



**Appalachian
Region**

Timely, Informed Technology Decisions

“Value-Added CCS: CO₂ EOR and CO₂ ECBM”

February 12, 2008

**National Research Center for Coal & Energy
Morgantown, WV**

Hosted by:

The Appalachian PTTC Center

And

**WVU-NRCCE
P.O. Box 6064, Morgantown, WV
(304) 293-2867**

Value-Added CCS: CO₂ EOR and CO₂ ECBM

February 12, 2008; NRCCE, Morgantown, WV

AGENDA

- 8:00 am Introduction to Enhanced Oil Recovery and Commercial CO₂ Injection EOR
- CO₂ EOR Miscible and Immiscible Flooding
 - Enhanced Coal Bed Methane (ECBM)
 - CO₂ EOR and ECBM within the Spectrum of EOR Techniques
 - The Necessary Components of a CO₂ Project
 - Expected Incremental Production and Costs for CO₂ EOR
- 9:00 am The Existing CO₂ EOR Projects and Data Base: a Geological Overview
- History of CO₂ Flooding
 - Distribution of Current Floods
 - Reservoir Properties of Current Floods
 - Current Activities Related to Growth of CO₂ Floods
 - Conventional and Unconventional CO₂ Flooding
- 9:40 am A Review of Enhanced Coal Bed Methane (ECBM)
- 10:20 am Morning Break**
- 10:45 am Value-Added CCS and EOR: The Convergence of Commercial CO₂ Projects and Carbon Capture and Storage
- 11:25 am Current Operational Practices (Part I)
- 12:00 pm Lunch**
- 1:00 pm Wrap-up of Operational Practices
- 1:30 pm Residual Oil Zones: Expanding the Scope of Floodable Intervals Beneath the Oil-Water Contact: Transition Zones and ROZ's
- Hydrodynamic Forces and Residual Oil Zone Formation – "Mother Natures' Waterfloods
 - Hydrodynamic Trapping: ROZ's Progeny
 - Distribution of Known ROZs Intervals and Oil in Place – Examples
- 3:00 pm Afternoon Break**
- 3:30 pm Getting Started: Cyclic CO₂ Gas Injection: Theory, Target Areas, Application and Regional Examples
- 4:30 pm Questions and Answers/Course Wrap-up
- 4:50 pm Evaluation forms and Certificates for Professional Development Hours

About the Instructor

Steve Melzer is a practicing geological engineer specializing in CO₂ applications. He has conducted research and operated oil and gas wells, and now spends a great deal of his time directing technology transfer events such as this short course and the annual CO₂ conference. Some of his recent research on residual oil zones has gathered international attention as it relates to incremental oil production and carbon capture and storage.

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