

## **ALBERTO P. GIUSSANI**

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## **PETROLEUM ENGINEER**

An experienced, highly trained and adaptable engineer equally proficient in reservoir management and field operation. Fluent in English, Italian and Spanish. Extensive background in reservoir development, infill drilling, pattern regularization, waterflood implementation and property evaluation. Strong team skills balanced by the ability of working with little direct supervision.

### **PROFESSIONAL EXPERIENCE**

**OXY Permian .**

**April 2000 to current**

**Current Title: Senior Engineering Advisor**

Representative achievements since joining OXY include:

#### **October 2003 to current:**

Responsible for the justification and implementation of several development programs at the Bravo Dome CO<sub>2</sub> Gas Unit (New Mexico). A total of 210 wells have been drilled over a 6 year span at a cost of \$ 220MM. Total reserves added 600 BCF.

Developed a forecast process for approximately 250 locations considered for possible development. Locations were risked based on an algorithm based on distance from existing production and distribution of results from well tests.

Responsible for the completion optimization of all new wells; used the knowledge developed from new wells to initiate a restimulation program. To date 45 wells have recompleted using this technique.

Responsible for the testing of 3 storage caverns in the Levelland Field. Total capacity 550 Mbbls  
Repair 2 out of 3 cavern wellbores at a cost of \$600 M.

Currently working on bringing back to service 2 caverns, with total capacity of 250 Mbbls at a cost of \$2,500M.

#### **April 2000 to October 2003:**

Continue development program in Levelland, 17 drilled wells between 2000 and 2003 , 700 BOPD initial rates, 1,210 MBO reserves and 6.0 MM\$ capital. For 2003, development programs consists of 6 infill wells, 3 conversion to injection and 2 return to production for a total of 2.4 MM\$ capital.

Reservoir review and optimization of the Levelland Unit. Goal of the project is to continue to identify potential of improvements for this large (16,000 acres) water flood unit. Geological characteristics, waterflood development, completion trends were some of the basis to develop a detailed plan by different performance areas to improve ultimate recoveries and cost of operations. Decline rate has been arrested from a 9 % per year in the mid 90 to 2% for the average over the past 2 years.

Horizontal drilling has been a new area for development. Due to the nature of the main pay in certain portion of the unit the possibility to either recomplete existing wells or drill new horizontal wells has been explored. Current plans call for 3 horizontal recompletions in 2003 (750 M\$) as a test for the reservoir concept and the completion techniques.

CO<sub>2</sub> feasibility study and implementation plan for a portion of the Levelland unit. Review of past experience and pilot implemented in the field, support for simulation group with reservoir characterization, waterflood historical performance, completion s and impact on fluid productivity/conformance. Project is currently in the starting stages with a forecasted expenditure of 13 MM\$ and injection start up in June 04.

#### **ALTURA ENERGY LTD.**

**March 1997 to April 2000**

Representative achievements since joining Altura include:

Responsible for all development activity in the newly formed production units in the Levelland Field, .and reservoir support for the 3 largest waterflood unit in the field (14,000 BOPD, 170,000 BWPD, and 230,000 BWIPD).

Development Program over the three year span consisted of 25 infill wells and 6 conversion to injection for a total capital expenditure of 7.5 MM\$ and a total of 2.0 MMSTBO added to the proved developed reserves.

Review, upgrade and implement injection operations in waterflood units in order to increase throughput while still working within fracture propagation pressure of injectors. This more aggressive injection policy has allowed flattening decline from a 9% per year to a 3% per year over the past 2 years.

Work with outside consultants to prepare reserve estimates, plan of development, and future potential for the largest Altura operated waterflood unit in the Levelland field. Support "Data Room" for this property during sale process.

#### **SHELL WESTERN E&P INC.**

**January 1986 to March 1997**

Initially assigned as a reservoir engineer to the Development/Production Engineering Group in Houston managing Shell's properties in the Permian Basin (TX) and in the Cedar Creek Anticline (MT). Majority of properties consist of large unitized fields either under waterflooding or CO<sub>2</sub> operations. In 1990 became part of the property acquisition team charged with directing Shell's mid-continent acquisition and divestiture activities. In 1992 requested an assignment where both reservoir and production engineering could be utilized to improve financial performance of mature properties. As of January 1993 on a special assignment at the Levelland Production Unit (6000 BOPD) as a petroleum engineer, responsible for all the engineering aspects for the exploitation of four Shell operated waterfloods plus two outside operated properties. The goal of this special project is to improve the financial performance of these assets through a combination of cost control, work efficiency improvements, novel reserve development and field driven surveillance efforts.

Representative achievements since joining Shell include:

Developed 3,500 MBO of reserves by infill drilling to 10 acres spacing a mature water flood projects that had been considered completely developed in the past. A total of 35 wells have been drilled to date and development cost has dropped by at 40 % over a three year span.

