

# **SOCIETY OF PETROLEUM ENGINEERS**

## **Asia Pacific Oil & Gas Conference and Exhibition 2005**

Volume 1 of 2

Held April 5 – 7, 2005  
Jakarta, Indonesia

Printed from CD-ROM with permission by:

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
[www.proceedings.com](http://www.proceedings.com)

© 2005 Society of Petroleum Engineers

# Copyright and Use Restrictions

## Copyright 2005, Society of Petroleum Engineers

Material included in this *Proceedings* is copyright protected. Electronic reproduction, distribution, or storage of any part of an SPEcopyrighted paper for commercial purposes without the written consent of the Society of Petroleum Engineers is prohibited. Permission to reproduce in print is restricted to an abstract of not more than 300 words; illustrations may not be copied. The abstract must contain conspicuous acknowledgment of where and by whom the paper was presented. For photocopying beyond the above permissions, libraries and other users dealing with the Copyright Clearance Center (CCC) Transactional Reporting Service must pay a base fee of \$3 per copyrighted article plus \$0.25 per page to CCC, 222 Rosewood Drive, Danvers, Massachusetts 01923 U.S.A. For other permissions, contact Librarian, SPE, 222 Palisades Creek Drive, Richardson, Texas 75080-2040 U.S.A.

Use of SPE member or author contact information included on this CD for commercial purposes or reproduction of that information in whole or in part, in any form or medium, is strictly prohibited and subject to legal action. Contact SPE to inquire about rental of mailing lists.

This CD of the 2005 SPE Asia Pacific Oil & Gas Conference and Exhibiton was produced by SPE. This product contains Adobe® Reader® Software. Permission to print and distribute content from this product must be obtained from SPE. Duplication of replication products is absolutely prohibited without written permission from SPE and Adobe. Adobe, the Adobe logo, and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Material on the CD was reproduced from original papers and/or electronic files provided by the authors. Some discrepancies are inevitable. Please advise SPE of errors so corrections can be made to the electronic versions of the article. Send corrections by e-mail to pdf@spe.org or mail to the SPE Americas Office, attention Technical Paper Administrator.

### **USE OF MATERIALS LIMITATIONS**

All materials contained in these *Proceedings* are copyrighted to the Society of Petroleum Engineers. Papers on this CD are for your personal non-commercial use and may not be copied, distributed electronically or in print, or reproduced in whole or in part, in any form without the expressed written permission of the Society of Petroleum Engineers.

# 2005 SPE Asia Pacific Oil & Gas Conference and Exhibition

5–7 April 2005 • Jakarta, Indonesia

## TABLE OF CONTENTS

Volume 1 of 2

- 1** SPE 85307 [Challenges and Achievements of Drilling Maximum-Reservoir-Contact \(MRC\) Wells in Shaybah Field](#)  
*A.S. Dossary, Saudi Aramco, and A.A. Mahgoub, Schlumberger*
- 8** SPE 92047 [Compressed Natural Gas \(CNG\): An Alternative to Liquid Natural Gas \(LNG\)](#)  
*M.J. Economides, S. Kai, and G. Subero, U. of Houston*
- 15** SPE 92111 [Evaluation of Matrix-Fracture Transfer Functions for Countercurrent Capillary Imbibition](#)  
*T. Babadagli, C.U. Hatiboglu, and T. Hamida, U. of Alberta*
- 35** SPE 92124 [Effect of Ultrasonic Waves on the Capillary-Imbibition Recovery of Oil](#)  
*T. Hamida and T. Babadagli, U. of Alberta*
- 47** SPE 92296 [A Conceptual Sensory System for Cross-Hole Reservoir Characterization Using a Pair of Horizontal Wells](#)  
*A. Al-Anazi and I. Ershaghi, U. of Southern California*
- 56** SPE 92715 [Effect of Water Cut on Sand Production—An Experimental Study](#)  
*B. Wu and C.P. Tan, CSIRO Petroleum, and N. Lu, Colorado School of Mines*
- 65** SPE 92779 [Oil-Based Mud Micro-Imager \(OBMI\) Application in Sangatta: A Field Case Study](#)  
*P. Sembiring and S.R. Agustinus, Pertamina (Persero) DOH Kalimantan, and N. Bashir and A.H. Danardatu, Schlumberger*
- 77** SPE 92804 [Coiled-Tubing Reverse Circulation—An Efficient Method of Cleaning Horizontal Wells in a Mature, Pressure-Depleted Field](#)  
*P.S. Kumar, B. Al-Amri, P. Kouli, S. Van Gisbergen, and S. Shidi, Petroleum Development Oman, and E. Ferdiansyah and P. Mowat, Schlumberger*
- 84** SPE 92828 [A Pseudo-Black-Oil Method for Simulating Gas Condensate Reservoirs](#)  
*S.-W. Wang and I. Harmawan, Unocal Indonesia Co.*

