

SPE Asia Pacific Oil and Gas Conference and Exhibition 2010

(APOGCE 2010)

**Brisbane, Australia
18-20 October 2010**

Volume 1 of 3

ISBN: 978-1-61782-039-7

Printed from e-media with permission by:

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



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

Copyright© (2010) by the Society of Petroleum Engineers
All rights reserved.

Printed by Curran Associates, Inc. (2013)

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

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

VOLUME 1

IPTC 13185 Reservoir Modeling and Production Evaluation in Shale-Gas Reservoirs	1
<i>C.L. Cipolla, E.P. Lolon, M.J. Mayerhofer</i>	
OTC 20842 Mechanical Performance of a Gravel Pack Prototype Under High Stress Contrast	16
<i>Flavia M.G. Villarroel, Mauro Bloch, Euripedes do Amaral Vargas Jr.</i>	
SPE 115766 Slickwater Fracturing – Food for Thought	24
<i>T.T. Palisch, M.C. Vincent, P.J. Handren</i>	
SPE 115769 The Relationship Between Fracture Complexity, Reservoir Properties, and Fracture Treatment Design	44
<i>C.L. Cipolla, N.R. Warpinski, M.J. Mayerhofer, E.P. Lolon, M.C. Vincent</i>	
SPE 130767 Application of Nitrogen Foam for Profile Modification in a Heterogeneous Multi-Layer Sandstone Oilfield	69
<i>Liu He, Ye Peng, Li Wei, Song Li, Zhong Yan</i>	
SPE 130785 Design, Execution, and Results of the Longest Multizone Cased-Hole Gravel-Pack Completion in Malaysia	77
<i>Shahryar Saebi, Sergey Tyutikov, Angel Machado, Charles Curteis, Maria Elba Rivero, Mohd Zaidan Khaled, Mohamed Said Habib</i>	
SPE 130868 Comparing Wireline Formation Tester Derived Productivity Index to Drill Stem Test	87
<i>Khong Chee Kin, Chen Li, Cosan Ayan, Xu Liqiang, Cai Jun, Guo Shusheng, Wu Mu Wang, Hao Zhongtian, Pan Fuxi, Tan Zhongjian, Yang Hong Jun</i>	
SPE 131078 Selection of Completion Strategy for Sand Control and Optimal Production Rate – Field Examples from Saudi Arabia’s Unayzah Sandstone Reservoir	99
<i>Zillur Rahim, Bandar Al-Malki, Adnan Al-Kanaan</i>	
SPE 131110 Evaluation of Scale Inhibitors Suitable For Deepwater Fields	106
<i>Hua Guan, Paul Farmer</i>	
SPE 131144 Human Decision-Making in the Oil and Gas Industry	117
<i>S.I. Mackie, S.H. Begg, C. Smith, M.B. Welsh</i>	
SPE 131395 Case History: Continuous Improvement in a Staggered Drilling Campaign	125
<i>Jeanette Gordon</i>	
SPE 131416 Acid-Resistant Foamer Used to Control Gas Breakthrough for CO₂ Drive Reservoir	135
<i>Liu Xiang Bin, Wang Feng Shan, Zhang Zong Yu, Wang Xin, Zhou Wan Fu, Han Zhong Lian, Wang Hai Jing, Zou De Fu, Li Guo, Fu Hai Rong</i>	
SPE 131715 Rapid Estimation of Carbon Dioxide Compressibility Factor Using Simple Predictive Tool	142
<i>A. Bahadori, H.B. Vuthaluru</i>	
SPE 131922 BHA and Drill String Fundamentals: Technology Training for Beginners	156
<i>Sarah Wakefield, Katrina Pigusch</i>	
SPE 131990 Reservoir to Surface: An Effective Combination to Unlock Oil Reserves From Aging Reservoirs	169
<i>J. Moreno, G. Kartoatmodjo, T. Friedel, F. Zulkhifly, L. Tan</i>	
SPE 132251 Lightweight Water Based Mud Using Glass Bubbles for Drilling 6” Horizontal Section in Gunung Kembang Development Well	180
<i>Edwin Pratama, Syahriza Ghany, Yose Martin, Arga Purwanto</i>	
SPE 132309 Rapid Prediction of Carbon Dioxide and Nitrogen Adsorption Behavior at Cryogenic Temperatures	190
<i>A. Bahadori, H.B. Vuthaluru</i>	
SPE 132341 Special Considerations for Drilling the Granite Heat Source of an EGS Well	204
<i>Brian E. Holland</i>	
SPE 132345 Advanced Cement System for Acid Gas Injection Wells	220
<i>Y. Fakhreldin, H. Al-Sharji, A.M. Ruwehy, K. Saadi, Salim Taoutaou, Sultan Al-Kalbani</i>	
SPE 132360 Effective Well and Reservoir Management Reverses Production Decline in a Brownfield Cluster in South Oman-A Case Study	228
<i>M. Mirza, Hassan Al Saadi, Andryas Effendi, Fidi Abdul Hafi, Zul Anwar</i>	
SPE 132361 Flow Quality Indicator (FQI): An Innovative Approach to Permeability Prediction	244
<i>Somadina Azuka Akam, Tom Maher, Christiane Schell, Sarawak Shell, Stuart Arnott</i>	
SPE 132399 Pressure Buildup Analysis in Karstified Carbonate Reservoir	259
<i>W. Djatmiko, V. Hansamuit</i>	

