

**Society of Petroleum Engineers  
Distinguished Lecturer 2016-17 Lecture Season**

**Incorporating Numerical Simulation Into Your  
Reserves Estimation Process: A Practical Perspective**

**Dean Rietz  
Ryder Scott Company Petroleum Consultants**

**Abstract:**

Reservoir simulation is a sophisticated technique of forecasting future recoverable volumes and production rates that is becoming commonplace in the management and development of oil and gas reservoirs, small and large. Calculation and estimation of reserves continues to be a necessary process to properly assess the value and manage the development of an oil and gas producer's assets. These methods of analysis, while generally done for different purposes, require knowledge and expertise by the analyst (typically a reservoir engineer) to arrive at meaningful and reliable results. Increasingly, the simulation tool is being incorporated into the reserves process. However, as with any reservoir engineering technique, certain precautions must be taken when relying on reservoir simulation as the means for estimating reserves. This discussion highlights some of the important facets one should consider when applying numerical simulation methods to use for, or augment, reserves estimates. The main take away will be an appreciation for the areas to focus on to arrive at meaningful and defensible estimates of reserves that are based on reservoir models.

**Biography:**

Dean C. Rietz, P.E., President and member of the board of directors at Ryder Scott Company, has over 30 years of diverse experience in evaluating oil and gas properties, including more than 25 years applying numerical modeling approaches to these evaluations. Prior to his current position, he managed the Ryder Scott Reservoir Simulation Group for approximately 15 years. Before joining Ryder Scott in 1995, Rietz worked at Chevron, Gruy, and Intera. He received a B.S.P.E. degree from the University of Oklahoma and an M.S.P.E. degree from the University of Houston. His past teaching experience includes in-house material balance schools at Chevron and Eclipse user courses at Intera. Currently, Rietz teaches a two-day SPE simulation course and is an adjunct professor of reservoir simulation at the University of Houston. Rietz has published various papers related to reservoir modeling, including its application to reserves reporting. Rietz is a registered professional engineer in Texas and serves on the Petroleum Engineering Advisory Board for the University of Houston.