

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

**APPLICATION OF COG OPERATING LLC FOR
SPECIAL RULES AND REGULATIONS FOR THE
ARTESIA GLORIETA-YESO POOL *ET AL.*, AND
CANCELLATION OF OVERPRODUCTION, LEA
AND EDDY COUNTIES, NEW MEXICO**

Case No. 14613

and

CONSOLIDATED

**APPLICATION OF BURNETT OIL CO., INC. AND
HUDSON OIL COMPANY OF TEXAS FOR
CONSOLIDATION AND EXPANSION OF AND
ADOPTION OF SPECIAL POOL RULES FOR
CERTAIN YESO POOLS, INCLUDING CEDAR
LAKE GLORIETA-YESO POOL *ET AL.* IN
LEA AND EDDY COUNTIES, NEW MEXICO**

Case No. 14647

BURNETT/HUDSON EXHIBITS 55, 56, 57, 58A, 58B, 59 AND 60

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and Hudson Oil Company of Texas**

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AFFIDAVIT OF WAYMAN T. GORE, JR., P.E.

STATE OF TEXAS §
 §
COUNTY OF TRAVIS §

1. I am the same Wayman T. Gore, Jr. who testified as a witness for Burnett/Hudson in this case on May 16 and 17, 2011. My qualifications are stated on the record in these cases.

2. I am over the age of 18 years, and have never been convicted of a felony, have personal knowledge of the matters stated herein, and am fully competent to make this affidavit.

New Mexico OCD Consolidated Hearing Cases: 14613 & 14647 Burnett Oil Co., Inc./ Hudson Oil Company of Texas Exhibit # 55

3. Filed herewith as Burnett/Hudson Exhibit 56 is a true and correct copy of the title page and Page 389 of the textbook titled, Applied Petroleum Reservoir Engineering, by B.C. Craft and M.F. Hawkins. This text is recognized as an authoritative book on petroleum reservoir engineering and it is widely used and relied upon by petroleum reservoir engineers. The column captioned, "Average," under "Limestone, Dolomite or Chert" is applicable for the Yeso Formation at issue in this case; the entry under oil solution GOR 600, and oil gravity API 30, showing an average primary recovery factor of 4.7% is most applicable to the reservoirs at issue in this case.

4. Filed herewith as Burnett/Hudson Exhibit 57 is a tabulation I prepared from records of the Railroad Commission of Texas which shows the currently applicable density rule for every field in Railroad Commission District 8A with the word "Clearfork" in the reservoir name. Railroad Commission District 8A contains the majority of the Clearfork Trend in the Permian Basin and Central Basin Platform shown on Burnett/Hudson Exhibit 6. ??

5. Filed herewith as Burnett/Hudson Exhibits 58A and 58B, respectively, are two graphs prepared under my supervision. The first, Exhibit 58A, displays GOR on the Y axis, and monthly production on the X axis, with the COG well count shown in green on the right-hand Y axis, and the Burnett well count shown in yellow on the right-hand Y axis. The wells included in the data on this graph are all wells of COG or Burnett completed between September 1998, when Burnett began drilling Yeso wells in this trend, and January 2008. Wells completed after January 2008 were excluded because they typically have lower GORs in their early production history. Consequently, this

display depicts all wells completed by Burnett and COG in the same time frame. This Exhibit demonstrates that COG's wells have had increasingly higher GORs than Burnett's wells over this nearly 10 year period of time.

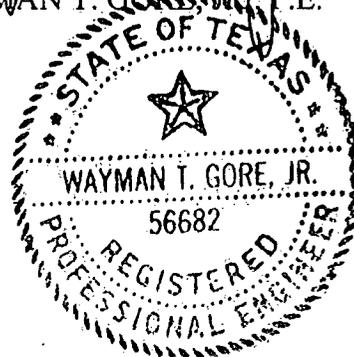
6. Burnett/Hudson Exhibit 58B is another display of GOR for Burnett wells and COG wells completed during the same time frame as Burnett/Hudson Exhibit 58A. In this display, cumulative GOR is depicted on the Y axis, and cumulative oil production on the X axis with COG's cumulative oil production having been normalized for comparison with Burnett's, because of the substantially greater number of wells completed and oil produced by COG during the time frame of comparison. This Exhibit confirms the conclusion of Exhibit 58A, namely, that COG's wells have higher GORs than Burnett's wells, when compared versus the same production volumes rather than time.

7. All of Exhibits 56, 57, 58A and 58B were prepared by me or under my supervision, and all of the facts and data contained therein are true and correct, to my personal knowledge.

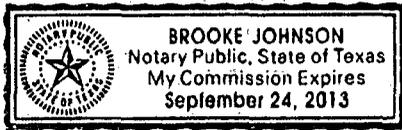
Further Affiant sayeth not.

Wayman T. Gore, Jr. 6/8/11
WAYMAN T. GORE, JR., P.E.

PGH PETROLEUM &
ENVIRONMENTAL
ENGINEERS, LLC
F-9137



SUBSCRIBED AND SWORN TO BEFORE ME on the 8th day of June,
2011, to certify which witness my hand and official seal.



Brooke Johnson

Notary Public, State of Texas