SPE 132443 New Corrosion Inhibitor Reduces Overboard Oil in Water and Maintains Asset Integrity	269
<i>B. Dunsmore, M. Charlesworth, R. Dunn, C. Licari, Baker Hughes, R. Ashiedu</i>	
SPE 132491 High Resolution Reservoir Monitoring Using Crosswell Seismic	279
<i>Ajay Nalonnil, Bruce Marion</i>	
SPE 132497 A Decision Support System for Cost-Effective Assessment of Sand Production Risk and Selection of Completion	288
<i>Khalil Rahman, Abbas Khaksar, Toby Kayes</i>	
SPE 132516 Deepwater Developments: Challenging Equipment Limits	298
<i>Jeanette Gordon, Petar Saicic, Robert McAllan</i>	
SPE 132597 A Unique Framework for Developing and Mentoring the Next Generation of Reservoir Navigation Engineers	307
<i>R. Bacon, F. Hearn, J. Skillings</i>	
SPE 132659 The Development of a Complete System to Allow Continuous Downhole Chemical Injection Without Affecting the Subsurface and Surface Safety Systems	318
<i>D. Klompsma, B. Lugtmeier, R. Lacy, W. Hearn, S. Dennistoun, E. Calzoncinth, J.L. Jacob</i>	
SPE 132663 Maintain Well Productivity Through Inhibiting Scale Formation and Controlling Fines Migration	331
<i>P.D. Nguyen, J.E. Vasquez, J.D. Weaver, T.D. Welton</i>	
SPE 132701 Equipment Design Change Improves Cementing Operations from MODUs Operating in Rough Sea Environment: Case Histories for Two North Sea Jobs	347
<i>T.H. Romstad, H.E. Rogers, T. Saetre</i>	
SPE 132766 Acidizing: A Small Change in Recipe, A Big Improvement in Production	357
<i>Suhaila Wahib, Shahrul Nizam Effendi, Choo Der Jium, Wong Chun Seng, Ronald Ramnarine</i>	
SPE 132846 The Evolution of the Role of Openhole Packers in Advanced Horizontal Completions: From Optional Accessory to Critical Key of Success	374
<i>Paolo Gavioli, Roberto Vicario</i>	
SPE 132855 Optimizing Well Productivity and Maximizing Recovery from a Mature Gas Field: The Application of Wellhead Compressor Technology	401
<i>S. Sumaryanto, Ade Lukman, I. Nyoman Hari Kontha, Bill Turnbull</i>	
SPE 132860 Simulation Of Dragon Wells In Thin Oil Rim Reservoirs Using A Segmented Inflow Approach	406
<i>Jacobo Montero, Cosmas Nwankwo</i>	
SPE 132861 Evaluation of Discrete Element Method for Modeling Reservoir Perforation	418
<i>A. Nabipour, M. Sarmadivaleh, M.S. Asadi, J.M. Sabogal Polania, B. Evans, V. Rasouli</i>	
SPE 132867 Improved Technique for Wireline Oil Sampling of a Tight Carbonate Reservoir in the Partitioned Zone (Kuwait/Saudi Arabia): A Case Study	431
<i>Mosaad Hamdalla Omar, Ahmed Bouyabes, Mohamed Salem Al-Haimer, Ahmed Al-Busairi, Boon Cheng Cheong, Mansoor Ali Rampurawala, Azhar Hussein</i>	
SPE 132880 An Automated System for Determining Analog Formations for Unconventional Gas Reservoirs	448
<i>Kun Cheng, Wenyan Wu, S.A. Holditch, W.B. Ayers, D.A. McVay</i>	
SPE 132918 Numerical Study of PDL-Induced Fracture-Face Damage Using a Fracturing Mimicrator	457
<i>Rick Gdanski</i>	
SPE 132920 Sand Erosion Modelling	472
<i>Chong Wong, Jie Wu, Amir Zamberi, Chris Solnordal, Lachlan Graham</i>	
SPE 132931 Setting New Environmental, Regulatory and Safety Boundaries: The 2009 Gorgon CO₂ 3D Seismic Baseline Survey, Barrow Island, Western Australia	483
<i>Kevin C. Scott, Donna J.Parker, Aimee Cairns, Bruce Clulow</i>	
SPE 132958 Microseismic Mapping of Hydraulic Treatments in Coalbed-Methane (CBM) Formations: Challenges and Solutions	516
<i>Ulrich Zimmer</i>	
SPE 132968 Hydrate Formation Characteristics of Natural Gas during Transient Operation of a Flow Line	523
<i>Mauricio Di Lorenzo, Karen Kozielski, Yutaek Seo, G. Soto, Junfang Zhang</i>	
SPE 132970 A New Approach for the Realistic Evaluation of Very Thin Reservoirs of Krishna Godavari Basin, East Coast, India	532
<i>Lalaji Yadav, Tanmoy Dutta, Ashish Kundu, Neeraj Sinha</i>	
SPE 132971 Turning Around Mature Field Production Performance By Finding And Producing New Pools – A Mutiara Field Case History of Successful Grid Base Drilling Campaign In Fluvio-Deltaic Reservoir	547
<i>Icuk Dwi Wibowo, Iranta Bona Sinaga, Irma Hermawaty, Wahyu Agung Rahmanto, Arief Krisnandya, Citra Srikandi</i>	