- 90** SPE 92829 [Identifying, Characterizing, and Locating Conductive Fault\(s\): Multiwell Test Analysis Approach](#)  
*R. Al-Obaid, F.M. Al-Thawad, and H.S. Gill, Saudi Aramco*
- 97** SPE 92891 [Smart Completion Design With Internal Gas Lifting Proven Economical for an Oil Development Project](#)  
*L. Jin, Shell Intl. E&P, and G. Sommerauer, S. Abdul-Rahman, and Y.C. Yong, Brunei Shell Petroleum Co. Sdn. Bhd.*
- 107** SPE 92895 [Integrated Approach for Improving Development of a Mature Field](#)  
*L. Xiaoguang, Z. Xuwen, B. Sincock, B.W. Handono, and F. Mayanullah, PetroChina Intl.*
- 122** SPE 92960 [Managing Wellbore Instability Risk in Gas-Hydrate-Bearing Sediments](#)  
*C.P. Tan, R. Freij-Ayoub, and M.B. Clennell, CSIRO Petroleum, and B. Tohidi and J. Yang, Heriot-Watt U.*
- 131** SPE 92962 [Monitoring of Real-Time Temperature Profiles Across Multizone Reservoirs During Production and Shut-In Periods Using Permanent Fiber-Optic Distributed Temperature Systems](#)  
*V. Fryer and D. Shuxing, ConocoPhillips, and Y. Otsubo, G. Brown, and P. Guilfoyle, Schlumberger*
- 137** SPE 93048 [Application of Integrated Reservoir Analysis To Optimize Development Plan](#)  
*S.W. Wang, B. Shivers, Y. Setiawan, J. Inaray, I. Harmawan, and Y. Fidra, Unocal Indonesia Co.*
- 143** SPE 93101 [A Review on Recent Advances in the Numerical Simulation for Coalbed Methane Recovery Process](#)  
*X.R. Wei, G.X. Wang, and P. Massarotto, U. of Queensland*
- 153** SPE 93112 [Effect of Vibration on Rock and Fluid Properties: On Seeking the Vibroseismic Technology Mechanisms](#)  
*T. Ariadji, Bandung Inst. of Technology*
- 161** SPE 93125 [Quantifying Petrophysical Uncertainties](#)  
*S.J. Adams, WellEval.com Ltd.*
- 167** SPE 93137 [Reservoir Simulation Challenges for Modeling a Thin Volatile Oil Rim With Large Gas Cap in the Poleng Field, Kujung-I Oil Reservoir, East Java Basin, Indonesia](#)  
*J. Forrest and A. Sukmana, Schlumberger, and W. Suhana and I. Asjhari, Kodeco*
- 183** SPE 93138 [Design and Deployment of Maximum Reservoir Contact Wells With Smart Completions in the Development of a Carbonate Reservoir](#)  
*N.I. Afaleg, T.R. Pham, U.F. Al-Otaibi, and S.W. Amos, Saudi Aramco, and S. Sarda, Beicip-Franlab*

