

BEFORE THE OIL CONSERVATION DIVISION

**COG OPERATING, LLC
EXHIBITS FOR CASE NO. 14758
AMENDED APPLICATION DODD FEDERAL UNIT**

December 15, 2011

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

**APPLICATION OF COG OPERATING LLC TO INCREASE
WELL DENSITY AND PRE-APPROVAL OF NON-STANDARD
LOCATIONS IN THE DODD FEDERAL UNIT, EDDY COUNTY, NEW
MEXICO.**

CASE NO. 14758

AFFIDAVIT OF HARVIN BROUGHTON

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

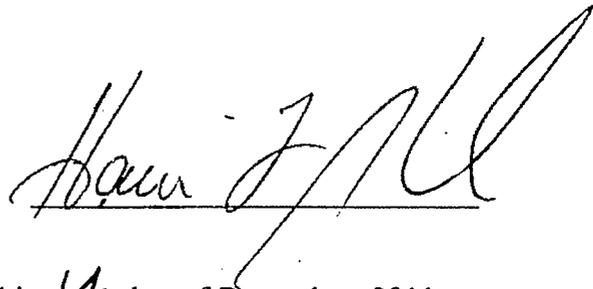
I, Harvin Broughton, being first duly sworn on oath, states as follows:

1. My name is Harvin Broughton and I reside in Midland, Texas. I am the Senior Geologist employed by COG Operating, LLC ("COG").
2. I testified as an expert in petroleum geology and was present throughout the hearing before Division Examiners Will Jones and David Brooks on November 10, 2011, in Case No. 14759, which addressed COG's application to increase the well density and obtain pre-approval of non-standard locations in the Burch Keely Federal Unit ("BKU").
3. As shown on **Attachment A** hereto, the Dodd Federal Unit (outlined in blue) is adjacent to the BKU (outlined in red) and both units are currently operated by COG.
4. In addition to the cross section map that I created and entered into evidence during the hearing on the BKU (Case No. 14758), I have created a second cross section that comprises **Attachment B** hereto. This second cross section depicts seven wells located in both the BKU and the Dodd Federal Unit from which wire line log data was taken and analyzed.
5. The Glorieta Yeso formation in this area has two separate producing members, the Paddock member and the Blinebry member. As shown by the stratigraphic cross section comprising **Attachment C** hereto, both the Paddock member (shown in green) and the Blinebry member (shown in light red) are present throughout these adjacent units. The white band between the Paddock and Blinebry members is the low porosity (tight) basal portion of the Paddock member that is not believed to contribute significantly to production. The grey shaded area below the 5000' line is not part of the Dodd Federal Unit.

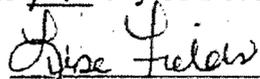
BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 1
Submitted by:
COG OPERATING, LLC
Hearing Date: December 15, 2011

6. Based on my analysis of this area, it is apparent that the thickness, porosity and potential productivity of the Paddock and Blinebry members are consistent throughout the BKU and Dodd Federal Unit areas.
7. It is my belief and professional opinion that the Paddock and Blinebry members are geologically continuous and consistent across the BKU and Dodd Federal Unit areas and that my geologic testimony given for the Burch Keely Unit (Case No. 14758) is equally applicable to the Dodd Federal Unit.
8. It is also my belief and professional opinion that the production results in the Paddock and Blinebry members testified to during the hearing on the BKU (Case No. 14758) are equally applicable to the adjacent Dodd Federal Unit.
9. It is my belief and professional opinion that the testimony presented in support of the exceptions sought for the BKU in Case No. 14758 is equally applicable to the adjacent Dodd Federal Unit and likewise supports the identical exceptions sought for the Dodd Federal Unit.

FURTHER AFFIANT SAYETH NOT.



SUBSCRIBED AND SWORN before me on this 14 day of December, 2011.

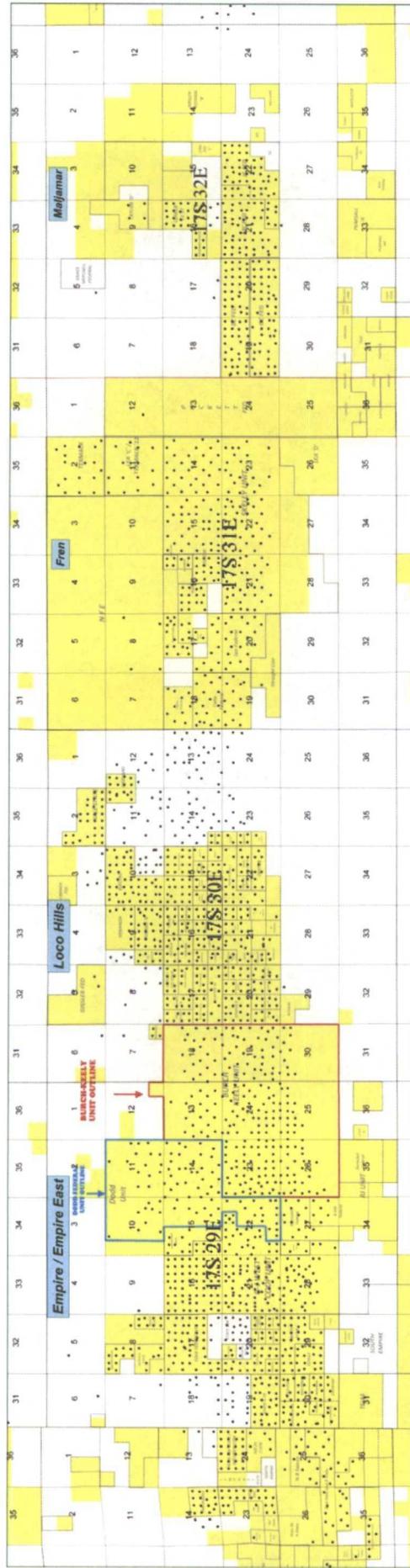

Notary Public

My Commission Expires:
September 6, 2014



BLM / Concho – 2011 Activity Meeting

New Mexico Shelf



COG Acreage



Burch Keely & Dodd Federal Unit - Cross Section Map C - C'