SPE 132973 Using Knowledge Management Techniques and Communities of Practice to Drive Performance Improvements in Drilling Applications in Onshore China	557
<i>Phil Perry, Roger Lee, Yan Zhang Yao, Ross Clark-Moore</i>	
SPE 132983 Enhanced Reservoir Scenarios Management Workflow	567
<i>Alejandro Garcia, Jordani Rebeschini, Diego Martins, Carlos Vieira, Edilon Da Silva, Marco Herdeiro</i>	
SPE 132989 Wired Drill Pipe Telemetry Enables Real-Time Evaluation of Kick During Managed Pressure Drilling	582
<i>J.E. Gravdal, R.J. Lorentzen, R.W. Time</i>	
SPE 132991 Incorporating Motivation and Inspiration Into Learning	602
<i>Michael Smith, J.T. Edwards, George Woo</i>	
SPE 132997 Production Enhancement of Hilly Terrain Onshore Remote Field	607
<i>Shadi M. Hanbazah, Mohammed N. Merwat, Mohammed N. Al-Khamis</i>	
SPE 133005 Design and Application of a New Acid-Alkali-Surfactant Flooding Formulation for Malaysian Reservoirs	614
<i>Khaled A. Elraies, Isa M. Tan</i>	
SPE 133015 Multiphysics of Coal-Gas Interactions: The Scientific Foundation for CBM Production and CO₂ Storage in Coal	620
<i>Jishan Liu, Zhongwei Chen, Hongyan Qu</i>	
SPE 133026 Integrated 3D Reservoir Model and Petrophysical Study to Optimize Field Development in Low Permeability Deltaic Reservoir, Badak Field-Indonesia	636
<i>Luhut Gultom, Jose Benito, I. Made Sutha Negara, Ratno Adi, Amireno Soenoro, Robert Nikijuluw, B. Benyamin</i>	
SPE 133044 Valuation of Swing Contracts by Least-Squares Monte Carlo Simulation	645
<i>B.J.A. Willigers, S.H. Begg, R.B. Bratvold</i>	
SPE 133046 New Method for Predicting the Average Pore Diameter Using the NMR Data Calibrated to Core Analysis in a Clastic Reservoir	668
<i>Ahmed Reda, Abdel Hakim Hashem, Mohamed Darwish, Mohamed Nashaat</i>	