- 202** SPE 93140 [Interwell Tracer Tests: Lessons Learned From Past Field Studies](#)  
*Y. Du, New Mexico Tech, and L. Guan, Texas A&M U.*
- 211** SPE 93148 [Successfully Sterilizing the Sulfate Bacteria With Ultraviolet Radiation in Produced-Water Treatment in Daqing Oilfield](#)  
*J. Wang, F. Yang, X. Yuan, B. Liu, H. Wu, and X. Sui, Daqing Oilfield Co. Ltd.*
- 216** SPE 93149 [Application of Streamline Method to Hot Waterflooding Simulation for Heavy-Oil Recovery](#)  
*U. Pasarai and N. Arihara, Waseda U.*
- 224** SPE 93151 [An Alternative for Saving Gas Burnt in Well-Testing Operation by Using MPFM— A Case Study](#)  
*H. Wijayanti, Total E&P Indonésie*
- 232** SPE 93159 [A Volcanic Reservoir: Facies Distribution Model Accounting for Pressure Communication](#)  
*T. Yamada and Y. Okano, Japan Petroleum Exploration Co. Ltd.*
- 241** SPE 93160 [Coalbed Methane Simulator Development for Improved Recovery of Coalbed Methane and CO<sub>2</sub> Sequestration](#)  
*E. Syahrial, Lemigas*
- 255** SPE 93161 [Yakin West Waterflood Project: Looking for Opportunity To Maximize Recovery](#)  
*M. Yamin, A. Yuliraharjo, and R.U. Zahar, Unocal Indonesia Co., and F. Saifuddin, Unocal Thailand Ltd.*
- 264** SPE 93164 [Experimental Design as a Framework for Multiple Realisation History Matching: F6 Further Development Studies](#)  
*L. Alessio, S. Coca, and L. Bourdon, Sarawak Shell Sdn. Bhd. Malaysia*
- 279** SPE 93168 [A Fracture Treatment Design Optimization Process To Increase Production and Control Proppant Flowback for Low-Temperature, Low-Pressure Reservoirs](#)  
*B.D. Krismartopo and L. Notman, Caltex Pacific Indonesia, and T. Kritzler, T. Kristanto, and P. Nguyen, Halliburton*
- 291** SPE 93183 [First Installation of Hydraulic Flow Control System \(Smart Completion\) in Saudi Aramco](#)  
*A.S. Al-Dossary, S.P. Salmay, H.K. Mubarak, and S.A. Al-Aqeel, Saudi Aramco, and M.S. Boyle, WellDynamics*
- 295** SPE 93186 [Evaluation and Implementation of Coating Damage and Repair Techniques: A Case Study on 36-in. Badak-Bontang Pipeline](#)  
*A. Priambudi, N.W. Tranggono, S. Somoprawiro, and P.D. Sanjoto, Vico Indonesia*

- 300** SPE 93187 [Knowledge Discovery in Drilling Optimization for Eliminating Surprises](#)  
*X. Bi and T. Yan, Daqing Petroleum Inst.; S. Zhang, Daqing Petroleum Admin. Bureau; and C. Wang, Daqing Petroleum Inst.*
- 308** SPE 93197 [Application of Adaptive Wavelets To Improve Computational Performance of Kriging](#)  
*I.P. Yuwono, ChevronTexaco-IBU; A. Susanto and K. Soesianto, Gadjah Mada U.; and T.T. Tran, ChevronTexaco ETC*
- 318** SPE 93198 [Integrated Reservoir Assessment: A Way To Identify “Overlooked” Multilayered Reservoirs](#)  
*R. Nikijuluw, Z.A. Suwito, and M.A. Arianto, Vico Indonesia*
- 328** SPE 93205 [Managing Uncontrollable and Controllable Uncertainties Using EDA Methods: A Fluvial- Reservoir Case Study](#)  
*C.Y. Peng and R. Gupta, Curtin U. of Technology, and K. Vijayan, U. of Western Australia*
- 339** SPE 93210 [The Impact of Condensate Blockage and Completion Fluids on Gas Productivity in Gas- Condensate Reservoirs](#)  
*H.A. Al-Anazi, J.R. Solares, and M.G. Al-Faifi, Saudi Aramco*
- 350** SPE 93213 [A Type of Advanced Mud-Hammer Applied to Oil Drilling](#)  
*Z. Jian and J. Shang, China Oilfield Services Ltd.*
- 353** SPE 93218 [Reservoir Characterization Through Single-Well Numerical Simulation Study Using DST Matching for a Gas-Condensate Reservoir](#)  
*T. Ariadji, Bandung Inst. of Technology; H. Suryanto, ConocoPhillips; and S. Mariani, Bandung Inst. of Technology*
- 370** SPE 93219 [Fit-for-Purpose Production Logging: Memory or Real-Time?](#)  
*A.S. Al-Muthana, S. Ma, and A.A. Al-Hajari, Saudi Aramco, and S. Aboelnaga, Schlumberger*

# **SOCIETY OF PETROLEUM ENGINEERS**

## **Asia Pacific Oil & Gas Conference and Exhibition 2005**

Volume 2 of 2

Held April 5 – 7, 2005  
Jakarta, Indonesia

**Printed from CD-ROM with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
[www.proceedings.com](http://www.proceedings.com)

© 2005 by Curran Associates, Inc.

