

Comments made at the RPSEA Forum
February 15, 2007; NRCCE, Morgantown, WV

Forum Questions raised:

Brad Tomer Presentation

- Except for OSU, no other University seems to be involved? Is it related to the type of research that is being required?
- What are the research needs in the oil shale area?

Technology Transfer plans?

How can we access the speaker's slides?

- Can they be posted online?

More research on natural fractures for use in locating "sweet spots" for more efficient gas production?

- Ex. West side of Rome Trough in W.V. Seismic surveys, controlled drilling techniques

Shale Gas – Appalachian

Is the Utica an economic shale gas play?

- Regional TOC, Conodont Maturity, etc.
- Will it frac?
- What are the best methods?
- It has been talked about as a source bed, can it produce economically?

Marcellus/Hamilton Shale

- Is there a comparison to Barnett Shale?
- Treatment methods?
- Is there depth requirement?

Will Horizontal Drilling work in Appalachian Age Shales vs. Barnett Age Shales?

- Will it frac?

Bringing Barnett Shale Technology to the Appalachian may not be economic for most independent (smaller) producers in shale zones they have Held By Production by other producing horizons. We want to use the technology but can not afford to initially bring it in like the larger independents can.

Costs: Sidewall cores, Geochemical studies of cores & cuttings, Full hole cores, advanced well logging, fracing and seismic responses to frac's

Chart Ideas:

- New Technology
- Methane release into atmosphere – capture
CO², N² & O²
- Coal mining issues
- Carbon Sequestration
- Shallow coal seams
- Multiple vs. Single producing horizons
Technical accessibility – infrastructure
- Completion Issues
 - Frac methods – gas shales less understood
- Appalachian Basin not just existing play – frontier area emerging play
- Natural fractures – sweet spot identification
- Produced water issue
- Fluid removal technology
 - Low pressure shales
- Underground Coal Gasification
- EOR
- Technology focus in Regional Producing Basin
- Coal rank and fracturing – connection

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Question: State geological surveys are notoriously under funded and even threatened to be shut down every year. Ironically, they have their pulse on what the local producers need and can deliver data/resources/etc very effectively and efficiently. Will the small producer or on-shore unconventional programs call on the resources at the state geological surveys and therefore ensure their survival through RPSEA funding?

Bet drilling and completion practices for shale plays, such as the Bakken oil shale.

Question concerning the USGS 2002 CBM assessment: Were advances in technology considered in making the 30 year assessments?

The below is one long submission:

Unconventional – example of frontier play in Appalachian basin. I am working on a shale play, approximately 800-1200' deep in northern NY. Bleached soil observed on LandSat; extremely high surface soil gas geochemical values coincident with bleaching. Old well from the 1930s still has more than 200# pressure. Remote mobilization will eat up costs; approximately \$500-700,000 for two 1200' wells.

Solutions:

1. test old hole for carbon isotope – biogenic enhanced?
2. drill micoholes, determine if source of gas is in shale (not drift) and do the science down the holes. Probably could drill and test many locations for less than cost of one well.

Example of unconventional methods, immature basin to explore or help small producers:

1. surface geochemistry over waterfloods clearly defines oil legs and water zones
2. can help small producers change injection patterns or plan infill wells without reservoir study by engineers
3. am working with chemistry professor on using sensors to measure HC from shallow bore hole – or even at surface – would lower costs
4. surveys over deleted field can also highlight deep prospects
5. existing plays – 25% - large companies will do cutting edge techniques
6. emerging plays – 35% - timing early on in play would benefit smaller companies
7. frontier plays – 40% - including “new” concepts in mature basins, i.e., marginal shallow gas in northern Appalachian basin; sub Mississippian targets in Illinois basin; Trenton and Cambrian fields are being discovered in southern Ontario – and this (?) be applied in Ohio and Michigan?
8. example – emerging play – in most articles, the #'s quoted for Devonian shale in the Appalachian basin are based on one core in KY (i.e., 4% TOC) from the Huron.
9. Suggestion: put all of the old DOE/GRI publications on a disc. They are difficult to obtain, and the whole breadth of data is difficult to mine. As small companies can still become players in the emerging Marcellus and other shale plays, access to this information would be valuable to someone without resources to drill test wells.

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