VOLUME 2

SPE 133059 Evaluating Hydraulic Fracture Geometry from Sonic Anisotropy and Radioactive Tracer Logs	696
<i>Michael P. Scott, Raymond L. Johnson Jr., Ashish Datey, Craig Vandeborn, Robert A. Woodroof Jr.</i>	
SPE 133063 Evaluating Hydraulic Fracture Effectiveness in a Coal Seam Gas Reservoir From Surface Tiltmeter and Microseismic Monitoring	714
<i>Raymond L. Johnson Jr., Michael P. Scott, R.G. Jeffrey, Zuorong Chen, Les Bennet, Craig Vandeborn, Sergei Tcherkashnev</i>	
SPE 133066 Utilizing Current Technologies to Understand Permeability, Stress Azimuths and Magnitudes and their Impact on Hydraulic Fracturing Success in a Coal Seam Gas Reservoir	742
<i>Raymond L. Johnson Jr., Brent Glassborow, Michael P. Scott, Zachariah John Pallikathekathil, Ashish Datey, Jeremy Meyer</i>	
SPE 133070 Coupled Hydro Geomechanical Simulation and Analysis of Fault Reactivation: Influence of Fault Geometry	770
<i>M.S. Asadi, V. Rasouli, Y. Zhang</i>	
SPE 133100 Dual Porosity Processes in Coal Seam Reservoirs: The Effect of Heterogeneity of Coal Matrices	782
<i>Meng Lu, Luke D. Connell</i>	
SPE 133106 Case Study of Improved Oil-In-Place Determination from Petrophysical Evaluation of Resistivity Anisotropy Logging Data in a Malaysian Deepwater Turbidite Field	804
<i>Adrian Manescu, Sze-Fong Kho, Kwong-Tak Ha</i>	
SPE 133188 Flow Instability in Deepwater Flowlines and Risers - A Case Study of Subsea Oil Production from Chinguetti Field, Mauritania	817
<i>J. Takei, M. Z. Zainal, R. Ramli, B. Matzain, F. Myrland, A. M. Shariff</i>	
SPE 133208 Modeling World Oil Supply: Its Peak Production Rate and Time – Model Validation	830
<i>I.S. Nashawi, A. Malallah, M. Al-Bisharah</i>	
SPE 133209 Permeability Prediction from Wireline Well Logs Using Fuzzy Logic and Discriminant Analysis	841
<i>I.S. Nashawi, A. Malallah</i>	
SPE 133214 Enhancing Water-Flooding Effectiveness of the Heavy Oil Reservoirs by Using the Viscosity Reducer	853
<i>Fusheng Zhang, Jian Ouyang, Muxi Wu, Guijiang Wang, Hong Lin</i>	

