

# Society of Petroleum Engineers

## Coiled Tubing & Well Intervention Conference & Exhibition 2006 Proceedings

Held April 4 – 5, 2006  
Houston, Texas

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

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

© 2006 Society of Petroleum Engineers

**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.

# TABLE OF CONTENTS

- 1** SPE/IADC 92024 [Milling of Isolation Valve With Wireline-Conveyed Technology](#)  
*C. Krüger, Welltec, and T. Sælensminde and S. Myrmel, Hydro*
- 5** IADC/SPE 98044 Successful Rescue of a Sunken Oil Well With Innovative Coiled-Tubing Solution  
*M. Mahajan, BJ Services Indonesia; N.M. Al-Araimi, Brunei Shell Petroleum; and L.N. Portman and A.R. Terry, BJ Services*
- 13** SPE 99360 Through-Tubing Inflow Intervention Tools and Techniques in a Subsea Well Environment  
*G.M. Kelbie and G. Mackenzie, Baker Oil Tools*
- 20** SPE 99415 Using High-Frequency Downhole Vibration Technology To Enhance Through-Tubing Fishing and Workover Operations  
*L.C. Joppe, G. Mackenzie, and M. McGurk, Baker Oil Tools*
- 24** SPE 99557 SSC Resistance of QT-900 and QT-1000 Coiled Tubing  
*T.H. McCoy and J. Thomas, Halliburton*
- 35** SPE 99596 A Comprehensive Bit Hydraulics Model for Gasified Drilling Fluids  
*H.A. Dogan and I.H. Gucuyener, Turkish Petroleum Corp., and M.E. Ozbayoglu, Middle East Technical U.*
- 45** SPE 99651 Investigation and Field Evaluation of a Foamed Viscoelastic Surfactant Diversion Fluid Applied During Coiled-Tubing Matrix-Acid Treatment  
*H.A. Nasr-El-Din, Saudi Aramco, and J.B. Chesson, K.E. Cawiezel, and C.S. De Vine, BJ Services Co.*
- 59** SPE 99691 First Through-Tubing Gravel-Pack Recompletion Performed in Japan  
*M. Numasawa, Japan Petroleum Exploration Co. Ltd.; S. Salahudin, H. Hashimoto, and C.Y. Choy, Halliburton Energy Services; and S. Mitsuda, Mitsubishi Gas Chemical Co. Inc.*
- 74** SPE 99698 Simops: Coiled Tubing in Parallel With Rig Activities  
*K.I. Torgersen, JMC Technology, and A.A. Weiss, Schlumberger*
- 80** SPE 99706 Enhancing Oil Production From Mature Fields by Focusing on Well-Intervention Management: North Oman  
*A.S. Al-Bimani, H.H. Al-Sharji, C.O. Aihvba, M. Al-Touqi, A.H. Fadhil, and M. Al-Salmi, Petroleum Development Oman*
- 89** SPE 99708 Rolling Anchor System  
*M. Bakke and G.M. Berg, Weatherford*
- 93** SPE 99749 Dynamic FEA Models for Snubbing Buckling and Riserless Subsea Wireline Intervention  
*K.R. Newman, CTES Varco; C.C. Overstreet, Cudd Pressure Control; and P.A. Beynet, BP America Inc.*
- 102** SPE 99770 Development and Installation of a High-Pressure-Rated Bridge Plug With Metal-to-Metal Sealing System  
*M. Adam, Zeroth Technology Ltd.; K. Lundemo, BP Norway; and G. Mackenzie and G.L. Garfield, Baker Oil Tools*
- 105** SPE 99846 Oxygen-Free Acid-Stimulation in an Underground Gas Storage Well Completed With Prepacked Screens  
*S. Yntema, P. de Boer, and R.A. Trompert, NAM; R.M. de Jonge, BJ Services Co.; and B.J. van Gellekom, Baker Oil Tools*
- 117** SPE 99855 Next-Generation Fluidic Oscillator  
*E.D. Webb, R.L. Schultz, R.G. Howard, and J.C. Tucker, Halliburton*
- 129** SPE 99857 QT-16Cr Coiled Tubing: A Review of Field Applications and Laboratory Testing  
*J.R. Martin, W.D. Van Arnam, and B.K. Normoyle, Quality Tubing*

