

SPE Rocky Mountain Petroleum Technology Conference 2009

**Denver, Colorado, USA
14-16 April 2009**

ISBN: 978-1-61567-027-7

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2009) by the Society of Petroleum Engineers
All rights reserved.

Printed by Curran Associates, Inc. (2009)

For permission requests, please contact the Society of Petroleum Engineers
at the address below.

Society of Petroleum Engineers
P. O. Box 833836
Richardson, Texas 75083-3836

Phone: (800) 456-6863
Fax: (972) 952-9435

books@spe.org

TABLE OF CONTENTS

Far-Field Volumetric Distribution of Fracturing Fluids Away From an Uncemented Horizontal Liner in the Bakken Formation	1
<i>Kenneth L. Dunek, Doug W. Walser, Dmitriy K. Astakhov</i>	
Hydraulic-Fracture Production Forecast in Tight-Gas Reservoirs Using Wireline Formation Testers	10
<i>M. van Galen, G. Peterson, C. Lorincz</i>	
ME Surfactant Increases Production in the Codell Formation of the DJ Basin.....	20
<i>M. Paterniti</i>	
Improvements in Measuring Sorption-Induced Strain and Permeability in Coal	28
<i>E. P. Robertson</i>	
Development of a Calibrated Fracture-Growth Model and Automated Staging Routine for the Jonah Field	38
<i>Scott Malone, Mark Turner, Mike Mayerhofer, Neil Northington, Leen Weijers</i>	
Metrics for Evaluating Cementing Success.....	48
<i>Deborah Duckworth</i>	
Maximizing the Effective Fracture Half-Length to Influence Well Spacing.....	52
<i>Bilu Cherian, Kirk Fields, Seth Crissman, Tarik Itibrout, Malcolm Yates</i>	
Evaluating the Performance of Hydraulically Fractured Horizontal Wells in the Bakken Shale Play	65
<i>M. Tabatabaei, D. Mack, R. Daniels</i>	
Non-Darcy Porous Media Flow According to the Barree and Conway Model: Laboratory and Numerical Modeling Studies	80
<i>Bitao Lai, Jennifer L. Miskimins, Yu-Shu Wu</i>	
Analytical Solutions for the Radial Flow Equation with Constant-rate and Constantpressure Boundary Conditions in Reservoirs with Pressure-sensitive Permeability	95
<i>Torsten Friedel, Hans-Dieter</i>	
Advancing Reservoir Simulation Capabilities for Tight Gas Reservoirs	114
<i>Yafes Abacioglu, Herbert M. Sebastian, Jubril B. Oluwa</i>	
Hydrajet Testing Under Deep Well Conditions Defines New Requirements for Hard-Rock Perforating.....	126
<i>Jim B. Surjaatmadja, Andrew Bailey, Siverio Sierra</i>	
An Effective Model for Pipe Friction Estimation in Hydraulic Fracturing Treatments	138
<i>R. D. Battee, J. V. Gilbert, M. W. Conway</i>	
Estimates of Potential CO₂ Demand for CO₂ EOR in Wyoming Basins	148
<i>S. Wo, L. D. Whitman, J. R. Steidtmann</i>	
Haynesville Shale-Petrophysical Evaluation.....	160
<i>Mark Parker, Dan Buller, Erik Petre, Doug Dreher</i>	
Pinpoint Fracturing Using a Multiple-Cutting Process	171
<i>Jessica Houser, Rafael Hernandez</i>	
A Simple Method to Account for Permeability Anisotropy in Reservoir Models and Multi-Well Pressure Interference Tests	181
<i>C. Yetkin, B. Ramirez, M. Al-Kobaisi, H. Kazemi, E. Ozkan</i>	

From Hydraulic Fracturing, What Can We Learn About Reservoir Properties of Tight Sand at the Wattenberg Field in the Denver-Julesburg Basin?	194
<i>Yuanhai Yang, Thomas Birmingham, Anne Kremer</i>	
Reservoir Simulation Study of an In-Situ Conversion Pilot of Green-River Oil Shale	204
<i>Chonghui Shen</i>	
A Guideline to Optimize Drilling Fluids for Coalbed Methane Reservoirs	213
<i>K. Barr</i>	
CO₂ Flooding the Elm Coulee Field	221
<i>Shehbaz Shoaib, B. Todd Hoffman</i>	
Exponential Growth in San Juan Basin Fruitland Coalbed Permeability With Reservoir Drawdown—Model Match and New Insights	232
<i>J. Q. Shi, S. Durucan</i>	
Micro-Emulsion Effectiveness for Twenty Four Wells, Eastern Green River, Wyoming	247
<i>J. W. Crafton, G. S. Penny, D. M. Borowski</i>	
Well Production Forecast in a Tight Gas Reservoir—Closing the Loop With Model-Based Predictions in Jonah Field, Wyoming	260
<i>F. O. Iwere, H. Gao, B. Luneau</i>	
A Simple Methodology for Direct Estimation of Gas-in-Place and Reserves Using Rate-Time Data	268
<i>N. L. Johnson, S. M. Currie, D. Ilk, T. A. Blasingame</i>	
Production Analysis of Multiply Fractured Horizontal Wells	305
<i>J. V. Gilbert, R. D. Barree</i>	
Calibrated Log Model and Reservoir Understanding Allows Accurate Prediction of Production and Improved Hydraulic-Fracturing Designs	314
<i>Mariano Garcia, Michael J. Mullen, Aaron James</i>	
Controlling Bacteria in Recycled Production Water for Completion and Workover Operations	330
<i>A. Tischler, T. R. Woodworth, S. D. Burton, R. D. Richards</i>	
Paradigm Change: Proppant Fracture Treatments in the Lower Green River Formation of the Altamont-Bluebell Field, Utah	343
<i>Bharath Rajappa, Devin L. Brown, Denise M. Lytle</i>	
Maturity and Impedance Analysis of Organic-Rich Shales	358
<i>Manika Prasad, T. Elizabeth McEnvoy, Michael L. Batzle</i>	
Advances in Sand Jet Perforating	371
<i>Thomas Dotson, James Farr, Earle Findley</i>	
Effects of High Process-Zone Stress in Shale Stimulation Treatments	378
<i>Muthukumarappan Ramurthy, Robert D. Barreem Earuch Broacham Bill Barrett, John D. Longwell, Donald P. Kundert, Cristina Tamayo</i>	
Proper Evaluation of Shale Gas Reservoirs Leads to a More Effective Hydraulic-Fracture Stimulation	393
<i>Donald Kundert, Mike Mullen</i>	
Horizontal, Near-Wellbore Stress Effects on Fracture Initiation	404
<i>Russell Roundtree, Mike Eberhard, Robert Barree</i>	
Expanding Solutions for Unconventional Oil and Gas Recovery	421
<i>Joe Wallace, Jerry Fritsch</i>	
Author Index	