SPE 133234 ICD Design: Revisiting Objectives and Techniques	858
<i>A. Ali Daneshy, Boyun Guo, Vitaly A. Krasnov, Sergey V. Zimin</i>	
SPE 133246 How Good is the P90 Value as a Measure of the Reserves Downside?	869
<i>Sandeep Gupta, R. Gupta, Jan van Elk, K Vijayan</i>	
SPE 133303 New Insights into Wormhole Propagation in Carbonate Rocks Using Regular, Gelled and In-Situ Gelled Acids	877
<i>A.M. Gomaa, H.A. Nasr-El-Din</i>	
SPE 133321 Design Optimization of Slotted Liner Completions in Horizontal Wells of Mumbai High Field	889
<i>Avinav Kumar, A.K. Srivastava, Ravi Kumar</i>	
SPE 133328 Coalbed Methane Production: Why Coal Permeability Matters	897
<i>Dong Chen, Jishan Liu, Zhejun Pan, Luke D. Connell</i>	
SPE 133336 Horizontal Well Optimization With Inflow Control Devices (ICDs) Application in Heterogeneous and Dipping Gas-Capped Oil Reservoirs	916
<i>A.K. Rahimah, N.M. Azrul, K.F. Gordon Goh, A.N. Asyikin, E. Leung, M. Johan</i>	
SPE 133345 Maximizing the Oil Recovery through Immiscible Water Alternating Gas (IWAG) in Mature Offshore Field	931
<i>Raj Deo Tewari, Slamet Riyadi, Charles Kittrell, Farihan Kadir, Mohamad Abu Bakar, T. Rasidi, B. Othman, Nazrin Banu</i>	
SPE 133350 Real-Time Checkshots While Drilling - Reducing the Risk In Exploration Drilling	942
<i>A. Ahmed, T.K. Lim, Che Shaari Abdullah, Azhar B. Yusof</i>	
SPE 133356 Transient Testing of CBM Wells	951
<i>George Stewart</i>	
SPE 133366 Successful Applications of Expandable Sand Screen in Persian Oil Fields, Part 2	963
<i>Fatemeh Deilami, Reza Salehi-Moorkani, Amir Ghasemzadeh</i>	
SPE 133368 Nonchemical Bacteria-Control Process	970
<i>Greg Neal, Kembe Kleinwolterink, Laurence Abney, Lindsey Gloe</i>	
SPE 133370 A New Approach to Flowline Active Heating	977
<i>Laurence Abney</i>	
SPE 133375 Sand Production Prediction for a Mature Oil Field Offshore East Malaysia - A Case Study	993
<i>B. Wu, C. Bahri, C. P. Tan, Q. Li, H. Rahim, G. Kartoatmodjo, T. Friedel</i>	
SPE 133419 Synthesis and Properties of Petroleum Sulfonates for Weak Alkali ASP/Alkali-Free SP Combination Flooding	1002
<i>Zhu Youyi, Hou Qingfeng, Yuan Hong, Wang Zhe, Wu Jie</i>	
SPE 133427 Horizontal Wells with Multi-Stage Fracs Provide Better Economics for Many Lower Permeability Reservoirs	1012
<i>B.W. McDaniel</i>	
SPE 133439 Performance Assessment of the DC All-Electric Subsea Production Control System	1024
<i>Daniel Abicht, Johannes Braehler</i>	
SPE 133464 Case History Using ESP's to De-Water Horizontal Wells	1033
<i>Lonnie Bassett</i>	
SPE 133488 The Late Miocene Coalbed Methane System in the South Sumatra Basin of Indonesia	1048
<i>Saikat Mazumder, Imam B. Sosrowidjojo, Alessandro Ficarra</i>	
SPE 133489 An Alternative Mechanistic Model for Permeability Changes of Coalbeds During Primary Recovery of Methane	1077
<i>Saikat Mazumder, Rouhi Farajzadeh</i>	
SPE 133515 Real Time Production Surveillance and Optimization Solution Implementation in an Offshore Brownfield in Malaysia	1085
<i>Lee Hin Wong, Ramona Grigorescu, Patricio Whitney, Azahari Mohd Arifin, Romionson Midun, Muzahidin Muhamed Salim</i>	
SPE 133517 Reverse Osmosis Compatible Chemical Foamers For Gas Well Deliquification And Production Enhancement	1096
<i>Martin J. Willis, Greg A. Conrad</i>	
SPE 133518 Uncertainty Management: A Structured Approach Towards Recognizing, Quantifying and Managing Samplish Biases In Subsurface Unknowns	1112
<i>Laurent Alessio, Arnout Everts, Faez Rahmat</i>	
SPE 133526 Physical Water Treatment in the Oil Field: Field Results from Indonesia	1125
<i>Heppi Muswar, Wiley Parker, Francesco Falsini, Dirasani Thaib</i>	
SPE 133603 Advanced Sand-Face Completion Design and Application in Gas and Gas-Condensate Fields	1136
<i>F.T. Al-Khelaiwi, D.R. Davies</i>	