- 137** SPE 99892 Development of a Tapered-OD Coiled-Tubing System  
*R.E. Domann, M.D. Kalman, and A. Sharma, Halliburton; R.K. Stephens, G. Edmonstone, and M.J. Chambers, BP; J.R. Martin, Quality Tubing; and D. McWhorter and J.T. Melancon, Texas Oil Tools*
- 145** SPE 99917 28% Chrome, 32% Nickel: A Case History on the Downhole Cutting of Exotic Completions  
*L.N. Portman, C.J. Blades, and A. Laba, BJ Services Co.*
- 150** SPE 99947 Case History of a Successful Pipe-Cutting Campaign in the Adriatic Sea  
*J.R. Mayol and G.J. MacKinlay, Smith Services, and M. Sportelli and G. Baccon, Eni E&P*
- 159** SPE 99968 New Downhole Electromechanical Service Tool Advancements Provide Increased Integrity in HP/HT Environments  
*J. Foster, R.A. McConnell, and D.W. Moore, Halliburton Energy Services Group*
- 173** SPE 100068 Fatigue Integrity Analysis of Rotating Coiled Tubing  
*S.M. Tipton, G.H. Carlson, and J.R. Sorem, U. of Tulsa*
- 180** SPE 100108 First Field Results for Extended-Reach CT-Drilling Tool  
*V. Dagestad, Statoil ASA; M. Mykkeltvedt, Weatherford Norge A/S; K. Eide, PI Intervention A/S; and N. Reimers, Tomax A/S*
- 186** SPE 100121 Observations on Characterization of Defects in Coiled Tubing From Magnetic-Flux-Leakage Data  
*T.R. McJunkin, K.S. Miller, and C.R. Tolle, Idaho Natl. Laboratory*
- 209** SPE 100129 Challenging Wellbore Cleanouts With Coiled Tubing Made Easy With Computer Modeling Technology  
*H.A. Nasr-El-Din, M.A. Al-Anazi, and A.A. Balto, Saudi Aramco, and R.J. Proctor and R.M. Saleh, BJ Services Co.*
- 222** SPE 100132 Standalone Coiled-Tubing Water-Shutoff Operations Reinstate Well on a Normally Unattended Installation  
*D.A. Barclay and K. Lawson, Halliburton, and B. Mullins and B. Cardno, BP plc*
- 233** SPE 100139 Hydraulic Pump-Down Frac Plug and Subsequent Coiled-Tubing Removal Increases Client Efficiency in Barnett Shale  
*E.M. Blanton and G. Mackenzie, Baker Oil Tools*
- 237** SPE 100140 Challenges in Planning, Installation, and Operation of Coiled-Tubing Drilling Equipment on a North Sea Platform  
*M. Taggart, BJ Services Co., and J.A. King, Shell U.K. Ltd.*
- 249** SPE 100141 Reel-to-Injector Fluid-Flow Analysis Using CFD Software  
*M.B. Bailey, I. Blanco, and R.S. Rosine, Halliburton*
- 263** SPE 100143 Application of Coiled-Tubing Fracturing Method Improves Field Production  
*L.D. Fussell, Halliburton; J.R. Redfearn, KCS Energy Inc.; and E.J. Marshall, Halliburton*
- 275** SPE 100144 On the Development of a Three-Dimensional Model for a Coiled-Tubing/Riser System  
*S. Adnan and A.S. Zheng, Schlumberger, and Y. Chen, JC Engineering Services*
- 282** SPE 100145 Friction Factors for Two-Phase Fluids for Eccentric Annuli in CT Applications  
*C. Omurlu and M.E. Ozbayoglu, Middle East Technical U.*
- 287** SPE 100146 Optimization of Coiled-Tubing Acidizing Through Real-Time Staged Fluid Tracking  
*A.S. Zheng, R. Bucher, and M. Allcorn, Schlumberger*
- 293** SPE 100147 Analysis of the Effect of Eccentricity on Flow Characteristics of Annular Flow of Non-Newtonian Fluids Using Finite-Element Method  
*M.E. Ozbayoglu and C. Omurlu, Middle East Technical U.*