# Copyright and Use Restrictions

## Copyright 2005, Society of Petroleum Engineers

Material included in this *Proceedings* is copyright protected. Electronic reproduction, distribution, or storage of any part of an SPEcopyrighted paper for commercial purposes without the written consent of the Society of Petroleum Engineers is prohibited. Permission to reproduce in print is restricted to an abstract of not more than 300 words; illustrations may not be copied. The abstract must contain conspicuous acknowledgment of where and by whom the paper was presented. For photocopying beyond the above permissions, libraries and other users dealing with the Copyright Clearance Center (CCC) Transactional Reporting Service must pay a base fee of \$3 per copyrighted article plus \$0.25 per page to CCC, 222 Rosewood Drive, Danvers, Massachusetts 01923 U.S.A. For other permissions, contact Librarian, SPE, 222 Palisades Creek Drive, Richardson, Texas 75080-2040 U.S.A.

Use of SPE member or author contact information included on this CD for commercial purposes or reproduction of that information in whole or in part, in any form or medium, is strictly prohibited and subject to legal action. Contact SPE to inquire about rental of mailing lists.

This CD of the 2005 SPE Asia Pacific Oil & Gas Conference and Exhibiton was produced by SPE. This product contains Adobe® Reader® Software. Permission to print and distribute content from this product must be obtained from SPE. Duplication of replication products is absolutely prohibited without written permission from SPE and Adobe. Adobe, the Adobe logo, and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Material on the CD was reproduced from original papers and/or electronic files provided by the authors. Some discrepancies are inevitable. Please advise SPE of errors so corrections can be made to the electronic versions of the article. Send corrections by e-mail to pdf@spe.org or mail to the SPE Americas Office, attention Technical Paper Administrator.

### **USE OF MATERIALS LIMITATIONS**

All materials contained in these *Proceedings* are copyrighted to the Society of Petroleum Engineers. Papers on this CD are for your personal non-commercial use and may not be copied, distributed electronically or in print, or reproduced in whole or in part, in any form without the expressed written permission of the Society of Petroleum Engineers.



# 2005 SPE Asia Pacific Oil & Gas Conference and Exhibition

5–7 April 2005 • Jakarta, Indonesia

## TABLE OF CONTENTS

Volume 2 of 2

- 382** SPE 93222 [A Novel Approach for the Evaluation of Oil and Gas Well Performances in Multiwell Reservoir Systems](#)  
*T. Marhaendrajana, Inst. Teknologi Bandung*
- 388** SPE 93228 [Pressure Transient Results Demonstrate Utility of Cased-Hole Formation Tester](#)  
*S. Joshi, Schlumberger, and T. Siwindono, M. Bunyamin, D. Basya, H. Harun, and R. Krisna, P.T. Pertamina*
- 406** SPE 93229 [Formation Testing While Drilling—Conventional and Novel Applications](#)  
*A. Buysch, M. Meister, J. Pragt, H.-C. Freitag, and U. Hahne, Baker Hughes INTEQ*
- 413** SPE 93240 [Fiber Optics Used To Support Reservoir Temperature Surveillance in Duri Steamflood](#)  
*D.K. Nath, Halliburton Energy Services Inc.*
- 422** SPE 93245 [Optimizing Stimulation of Coalbed Methane Reservoirs Using an Integrated Fracture Modeling Approach](#)  
*K.J. Valencia, Z. Chen, M.O. Hodge, and S.S. Rahman, U. of New South Wales*
- 429** SPE 93248 [Gas Condensate Damage in Hydraulically Fractured Wells](#)  
*R.R. Ravari, R.A. Wattenbarger, and M. Ibrahim, Texas A&M U.*
- 441** SPE 93253 [Peciko Geological Modeling: Optimizing Fluid Distribution and Model Resolution of a Giant Gas Field in a Shale-Dominated Deltaic Environment](#)  
*P. Samson, T. Dewi-Rochette, and M. Lescoeur, Total E&P Indonésie*
- 451** SPE 93275 [Application of Fuzzy Logic for Determining Production Allocation in Commingle Production Wells](#)  
*B. Widarsono and H. Atmoko, Lemigas; W. Robinson IV and I.P. Yuwono, PT CPI; F. Saptono, Tunggal; and Ridwan, Lemigas*
- 464** SPE 93276 [Sibling Rivalry: Competitive Tendering vs. Direct Selection—A Debate of Suitable Procurement Method on the Achievement of Supply Chain Objective in the Oil and Gas Operator Industry](#)  
*M. Komala, I.G.K. Modana, Y. Le Hello, and S. Naibaho, Total E&P Indonésie*

