



# West Virginia Geological and Economic Survey Colloquium Series

Presents

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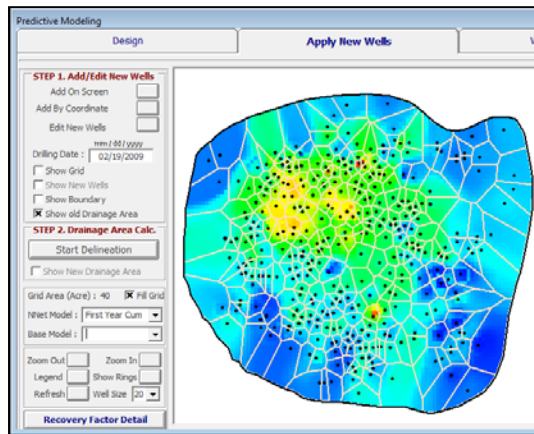
Date and Time: **Monday March 2, 2009 at Noon**

Place: **Large Conference Room behind Publication Sales**

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## Top-Down, Data Driven Reservoir Modeling – TD<sup>3</sup>RM

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Engineers are fascinated with precision and reservoir engineers are no exception. Traditional reservoir simulation and modeling has a precise approach to modeling fluid flow in the porous media. Our understanding of nature's characteristics, especially when expanded to interpret the entire reservoir from well-based observations and measurements, is far from being precise.

Top-Down, Data Driven Reservoir Modeling (TD<sup>3</sup>RM) is a new technology that provides an alternative to traditional reservoir simulation and

modeling. TD<sup>3</sup>RM (may also be referred to as qualitative reservoir modeling) integrates reservoir engineering with Artificial Intelligence & Data Mining (AI&DM) in an attempt to build a data driven reservoir model. It starts with widely available field measurements (such as logs and production rate data) in order to build a reservoir model, acknowledging the uncertain and approximate nature of such data (when is used to represent the entire reservoir and not just the small radius around the well). Once the TD<sup>3</sup>RM is calibrated (history matched) it can serve as a tool to identify and optimize infill locations. It can also serve a tool for identification of remaining reserves and underperformer wells.

TD<sup>3</sup>RM is fast and can be performed by any geologists or engineer at a fraction of the time and cost of traditional simulations.

