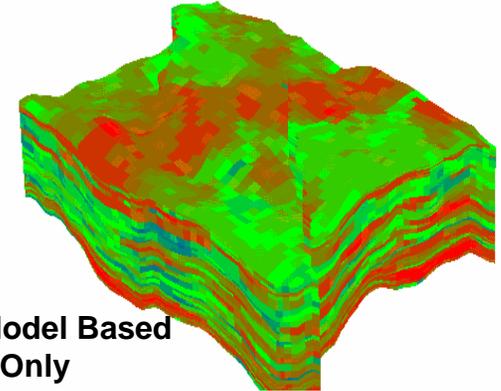


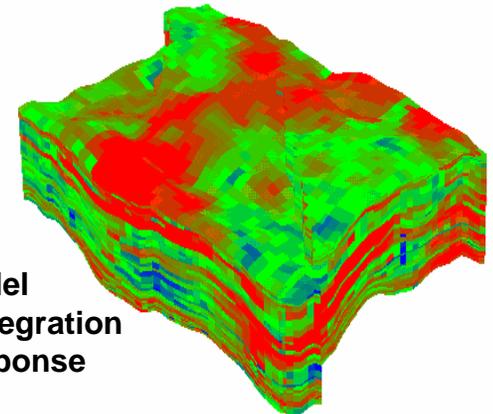
Rapid Calibration of High Resolution Geologic Models to Dynamic Data Using Inverse Modeling: Field Application and Validation

Objectives of the Project:

- Develop PC-based software tools for reconciling high-resolution geologic models to dynamic, field production data
- Proposed approach should quickly identify the discrepancy between the geologic models and dynamic data and allow for rapid updating of reservoir description using inverse modeling



Permeability Model Based
on Static Data Only



Permeability Model
Updated After Integration
of Water-cut Response
(from SPE 89857)

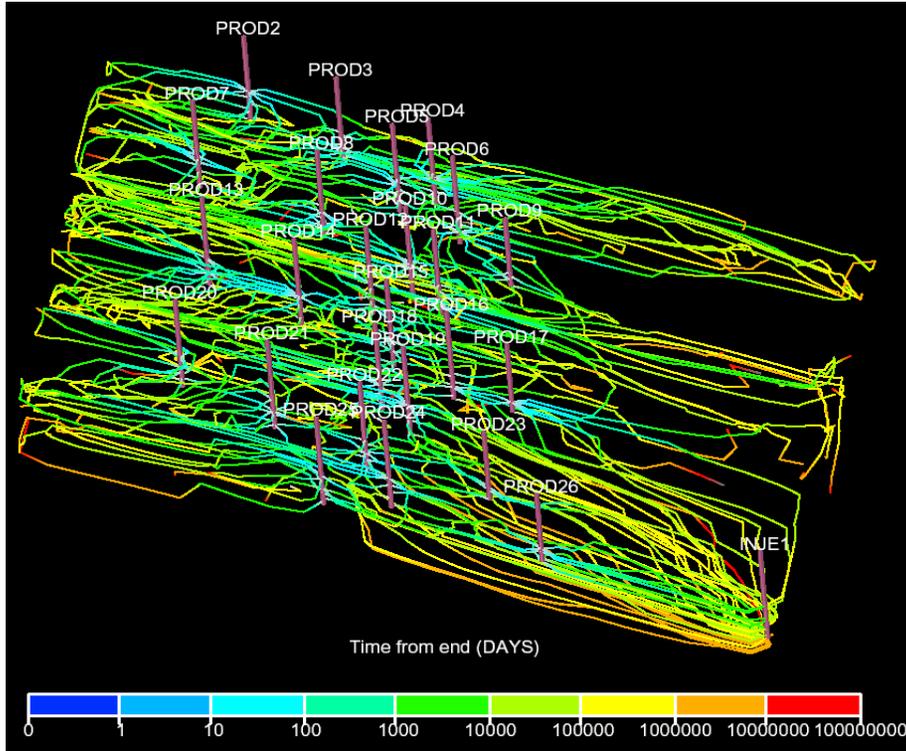
Texas Engineering Experiment Station

DE-FC26-05NT15457

Source: TEES



Rapid Calibration of High Resolution Geologic Models to Dynamic Data Using Inverse Modeling: Field Application and Validation



**Streamline Distribution
of Flow in Field Example**

Results of the Project:

- Integrated production data with geologic models for systematic work flow for improved oil reservoir characterization
- Project should reduce time and manpower required to do detailed reservoir characterization
- Project to be demonstrated in a CO₂ flood in Permian Basin of West Texas

Rapid Calibration of High Resolution Geologic Models to Dynamic Data Using Inverse Modeling: Field Application and Validation

Publication of the Project:

- Project results can be found at <http://www.pe.tamu.edu/mceri/>
- Datta-Gupta, A., H. Cheng, A.S. Oyerinde and W. Milliken. “Compressible Streamlines and Three-Phase History Matching,” SPE 99465 submitted for presentation at SPE Improved Recovery Symposium, April 2006.