SPE 133612 Who Gets to Be Boss? . . . Addressing Demographic Pressures Within the Petroleum Industry	1159
<i>Richard A. Lau, Nadia Al Hasani, Laura Lau, Constance Eide</i>	
SPE 133631 Henry Subsea Development - Challenges and Solutions	1197
<i>Stephen Henzell, Andrew Glucina</i>	
SPE 133637 Novel Method of Time Controllable Chemistry Water Shutoff Technology	1211
<i>Liu He, Xiao Dan-feng</i>	
SPE 133664 Surveillance Modeling and Operational Controls Ensure Integrity of Alaska's Grind and Inject Operations II	1221
<i>Karim S. Zaki, Zongyu Zhai, Ahmed S. Abou-Sayed, Stephen Marinello, Michael L. Bill, Harold R. Engel</i>	
SPE 133665 Comparison of Permeabilities and Skin Damages Results from Flow Build-Up and Injection Falloff Tests in CBM Reservoirs	1240
<i>Gelber Taco, Alberto Kamenar, Jeff Edgoose</i>	
SPE 133677 First Ever Multi-stage Proppant Fracturing on an Openhole Horizontal Gas Well in Deep Natural Fissure Volcanic Reservoir in West China	1246
<i>Jing Zhang, Yikai Zhou, Jianhua Zhang, Yong Wang, Hai Liu</i>	
SPE 133678 Electronic Rollerboard in Dispersed Engineering Execution	1257
<i>Bhavna Soman</i>	
SPE 133728 Integrated Operation User Experience starts with Data Flagging	1265
<i>Philippe Flichy</i>	
SPE 133743 Effects of CO₂ Density and Solubility on Storage Behavior in Saline Aquifers	1271
<i>T. Takasawa, T. Kawamura, N. Arihara</i>	
SPE 133768 Development and Application of an Improved Workflow for Developed Reserve Forecasting	1285
<i>P.A. Lyford, W. Cibich, S.T. Chipperfield, G. Helfrick</i>	
SPE 133804 CO₂ Storage Capacity – Combining Geology, Engineering and Economics	1294
<i>W.G. Allinson, Y. Cinar, P.R. Neal, J. Kaldi, L. Paterson</i>	
SPE 133812 Study and Application of Profile Modification in Offshore Fields	1315
<i>Ming Liu, Yunxian Wang, Xinwu Liao, Chunming Zhao, Qinghong Yang, Ruichang Yan</i>	
SPE 133821 Understanding Value of Appraisal Information through Geologically-constrained Engineering Scenario Analysis in Economic Modeling of CO₂ Storage Site	1323
<i>Norhafiz Marmin</i>	
SPE 133822 Squeezing Blood From a Stone — Distinguishing Incremental From Accelerated Recovery in Moderate to Tight Gas Infill Development Using Production Data Only	1345
<i>J.R. Wong, R. Shrivastava, M.K. Headland, S.T. Chipperfield, T.A. Blasingame</i>	
SPE 133826 Pushing the Boundaries for Carbonate Productivity Estimations	1360
<i>Mehmet Altunbay, Adrian Bal, Luc Bolle</i>	

VOLUME 3

SPE 133829 Proper Analysis and Integration of Production Data from CBM Reservoirs Improve Future Prediction	1363
<i>Hla (George) Shwe, Sarah Baker</i>	
SPE 133830 Drilling and Completion Challenges and Remedies of CO₂ Injected Wells with Emphasis to Mitigate Well Integrity Issues	1377
<i>M.M. Hossain, M.M. Amro</i>	
SPE 133831 Streamlined Production Workflows and Integrated Data Management: A Leap Forward in Managing CSG Assets	1388
<i>Shripad Biniwale, Rajesh Trivedi, Georg Zangl, Chris White, Scott Delaney, James Blair</i>	
SPE 133838 Dynamic Well Clean-up Flow Simulation for Field Start-Up Planning in the Pyrenees Development, Offshore Western Australia	1399
<i>C. Chung, D. Marian, R. Napalowski, J. Thomson</i>	
SPE 133849 Investigation of SAGD Recovery Process in Complex Reservoir	1421
<i>Cuong T.Q. Dang, Ngoc T.B. Nguyen, Wisup Bae, Huy X. Nguyen, Tho N. Tu, Taemoon Chung</i>	
SPE 133852 Equation-Of-State Modeling For Reservoir Fluid Samples Contaminated By Oil-Based Drilling Mud Using Contaminated Fluid PVT Data	1430
<i>P. Sah, G. Gurdial, K. S. Pedersen, H. Izwan, F. Ramli</i>	
SPE 133857 Deepwater and Critical Drilling With New Connection Technology — Case Histories and Lessons Learned	1446
<i>Michael Jellison, R. Brett Chandler, Grant Prideco, Sheldon Langdon, John Connor</i>	

