 224-225). Conoco witnesses said there was a risk of such fracture growth and clarified that they were not saying absolutely that fractures would extend below the ownership dividing line. (Tr. at 216).

31. Conoco opposed the Unit and Pool expansion in an effort to keep COG from developing the area. Conoco witnesses acknowledged they could protest applications for permits to drill, but that opposing the expansion would be a more efficient way to protect Conoco's interests. (Tr. at 138 and 218). Conoco asked the Commission to deny expansion of the Unit to

put pressure on COG to negotiate with Conoco with respect to a joint plan for developing the Yeso formation. (Tr. at 239 – 240).

32. Approval of the applications to add the expansion area to the Unit and the Pool will prevent waste and will not adversely affect correlative rights. Both parties will have the same opportunity to apply for permits to drill wells in the areas where they have an ownership interest, which is the essence of correlative rights pursuant to Section 70-2-17A, NMSA 1978.

33. The applications should be approved.

IT IS THEREFORE ORDERED THAT:

1. The requirements for an expansion pursuant to the Statutory Unitization Act have been met and the Unit Agreement allows for expansion with the approval of the Authorizing Official of the BLM. That approval has been given.

2. Additionally, the Statutory Unitization Act defines waste to “include both economic and physical waste resulting, or that could reasonably be expected to result, from the development and operation separately of tracts that can best be developed and operated as a unit...” Section 70-7-4B, NMSA 1978. In this case, waste would occur if the expansion area was not added to the Unit and Pool.

3. A pool can be designated for areas of an underground reservoir that are a common source of supply of oil or gas. The Blinbry and the Paddock zones are members of the Yeso formation and are a common source of supply.

4. Approval of the expansion to the Unit and Pool in and of itself does not impair correlative rights. It will take other action to threaten or impair correlative rights.

5. The expansion of the Unit is approved.

6. The expansion of the Pool is approved.

7. Conoco’s Motion for a Partial Stay is denied.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Respectfully submitted,

Beatty & Wozniak, P.C.



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CERTIFICATE OF SERVICE

I hereby certify that on this 26th day of August, 2011, I sent a copy of this Proposed Order of the Commission to the parties of record in this proceeding.



Carol Leach
Beatty & Wozniak, P.C.