

RPSEA FORUM ON PRODUCED WATER

TIME SPEAKER / ORGANIZATION / TOPIC

- 10** **Michael Ming, RPSEA President:** “Introducing RPSEA”
- 10:30** **Randy Seright, New Mexico Tech:** “Adapting Technology to New Challenges”
- 11** **Robert Sydansk, Sydansk Consulting:** “Water-Shutoff Technology Critically Needed for Deep Water Production, Unconventional Gas Production, & Small Producers”
- 11:30** **Paul Willhite, University of Kansas:** “The Challenges of Controlling Produced Water”
- 12** **Lunch**
- 1:15** **Rick Hutchins, Schlumberger:** “Water Control Needs for the Wells of the 21st Century”
- 1:45** **Mukul Sharma, University of Texas:** “Produced Water Re-injection: Opportunities and Challenges”
- 2:15** **Break**
- 2:30** **Dave Burnett, Texas A&M:** “Better than an Inch of Rain in the Desert: Re-Use of Produced Brine from Oil Field Operations”
- 3-4** **Open discussion**
- 4** **Forum ends**

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FORUM OBJECTIVES

- **Consider whether the area of “Produced Water” should be a priority for funding by RPSEA.**
- **Identify industry needs and fruitful research topics in the area of “Produced Water”, especially with respect to:**
 - 1) deep water,**
 - 2) unconventional gas, and**
 - 3) small producers.**

RPSEA FORUM ON PRODUCED WATER NEEDS

- **Magic chemical that reliably reduces kw much more than kg or ko for deep water, unconventional gas, and small producer environments.**
- **Chemical/technique that allows selective placement to stop water production from fractures in unconventional gas reservoirs without damaging kgas.**
- **High T, /high P, right angle set, strong, green, low viscosity chemical treatments.**
- **Good well-documented field experiments to test new treatment chemicals, processes and placement ideas, especially for previously “untreatable” scenarios.**
- **Water shutoff treatments focussed on injection wells.**
- **Scale, wax, asphaltene, hydrate inhibitors, and friction reducers that are effective for wide temperature extremes (0 to 250C).**

RPSEA FORUM ON PRODUCED WATER NEEDS

- Methods to predict/model fracture growth and its effects during produced water re-injection.
- **Low-impact water management / oil & gas operations.**
- **Find new sources of water for oil/gas use.**
- Cost-effective RO membranes.
- **Cost-effective methods to clean up water before reaching the RO membranes.**
- Develop advanced completion techniques, especially for re-injection of produced water.
- **Effective tech transfer, especially targeted at influencing regulations. Utilizing existing regulatory liasons.**
- Alternative/non-RO water desalination methods.
- **Improved water management for brownfields. Site operation water management. Improved infrastructure for beneficial re-use.**

RPSEA FORUM ON PRODUCED WATER NEEDS

- Treatment of and beneficial re-use of CBM produced water.
- Documentation of produced water quality. Assessment and characterization of produced waters, especially for CBM.
- Management of solid wastes (especially from RO and other water desalination).
- Identification of CBM sweet spots.
- Better fracturing technology to minimize formation damage in CBM and/or tight gas reservoirs.