SPE 133880 Leveraging Knowledge Retention and Sharing Across the Value Chain	1457
<i>Chulatep Senivongse, Corey McClelland</i>	
SPE 133896 Success Story of Downhole Fluid Sampling in a Very Challenging Environment in the Gulf of Thailand	1465
<i>C.K. Kanjanavasoontara, Saifon Daungkaew, Nitipong Yimyam, Christopher Platt, Fred Houtzager</i>	
SPE 133898 Quality-Assured Evaluation of Freshwater-Bearing Hydrocarbon Reservoirs	1479
<i>Paul F. Worthington</i>	
SPE 133900 Costs of CO₂ Transport and Injection in Australia	1490
<i>P.R. Neal, W. Hou, W.G. Allinson, Y. Cinar</i>	
SPE 133901 Introduction of a New Well Design to the Narrabri Coal Seam Gas Project	1503
<i>Linda K. Hedger, Mike Cunnington</i>	
SPE 133910 Bringing New Life to Old Fields	1516
<i>Jaswadi Raam, Krisna Kasijatno, Simon Jakeman</i>	
SPE 133915 Coal Permeability and Its Behaviour with Gas Desorption, Pressure and Stress	1521
<i>Luke D. Connell, Zhejun Pan, Meng Lu, Deasy Heryanto, Michael Camilleri</i>	
SPE 133929 Transforming Data into Knowledge using Data Mining Techniques: Application in Water Production Problem Diagnosis in Oil Wells	1531
<i>M. Rabiei, R. Gupta, Y.P. Cheong, G. Soto</i>	
SPE 133948 Flow Assurance: Wax Deposition and Gelling in Subsea Oil Pipelines	1540
<i>Jessica Hilbert</i>	
SPE 133953 Breaking Low Permeability Fracturing Myth – VICO Indonesia	1549
<i>Andre Wijanarko, Martin Rylance, Italo Pizzolante, H. Hazman, Budi Dharma</i>	
SPE 133961 Formation Evaluation Challenges in Thin Bedded Reservoirs: How to Effectively Test This Formation?	1564
<i>Wiriya Kiatpadungkul, Saifon Daungkaew, Suwat Athichanagorn, Mohd Nor Hisham Mohd Azam, Jurry van Doorn, Sammy Haddad</i>	
SPE 133974 A Model of the Impacts of Operational Risk and Analysis of Hedging Strategy with Derivatives for Oil Producing Companies	1579
<i>M.H. Carvalho, D.J. Schiozer</i>	
SPE 133981 Integrating Reservoir Characterization: 3D Dynamic, Petrophysical and Geological Description of Reservoir Facies	1589
<i>Mark Knackstedt, Patricio Jaime, Alan R. Butcher, Pieter Botha, Jill Middleton, Rob Sok</i>	
SPE 133983 Are Your Geoscience Applications Maintaining the Integrity of the Geospatial Data?	1598
<i>Barry Barrs, Jonathan Davis, M. Zukhairi, Mark Mitchell, Brian Shostak, Jonathan Stigant</i>	
SPE 133986 Numerical Simulation on CO₂ Leakage through Fractures Along Wells Using Discrete Fracture Modeling	1613
<i>Da Huo, Bin Gong</i>	
SPE 133994 Geomechanical Assessments for Underground Gas Storage and CO₂ Sequestration in Depleted Hydrocarbon Reservoirs	1630
<i>Zhi Fang, Abbas Khaksar</i>	
SPE 134031 Controlling Coal-Fines Production in Massively Cavitated Openhole Coalbed-Methane Wells	1643
<i>D. Magill, Muthukumarappan Ramurthy, R. Jordan, Philip Nguyen</i>	
SPE 134059 Has The Safety Case Failed?	1654
<i>Brendan Fitzgerald, Paul Breen, Joe Patrick</i>	
SPE 134061 An Intergrated Analytical Method in Identifying the Remain Potential of Thin Bed Reservoir on Deltaic System, Sengata Field	1671
<i>Riswan Kiay Demak, Mohamad Hafiz Alkaff, Yashinta Ira, Febri Prasetyanto</i>	
SPE 134064 The Effect of Rheological Properties of Alkali-Surfactant-Polymer System on Residual Oil Recovery Rate After Water Flooding	1684
<i>Wen-guo Ma, Hui-fen Xia, Hong-yu Yu</i>	
SPE 134067 Principals of Flaring Combustion and Ways to Minimize Emissions and Smoke Design and Case Study of a New Air Injection System for Upgrading Existing Flares into Smokeless Flaring	1689
<i>Michael Papas, Scot Smith, Darton Zink</i>	
SPE 134082 Superheated Steam Huff and Puff to Revivify a Marginal Pre-Salt Heavy Oil Reservoir	1714
<i>Wu Xianghong, Dong Benjing, Fan Zifei, Wang Ruijeng</i>	
SPE 134115 The Method and Expert System for Risk Assessment of Drilling In High-Sulfur Gas Field	1723
<i>Yanbin Zang, Ruihe Wang, Rui Zhang, Zizhen Wang, Xinzhi Li</i>	
SPE 134137 Water Recycling Helps with Sustainability	1731
<i>Dale A. Pierce, Kelly Bertrand, Cornelia Cretiu Vasiliu</i>	

