Define New Focus for the EORI Program

- Organizational
- Technical
- Outreach
- Staff development
Progress in 2010

- Develop strategic goals – April
- Implement tactics based on strategy – May
- Define a consistent approach for developing and implementing projects – June
- Improve data bases – May through December
- Provide descriptions of staff roles and responsibilities – June through November
- Solicit increased participation of TAB members in EORI projects – July
- Initiate participation in design of new Energy Research Center – August
- Prioritize projects – September
- Add staff and capabilities – October through December
- Measure performance – September
Enhanced Oil Recovery Institute Triad

Wyoming Producers

University of Wyoming

Wyoming Legislature & EOR Commission

University EORI Wyoming Operators

ENHANCED OIL RECOVERY INSTITUTE

UNIVERSITY OF WYOMING
Technical Leadership

- Development of Residual Oil Zones – Peigui
- Characterization and Modeling of Natural Fractures – Shaochang
- Evaluation and Improvement of Conformance – Reza
- Lab Studies for EOR and IOR – Geoff
- Development of Economic Evaluation Tools – Ben
- Screening of Reservoirs for EOR – Glen
- Update and Maintenance of Access and GIS Tools – Brian
- Outreach – Lon
- Shale Initiative – David
Project Assignments

- Evaluation of ROZs in Tensleep – Peigui
- Reservoir modeling projects – Shaochang
- Reservoir modeling and optimization – Reza
- Madison evaluation and waterflood design – Geoff
- Screen Wyoming reservoirs for CO2 EOR – Ben
- Multiple screening studies – Glen
- Convert data base to ACCESS, Develop a QA/QC Plan – Brian
- Manage the Minnelusa Initiative – Lon
- Direct technical work and project controls - David
Focus EORI Investments

• Geologic formations/petroleum reservoirs
  - Minnelusa
  - Tensleep
  - Phosphoria and Madison
  - Other

• Reach a broader group of operators and potential operators
Minnelusa Initiative

• Generated over 1 million barrels of new oil reserves.

Additional reserves related to EOR can be roughly estimated to be an order of magnitude greater than reserves resulting from increased primary/secondary production.

• Use of new technology was demonstrated (e.g. 3D seismic in Minnelusa reservoirs).

• Technology information can be transferred to other operators in the Big Horn Basin.

• Other fields have been acquired by oil companies to initiate additional work.
Benefit of New Oil Reserves

Gross Revenue

\[1,000,000 \text{ BO} \times \$60.00/\text{BO} = \$60,000,000\]

Tax to WY and Counties in WY

\[
\begin{align*}
$60,000,000 \times 0.12 &= \$7,200,000 \\
$60,000,000 \times 0.16 &= \$9,600,000 \\
\end{align*}
\]

Jobs created in Wyoming.

Direct

Indirect
CO2 Development

• Anticipate operators technical needs for development of CO2 floods

• Think “outside the box” to identify new sources of CO2

• Track policy decisions that will affect the availability and price of CO2

• Share information with operations personnel through workshops and conferences
Shale Initiative - Work Cooperatively with SER

• Track shale development in Wyoming (e.g. Niobrara, Mowry)
• Define regional geology
  - Structure
  - Petrophysics
• Define local geology
  - Update static model of Silo Field
  - Other
• Develop models of Niobrara Shale
  - Fracturing
  - Reservoir
  - 3D Visual (Team with operators and the Idaho National Lab)
Outreach

• Align outreach activities to achieve strategic goals

• Reinstitute EORI workshops
  • Big Horn Basin
  • Powder River Basin

• Invest more resources in Wyoming

• Clearly define outreach objectives

• Measure outreach results continuously
Staff Development

- Plan staff development – Talk to your group leader
  - Professional
  - Technical

- Complete personal performance evaluations

- Set personal performance goals
Goals for 2011

- Initiate further characterization of ROZs in the Big Horn Basin and Wind River Basin
- Diversify sources for EORI funding (industry, DOE, SER, etc.
- Expand world-class modeling capability
  - New code
  - Natural fracturing initiative
  - 3D audio/visual modeling
- Initiate new strategic relationships (KU, INL, TU, International)
- Begin construction of the Energy Research Center
- Expand participation of University of Wyoming in EOR
- Better define work products provided through EORI funding of UW Academic staff
- Other??
Questions?

David Mohrbacher
jmohrbac@uwyo.edu
307 766 2737