- 481** SPE 93288 [Exploration Well Testing With a Venturi/Dual Energy Gamma Ray Multiphase Flow Meter— A Case Study From Oman](#)  
*N.M. Al Araimi, Petroleum Development Oman; N.K. Jha, Schlumberger; and S. Al Zakwani, Petroleum Development Oman*
- 489** SPE 93307 [The Development of an Optimal Artificial Neural Network Model for Estimating Initial, Irreducible Water Saturation—Australian Reservoirs](#)  
*H.M. Goda, U. of Adelaide; H.R. Maier, School of Civil and Environmental Engineering; and P. Behrenbruch, U. of Adelaide*
- 504** SPE 93329 [Enhanced Oil Recovery in Malaysia: Making it a Reality](#)  
*M.K. Hamdan, N. Darman, D. Hussain, and Z. Ibrahim, Petronas*
- 510** SPE 93348 [The Development of an Optimal Grid-Coarsening Scheme: Interplay of Fluid Forces and Higher Moments of Fine-Scale Flow Data](#)  
*N.H.Darman, Petronas, and K.S. Sorbie and G.E. Pickup, Heriot-Watt U.*
- 518** SPE 93349 [Performance and Emissions Studies of a Car Engine Fueled with Gasoline and CNG](#)  
*M.U. Aslam, H.H. Masjuki, and M.A. Kalam, U. of Malaya*
- 524** SPE 93350 [Emission Characteristics of a Modified CNG Gasoline-Cycle Engine](#)  
*M.A. Kalam, H.H. Masjuki, M.A. Amalina, H. Abdesselam, T.M.I. Mahlia, and M.U. Aslam, U. of Malaya*
- 533** SPE 93363 [Permeability Prediction Using Pore Throat and Rock Fabric: A Model From Indonesian Reservoirs](#)  
*I. Jaya, A. Sudaryanto, and B. Widarsono, Lemigas*
- 546** SPE 93594 [Electrical Submersible Progressive Cavity Pump \(ESPCP\) Application in Kulin Horizontal Wells](#)  
*M. Taufan, R. Adriansyah, and D. Satriana, P.T. Caltex Pacific Indonesia*
- 551** SPE 93597 [Minas Gas Compression and Liquid Handling Optimization Project](#)  
*T. Ihwanto, E. Putra, and S. Uditoyo, Caltex Pacific Indonesia*
- 557** SPE 93617 [Production Optimization in ESP Completions Using Basic Intelligent-Well Technology](#)  
*G. Vachon and T. Bussear, Baker Oil Tools*
- 563** SPE 93636 [Success Story To Produce 200 MMscfd of Gas From Mutiara](#)  
*Y.A. Prihartono, A.P. Riksa, and S.R. Affan, Vico Indonesia*
- 568** SPE 93646 [Follow-Up Planning Tool for Material Planning, Delivery Management, and Stock Control in Well-Connection Material](#)  
*P. Manuhoro, Total E&P Indonésie*

