

2011 Piceance Basin, Mamm Creek Field RPSEA Project Review

Thursday, April 20, 2011

**Williams Exploration & Production
1st Floor Training Room
1001 17th Street, Suite 1200
Denver, Colorado 80202**

RPSEA's 2007 project Reservoir Connectivity and Stimulated Gas Flow in Tight Sands awarded to Colorado School of Mines focuses on the Piceance Basin, Mamm Creek Field. The project leader and participants will be hosting a meeting to review current work and results in regards to the project on April 21 in Denver at Williams Exploration & Production office.

Production of natural gas from tight sandstone reservoirs is a complex interplay of flow from rock matrix to natural fractures, flow within complex networks of natural fractures, and flow within different complex networks of hydraulic fractures.

In cases of such high complexity, no single technology or scientific discipline can alone tell the story. Instead, only an integrated workflow combining the clues from the various disciplines: seismic, rock mechanics, petrophysics, geology, and production, can stand a chance of realistically capturing the complexity of flow in fractured tight gas systems. The Mamm Creek field project includes all of these disciplines with goals ranging from theory, through lab experiments to practical oil and gas field applications.

Please park on street lots north of 18th Street or in any nearby underground garage.

AGENDA

Session chair: Dag Nummedal

8:10 – 8:20. Alan Harrison, VP Production and Jon Cantwell, Senior Geologist: Welcome.

8:20 – 9:20 Paul Weimer, Department of Geological Sciences, University of Colorado: What do regional subsurface studies of the Piceance basin tell us about its evolution that outcrops cannot begin to address?

9:20 – 9:45 Piret Plink-Bjørklund, Department of Geology and Geological Sciences, Colorado School of Mines: Facies, lithostratigraphic and diagenetic boundaries: evaluation of their relative roles as reservoir controls in deltaic sand bodies.

9:45 – 10:10 Jennifer Aschoff, Department of Geology and Geological Engineering, Colorado School of Mines: Basin-scale outcrop to subsurface sequence-stratigraphic correlation of the lower Williams Fork Formation; a basic framework for future models.

10:10 – 10:30 Break

10:30 – 10:55 Rex Cole, Department of Sciences, Mesa State College and Matt Pranter, Department of Geological Sciences, University of Colorado: Coastal and alluvial-plain architectural elements of the Upper Cretaceous Williams Fork Formation, southwest Piceance basin, Colorado; outcrop analogs for subsurface reservoir characterization.

10:55 – 11:20 Bruce Trudgill, Department of Geology and Geological Engineering, Colorado School of Mines: Integrated structural analysis in the Piceance Basin; basin scale restorations to outcrop scale fracture analysis.

11:20 – 11:45 Nick Harris, Department of Earth & Atmospheric Sciences, University of Alberta: Gas sources and migration pathways in Mamm Creek-Rulison-Parachute-Grand Valley gas fields; results from a comprehensive gas geochemistry study.

11:45 – 1:00 Lunch Break

Session Chair: Azra Tutuncu

01:00 – 1:25 Tzahi Cath, Department of Environmental Science and Engineering, Colorado School of Mines, Golden, CO: Coalbed methane produced water: quantity, quality, and potential reuse in the Rocky Mountain basins.

1:25 – 1:50 Bill Woodruff, Department of Geophysics, Colorado School of Mines: New insights in SP anomalies in the Piceance basin.

1:50 – 2:15 Xiaolong Yin, Department of Petroleum Engineering, Colorado School of Mines: Numerical and laboratory study of gas flow in unconventional reservoir rocks.

2:15 – 2:40 Huabing Wang, Jim Gilman, and Reinaldo Michelena, iReservoir.com: Mamm Creek Field – dynamic modeling update.

02:40 – 3:05 Ilya Tsvankin, Department of Geophysics, Colorado School of Mines: Fracture detection using amplitude analysis of reflection and borehole seismic data.

03:05 – 03:30 Break

03:30 – 03:55 Junko Munakata Marr and Lee Landkamer, Department of Environmental Science and Engineering, Colorado School of Mines: Microbial production of methane from coal; community and chemistry.

03:55 – 04:20 Azra Tutuncu, Department of Petroleum Engineering, Colorado School of Mines: UNGI and the collaboration effort with the RPSEA in-situ lab.

04:20 – 05:00 Discussion – focused on these themes:

- What are the big unknowns in tight gas exploration and production, and how do we address those from the perspectives of each discipline?
- How can the proposed in-situ lab help narrow the uncertainties?
- Hydraulic fracturing is very controversial – is this because of an ill-informed public or the wrong technology?

05:00 Adjourn