SPE 134239 Innovative Bearing and Seal Package Improves Rollercone Bit Performance and Reliability	1751
<i>Jeffrey Day, Jiaqing Yu, Ryan Baker</i>	
SPE 134272 Field Application of a Water-Based Consolidation System for Remediation of Proppant Flowback	1761
<i>J.C. Cooper, P.D. Nguyen, D. Magill</i>	
SPE 134277 Environmental Management Performance of Subang Field, PT Pertamina EP, Indonesia on Proper Indicator	1778
<i>Indra P. Sembiring, Eka Adhi Mulyono</i>	
SPE 134278 Producing High CO₂ Gas Content Reservoirs in Pertamina Indonesia Using Multi Stage Cryogenic Process	1790
<i>I. Suarsana, P. Putu</i>	
SPE 134319 Openhole Gravel-Pack Case Histories in Wells Drilled With a Synthetic Mud: Successful Implementation of an Alternative Method in Oyo Field, Nigeria	1807
<i>G. Ripa, M. Rossi, D. Staltari, M. Ilobi, T. Lawal, M. Beldongar, T. Douglas, P. Wassouf, A. Jones, M. Parlar</i>	
SPE 134396 Estimation of Fracture Effective Permeability by Upscaling Using Ensemble Kalman Filter and Streamline Simulation	1820
<i>M. Tanaka, S. Tanaka, N. Arihara, H. Okabe</i>	
SPE 134474 Potential Upside Reserves Of Shallow Gas Discovered Within The Early Triassic Mount Goodwin Sub-Group And The Early Permian Torrens and Fossil Head Formations In The Blacktip Gas Field, Bonaparte Basin, Australia	1832
<i>Dave Wheller, Andrea Caudullo</i>	
SPE 134477 Challenges in Designing, Planning and Execution of Well Completions for Highly Depleted Reservoirs, and High Differential Pressure Between Reservoirs	1853
<i>T.N.O.M. Imran, A. Al Izudin, M.S. Natasha, N. Samsudin, M.F. Rameli, A. Hamid, C. Elliott, M.Z. Khalid, A.A. Zeidan</i>	
SPE 134479 Maximising Production And Extending Economic Life Of The Woollybutt Oil Field, Carnarvon Basin, Australia, “From Little Things, Big Things Grow”	1869
<i>Dave Wheller, Doani Selvaggi, Kon Kostas, Richard Loro, Dave Hearty</i>	
SPE 134504 Amplifier/Booster Joint Positioning Framework Design for a High-Speed Wired Telemetry System in MWD/LWD Downhole Tool Environment	1893
<i>Sumit Rath, Sharath Mandadi, Vivek Thamizhmani, Robello Samuel</i>	
SPE 134589 Diffusion in Naturally Fractured Reservoirs - A Review	1906
<i>Mudit Chordia, Japan J. Trivedi</i>	
SPE 134823 Enhancing Gas Production in Coal Bed Methane Formations With Zeta Potential Altering System	1938
<i>Sarkis Kakadjian, Jose Garza, Frank Zamora</i>	
SPE 135361 Building Effective Training Models for Today’s Global Challenges	1951
<i>William S. (Bill) Fiffick, Claude W. (Ken) Kenner III, David Susko</i>	
SPE 135813 Gas Content Measurement With and Without the Use of Coring	1959
<i>Ian Gray</i>	
SPE 135814 Variations in Permeability of Coals - The Importance of Stress Path	1966
<i>Ian Gray</i>	
SPE 135816 Development of the Gas Resource Assessment for the Papua New Guinea PNG LNG Project	1983
<i>A.J. Berryman, D.M. Braisted</i>	
SPE 136538 Integration of 4D Seismic to Add Value: The Enfield ENC01 Sidetrack Story	1996
<i>Daniel Medd, Peter Thomas, Craig Sibbons, Megan Smith, Amna Ali</i>	
SPE 136539 Innovative Multi-Zone Water Injection: The Enfield ENC05 Story	2003
<i>Daniel Gibson, Daniel Medd, Tom McCarthy, Benni Toldo, Phil Moselely, Victor Pudin</i>	
Author Index	