Developed and implemented pilot program of horizontal recompletion in three San Andres wells. Scope of project included proving up the ability to drill up to 1200 ft lateral in 20 ft target zone using workover rig,

corroborate results of computer and analytical models and identify areas where significant improvements could be expected.

Responsible for the completion of two field wide reservoir simulations of carbonate waterflood projects. Both projects are being carried out by multidisciplinary teams but one project is being carried out by a team made up of Shell staff while the other is being carried out by a team formed by outside consultants. Direct responsibilities consisted in building geological models, interpreting primary history to determine initial conditions and overall analysis of reservoir simulation to validate results. Based on this work approximately 25 infill locations have been identified and a significant number of waterflood optimization opportunities have been proposed.

Reduced operating cost for several units by over 40% over a two year period. At the same time, average failure rate per well has decreased by over 50%. Savings incurred in over past two years exceed 1,500 M\$.

Review and optimization of aerial performance of the Central Levelland Unit. Marginal areas in this San Andres waterflood were identified and injection shut in. An operating plan based on the financial performance and long term viability for each area has been developed and put in place at the field operation level. The new operating guidelines have resulted in first year savings of approximately 500 M\$ and the reduction of production operators by 25%.

Study of the impact of Shell's injection policy at the Southeast Levelland Unit. Goal of the project was to maximize yearly cash flow without negatively impacting ultimate recovery due to possible injection induced fracturing. The study compared the overall unit performance with other San Andres waterfloods in the Levelland/Slaughter field operating under different injection policies. It also analyzed aerial performance within the unit in order to optimize the waterflood process. Cash flow has been increased by 250 M\$ per year since implementation of modified operations.

Reservoir characterization study of all the properties purchased by Shell in the Levelland/Slaughter Fields (700 wells/11,000 acres). Study concentrated in obtaining a detailed geological, petrophysical and reservoir performance understanding to form the basis for a development plan to fully implement the waterflood project in these units. As a result, a total of 23 wells have been drilled and 25 producers have been converted to injectors. Cost including modifications to facilities and upgrading of the field infrastructures, exceeded \$12 million and proved developed reserves have been increased by 4 million barrels.

Expansion of the waterflood project in the Ownby San Andres Unit in the Wasson field. A total of 5 producers, 1 injector and 3 conversion to injection increased field ultimate recovery by 11% at a cost of \$3 million. In conjunction with this development, 640 non producing acres were also farmed out.

Subsurface/reservoir study of the Little Beaver area and the Pennel waterflood unit in the Cedar Creek anticline. These two multidiscipline studies conducted in 1987 merged geology, petrophysics, reservoir and production surveillance in order to create the necessary background for full field simulation studies. The results of these projects have become the backbone for a great deal of the current activity in this units.

Evaluation of over \$100 million worth of properties for either purchase, sale or trade. Developed program which would allow reserve evaluation, forecast of operating cost and quick financial evaluation.

## **CONSULTANT**

**July 1984 - January 1986**

Served as USA representative for one of Italy's largest private engineering firms, COMMISSIONING S.P.A. dealing with senior officials of US companies to explore joint ventures possibilities.

Undertook special assignments for Enertech Engineering & Research in the area of natural gas hydrates.

## **ENERTECH ENGINEERING & RESEARCH**

**October 1981 - May 1983**

An engineering firm specializing in well completion technology, formation behavior around wellbores and computer programs for wellbore thermal and flow simulation. Representative achievements as an Engineering Consultant:

Investigation and simulation of temperatures in deep wells during drilling and casing cementing operations.

Impact of natural gas hydrates presence during offshore drilling operation and operational concern of natural gas hydrate formation in choke and kill lines of offshore drilling platforms.

## **EDUCATION**

B.S. Chemical Engineering, Purdue University, 1979

M.S. Chemical engineering Colorado School of Mines, 1981

M.S. Petroleum Engineering, University of Houston, 1985

## **PUBLICATIONS**

“Inhibition of Natural Gas Hydrates”, M.S. Thesis

“Detection and evaluation of Insitu Hydrates”, DOE/SPE Unconventional Gas Recovery Symposium, Pittsburgh, PA, 1982

“Hydrate formation from Gas Kick in Deep Water Offshore Well”, ASME Technical Conference, Tokyo 1984

“Cementing Temperatures for Deep Well Production Liners” 59th Annual SPE Technical Conference and Exhibition, 1984

“Diagnostic Tool for Waterflood Pattern Management”, SPE 59531, presented at the 2000 Permian Basin Oil & Gas Recovery Conference, Midland, Texas.

## **ORGANIZATIONS:**

Society of Petroleum Engineers (SPE): Member, Past Chairman for South plains Section  
Region Representative to the Distinguished Lecturer Committee.

Southwestern Petroleum Short Courses: Chairman Reservoir Subcommittee for 2001 and 2002 sessions.

American Institute of Chemical Engineers (AIChE): Member.

Texas Tech University, Adjunct Professor since 2006, Bob L. Herd Petroleum Engineering Department teaching a capstone course in Property Evaluation and Reserve Estimates.