

**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  
CETAIN YESO POOLS, INCLUDING CEDAR  
LAKE GLORIETA-YESO POOL *ET AL.* IN  
LEA AND EDDY COUNTIES, NEW MEXICO**

**Case No. 14647**

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**AFFIDAVIT OF FRANK J. MAREK, P.E.**

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STATE OF TEXAS                   §  
   §  
COUNTY OF DALLAS           §

1.     My name is Frank J. Marek, and I am known by the nickname of "Deacon".  
  
I am a petroleum engineer having graduated from Texas A&M University in 1977, with a  
B.S. degree in petroleum engineering. I am a registered professional engineer. I have  
worked in the oil and gas industry since I graduated from college, in numerous positions  
with various companies. I am currently Senior Vice President of William M. Cobb &

Associates, Inc., a consulting engineering firm, with offices in Dallas, Texas; I have been employed by William M. Cobb & Associates, Inc. since 1985. William M. Cobb & Associates, Inc. has a worldwide petroleum consulting practice. A copy of my current resume is attached.

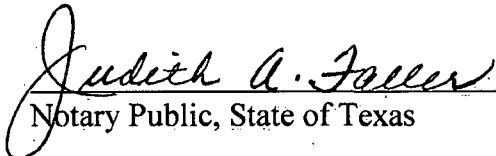
2. My particular expertise, and most of my work with my firm, is in reservoir engineering, including modeling and simulation. I have been involved with the design of reservoir models to mimic the performance of oil and gas reservoirs using various case assumptions since 1982. I have consulted with Burnett Oil Co., Inc., and Hudson Oil Company of Texas, to model the performance of the Yeso or Clearfork reservoirs involved in this case under certain assumptions.

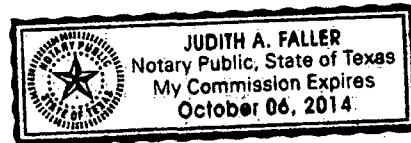
3. Filed herewith as Burnett/Hudson Exhibit 60 are the first nine pages of a 91 page report I prepared for Burnett and Hudson which describe, in summary fashion, the scope of my study, the description of the model I created for the study, certain data input to the model and my conclusions. It is my opinion that the model constitutes a reasonably accurate representation of how the Yeso reservoirs that are the subject of this case will perform under the several assumed oil allowables, with or without a limiting gas oil ratio of 2000:1, and either 2 or 4 producing wells per 40 acres. All of the information contained in Burnett/Hudson Exhibit 60 was prepared by me, or under my supervision, and is true and accurate to my personal knowledge.

Further Affiant sayeth not.

  
FRANK J. MAREK, P.E.

SUBSCRIBED AND SWORN TO BEFORE ME on the 9 day of June,  
2011, to certify which witness my hand and official seal.

  
Notary Public, State of Texas



## **Frank J. "Deacon" Marek**

**EDUCATION:**      B.S., Petroleum Engineering  
Texas A&M University, May 1977

### **WORK EXPERIENCE:**

***1985 - Present***

***William M. Cobb & Associates, Inc.***

***Senior Vice President***

- Specializes in oil, gas, and CO<sub>2</sub> reserve evaluation and economic analysis, waterflood and CO<sub>2</sub> EOR feasibility and performance analysis and reservoir engineering studies
- Considerable experience in providing reserve and economic evaluations of offshore oil and gas properties located in the Gulf of Mexico, including deep water projects

***1982 - 1985***

***Cornell Oil Company***

***Reservoir Engineering Manager***

- Responsible for surveillance and reservoir management of a 5,000 BOPD West Texas waterflood and a smaller Oklahoma waterflood
- Developed economic analysis of an anticipated CO<sub>2</sub> project for the West Texas property which included CO<sub>2</sub> supply alternatives, CO<sub>2</sub> transportation, field production performance, and infill drilling
- Responsible for reservoir engineering and economic evaluation of exploration prospects
- Developed annual internal reserve reports and supervised preparation of external company reserve reports

***1981 - 1982***

***Buttes Resources Company***

***Rocky Mountain District Engineer***

- Responsible for all operations in Montana, Wyoming, and Colorado including management and surveillance of certain waterflood and polymer flood projects
- Designed and recommended development and exploration wells, well completions, and well workovers

***1977 - 1981***

***Hughes & Hughes Oil & Gas***

***Petroleum Engineer***

- Prepared company's annual reserve report
- Evaluated drilling prospects
- Designed and analyzed pressure transient well tests
- Developed internal petroleum economics computer model
- Responsible for the design and implementation of development and exploration drill wells, new well completions, and workovers

**TECHNICAL AND PROFESSIONAL SOCIETIES:**

- Society of Petroleum Engineers - International (SPE)
  - Management & Information Awards Committee 2003; Chairman, 2004
  - Economic and Evaluation Award Committee, 2002
  - Admissions Committee, 1994-1995
- Society of Petroleum Engineers – Dallas Section (SPE)
  - Chairman, 2004-2005
  - Hydrocarbon Economics & Evaluation Symposium

- General Chairman, 1999
- Arrangements Chairman, 1997
- Arrangements Committee, 1995
- Program Committee, 1989
- Dallas Section Membership Chairman, 1993-1994
- Dallas Section Arrangements Chairman, 1991-1993
- Dallas Section Continuing Education Chairman, 1990-1991
- Dallas Section Secretary, 1989-1990
- Society of Petroleum Evaluation Engineers (SPEE), Dallas Chapter
  - Chairman 1993-1994
  - Membership Chairman, 1994-1995
  - Secretary and Treasurer, Dallas Chapter, 1991-1993

**HONORS AND AWARDS:**

- SPE Engineer of the Year Award, 2006
- SPE Dallas Section Service Award, 1994

**REGISTRATION:**

- Registered Professional Engineer, State of Texas

**PUBLICATIONS:**

- Cobb, W.M., and Marek, F.J.: "Determination of Volumetric Sweep Efficiency in Mature Waterfloods Using Production Data." Presented at SPE Annual Technical Conference and Exhibition, San Antonio, Texas, October 5-8, 1997 SPE 38902.

- Cobb, W.M., and Marek, F.J.: "Net Pay Determination for Primary and Waterflood Depletion Mechanisms." Presentation at 1998 SPE Annual Technical Conference and Exhibition, New Orleans, Louisiana, September 27-30, 1998 SPE 48952..

**TECHNICAL PRESENTATIONS:**

- "Waterflood Evaluation....In A Hurry" presented to the SPE, East Texas Section in Tyler, TX., November, 2005.
- "Waterflood Evaluation....In A Hurry" presented to the SPE North Texas Section in Wichita Falls, TX., April 2005
- "Waterflood Evaluation....In A Hurry" presented to the SPE, Permian Basin Section in Midland, TX., February 2005
- "Due Diligence In Petroleum Property Evaluation" presented to the Desk and Derrick Society, Dallas, TX., September 2000
- "Due Diligence In Petroleum Property Evaluation" presented to the NAPAC Convention, Dallas, TX., May 2000

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