- 299** SPE 100149 Operability Challenges During Coiled-Tubing (CT) Well Intervention: Panna Field Case Histories From Western India Offshore  
*S.V. Kale and R.J. Proctor, BJ Services Co., and S.K. Paliwal and S.K. Nayak, BG E&P India Ltd.*
- 314** SPE 100157 CT-Deployed Hydrajet Perforating in Horizontal Completions Provides New Approaches to Multistage Hydraulic Fracturing Applications  
*B.W. McDaniel, E.J. Marshall, L.E. East, and J.B. Surjaatmadja, Halliburton*
- 330** SPE 100161 The Use of Finite-Element-Calculated MFL Signals To Study Characterization of Defects in Steel Coiled Tubing  
*W.C. Breidenthal, G.E. Larín, S.M. Tipton, and R.K. Stanley, U. of Tulsa*
- 339** SPE 100163 CT-Deployed Multipurpose Nozzle for Effective Sand-Cleanout and Acidizing Operations in a Single Trip: Injector Wells Case Histories  
*C.V. Uchendu, O.O. Awoleke, and S.P. Rowland, BJ Services Co., and F.O. Ndinemenu, Total*
- 346** SPE 100164 Eliminating the Human Error During Coiled-Tubing Operations  
*R. Burgos, M. Allcorn, R. Mallalieu, and J.L. Vicens, Schlumberger*
- 352** SPE 100165 Coiled-Tubing-Deployed Extended-Length Patches Extend Wells' Production in Prudhoe Bay, Alaska  
*J.Y. Julian, D.A. Cismoski, and J.C. Smart, BP Exploration (Alaska) Inc., and D.D. Wendt, Wendt Engineering Inc.*
- 364** SPE 100166 Real-Time Depth Measurement With Coiled Tubing Results in Successful Well Recompletion  
*R. Greenway and C. Coston, Schlumberger*
- 370** SPE 100167 Field Trial of QT-16Cr Chrome Coiled Tubing Used as a Workstring on the North Slope, Alaska  
*J.Y. Julian, B.J. McLellan, and B.J. McNerlin, BP Exploration (Alaska) Inc.; J.R. Martin, Quality Tubing Inc.; and K.W. Burke and C. Meaux, Schlumberger*
- 377** SPE 100168 Deployment of a Formation Dynamics Tester With Coiled Tubing  
*H.G. Herrera and A. Moreno, Pemex, and R. Maldonado, F.X. Dubost, and C.I. Foinquinos Schlumberger*
- 387** SPE 100171 Unique Coiled-Tubing Unit Design Improves Surface Efficiency for Performing Well Interventions in Algeria  
*A.R. Adil and R. Burgos, Schlumberger; R.L. Howell, SonaHess; and A. Samir, Schlumberger*
- 394** SPE 100172 Well-Intervention Challenges To Service Wells That "Can Be Drilled"  
*C.G. Blount and M.B. Mooney, ConocoPhillips Alaska Inc.; F.R. Behenna, CTES L.P.; and R.K. Stephens and R.D. Smith, BP*
- 406** SPE 100173 Vortex-Induced Vibration of Tubings and Pipings With Nonlinear Geometry  
*S. Adnan, Schlumberger, and Y. Chen and C.L.P. Chen, U. of Texas at San Antonio*
- 414** SPE 100199 Influence of Prior Cycling on Fatigue Damage Caused by Defects in Coiled Tubing  
*S.M. Tipton, L.G. Neuharth, and J.R. Sorem, U. of Tulsa*
- 417** SPE 100210 Overview of the Kuparuk CTD Program and Recent Record-Setting Operations  
*D.E. Venhaus and C.G. Blount, ConocoPhillips Alaska Inc.; K.E. Dowell, Schlumberger; L.L. Gantt, ConocoPhillips Alaska Inc.; J.G. Sarber and A.J. Worthington, BP Exploration (Alaska) Inc.; and M.G. Rixse, Baker Hughes Inteq*
- 428** SPE 100242 Live Well Deployment System  
*M. Evensen, Aker Kvaerner Well Services SEA, and V. Dagestad, Statoil ASA*
- 433** SPE 100277 Building Human Capital To Meet the Demands in Well Intervention  
*M. Allcorn, W.M. Zemlak, and R.G. van der Tuin, Schlumberger, and R.K. Stephens, BP*