- 573** SPE 93685 [The Fracture Network Model of Shen 229 Block Buried Hill: A Case Study From the Liaohe Basin, China](#)  
*X. Yuzhong, Z. Jichang, F. Tailiang, C. Zhong, J. Chunming, and Z. Lihui, PetroChina*
- 579** SPE 93763 [Incorporating Hydraulic Units Concepts in Saturation-Height Modeling in a Gas Field](#)  
*M.O. Amabeoku, D.G. Kersey, R.H. BinNasser, H.H. Al-Waheed, and A.R. Belowi, Saudi Aramco*
- 596** SPE 93777 [The Application of an Analytical Model for the Controlled Makeup of Rotary Shouldered Connections in the Field](#)  
*C. Teodoriu, U. of Technology Clausthal, and H. Kinzel, Weatherford Oil Tool GmbH*
- 606** SPE 93779 [The Role of Unconventional Natural Gases in the Next 30 Years in Asia](#)  
*D. Terasaki, Tokoyo Gas Co., and K. Fujita, Shibaura Inst. of Technology*
- 614** SPE 93782 [Mechanical Methods of Reducing Torque and Drag in Extended-Reach Wells Facilitate Continued Canadian Foothills Development](#)  
*M. Berry and J. Dousett, Shell Canada Ltd., and D. Cowling, Weatherford Canada Partnership Ltd.*
- 622** SPE 93784 [Downhole Deployment Valve—Case History](#)  
*A. Timms, Amerada Hess, and K. Muir and C. Wuest, Weatherford UBS*
- 628** SPE 93814 [Nonconventional Medium-Wavelength Static-Correction Method To Overcome Shallow Gas Anomaly Problem](#)  
*Y. Noor, G. de Tonnac, and J. Bonnafé, Total Indonésie, and A. Waluyo, WesternGeco*
- 632** SPE 93816 [Arthit Log-Derived Permeability Modeling Project](#)  
*S. Stephens, S. Pisutha-Arnond, PTT Exploration & Production Public Co. Ltd., and O. Schoenicke, K. Vatthanavit, and L. Jiang, Schlumberger Overseas S.A.*
- 638** SPE 93817 [Restoring Integrity to Aged Petroleum-Production Facilities](#)  
*S.W. Ciaraldi, BP Indonesia, and B. Hedges, BP Trinidad & Tobago*
- 648** SPE 93818 [Completion Technology for Cemented Monobore Completions](#)  
*W. Chapman, Baker Oil Tools*
- 653** SPE 93820 [Belanak Development: Batch Drilling Operations in Natuna Sea](#)  
*A. Septiantoro, J. Bujnoch, and E. Welbourn, ConocoPhillips Indonesia Inc. Ltd.*
- 662** SPE 93821 [Sand Production Prediction and the Selection of Completion Methods for Horizontal Wells in Intercampo Oil Field, Venezuela](#)  
*D. Hong'en and H. Dandan, RIPED PetroChina, and C. Wenxin, CNPC America Ltd.*
- 674** SPE 93822 [What is the Source of Drilling and Completion Data?](#)  
*E. Nakagawa and C. Damski, CSIRO, and K. Miura, Petrobras*

- 679** SPE 93825 [3D Post-Stack Acoustic Impedance Inversion Results for Kijing and Malong Fields, South Natuna Sea](#)  
*A.R. Badachhape and Abdurahman, ConocoPhillips*
- 686** SPE 93844 [Thermochemical Solution for Removal of Organic Solids Deposit In and Around Wellbore and Production Tubing](#)  
*J.M. Ibrahim, Petronas Research & Scientific Services Sdn. Bhd., and K. Ali, Petronas Carigali Sdn. Bhd.*
- 696** SPE 93848 [Insert String Technique Reviving Idle Wells](#)  
*A.T. Sulai and Y. Hassan, Petronas Carigali Sdn. Bhd.*
- 703** SPE 93851 [Combining Geostatistics With Dynamic Modeling To Improve Reservoir Management Strategies: A Case Study From the Balingian Province](#)  
*J. Finol and S. Dronamraju, Landmark-Halliburton, and A.A. Zakaria and A.M. Koraini, Petronas Research and Scientific Services*
- 711** SPE 93853 [Constraining Geological Heterogeneity in Complex Reservoirs: Implications for Stochastic Modeling and Reservoir Management](#)  
*S.V.C. Dronamraju and J. Finol, Landmark-Halliburton, and A.M. Koraini and A.A. Zakaria, Petronas Research and Scientific Services*
- 722** SPE 93856 [Cutting-Edge Materials Technology Elevates Drilling Performance in Soft- Formation Applications](#)  
*D. Caraway and K. Card, ReedHycalog, and S. Pullen, Mayne & Mertz Inc.*
- 734** SPE 93858 [Integrated Management of Water, Lean Gas, and Air Injection: The Successful Ingredients to EOR Projects on the Mature Handil Field](#)  
*M.W. Duiveman, H. Herwin, and P. Grivot, Total E&P Indonésie*
- 741** SPE 93859 [Using Economic and Production Evaluation Methodologies To Expedite Commercialization of Intelligent and Multilateral Wells](#)  
*X. Ramos, Occidental Exploration & Production Co., and A. Anderson, S.A. Sakowski, and C. Hogg, Baker Oil Tools*
- 754** SPE 93864 [Verification of an Advanced Analysis Model With Downhole Bending Moment Measurements](#)  
*M. Neubert, G. Heisig, I. Forstner, and F. Mounzer, Baker Hughes INTEQ*
- 764** SPE 93866 [Deepwater Subsea Well Intervention—The Future Solution](#)  
*A.J. Dick, Expro Intl. Group PLC*
- 769** SPE 93872 [Specialised Designs for Complex and Record Drilling Project](#)  
*C. Beiriger, J. Bujnoch, and T. Bealessio, ConocoPhillips Indonesia Inc. Ltd.; C. Hudson, M-I Swaco; and J.D. Farrar, KMC Oiltools*