

Offshore Technology Conference

Offshore Technology Conference

OTC 08

“Waves of Change”

May 5-8, 2008
Houston, Texas, USA

Volume 1 of 5

Printed from e-media with permission by:

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

ISBN: 978-1-60560-163-2

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

Offshore Technology Conference

Offshore Technology Conference
2008

TABLE OF CONTENTS

VOLUME 1

OTC 19128 Pipeline Embedment in Deep Water: Processes and Quantitative Assessment	1
<i>Mark F. Randolph, David J. White</i>	
OTC 19130 Oriented Perforating as a Sand Prevention Measure—Case Studies from a Decade of Field Experience Validating the Method Offshore Norway	17
<i>J. S. Andrews, H. Jøranson, A. M. Raaen</i>	
OTC 19139 Managing Flow Assurance and Operation Risks in Subsea Tie-Back System	29
<i>Shanhong Song</i>	
OTC 19140 Oil Well Transient Testing by Injection of Miscible Liquid	40
<i>J.J. Voelker</i>	
OTC 19149 Characterization of Near Seabed Surface Sediment	59
<i>H. E. Low, M.F. Randolph, C.J. Rutherford, B.B. Bernard, J.M. Brooks</i>	
OTC 19152 Evaluation of PhaseWatcher Multiphase Flow Meter (MPFM) Performance in Sour Environments	71
<i>Mohammed N. Al-Khamis, Abdulaziz F. Al-Bassam, Zaki Bakhteyar, Muhammad N. Aftab</i>	
OTC 19154 Application of Paraffin Inhibitor Treatment Programs in Offshore Developments	77
<i>David W. Jennings, Michael E. Newberry</i>	
OTC 19159 Steering Response for Directional Wells in Soft Formations in Deep Water Developments	90
<i>Runar Nygaard, Robin Hartmann, Geir Hareland, Svein Hellvik</i>	
OTC 19160 Design Challenges Due to Wax on a Fast-Track Deepwater Project	98
<i>Amir Alwazzan, Mark Utgard, Dalmo Barros</i>	
OTC 19161 Tests with a Flexible Quasi-Fairing to Reduce Riser Drag, Suppress VIV and Limit Drilling Down-Time	111
<i>Andrew J Brown, Roger King</i>	
OTC 19162 DST Design for Deepwater Wells with Potential Gas Hydrate Problems	120
<i>Shing-Ming Chen, William Xiaowei Gong, Geoff Antle</i>	
OTC 19163 Toward Low Costs for High Cost Resources	129
<i>David Bairrington, Brad Bodwell, Jim Farnsworth, Tim Parker, Chuck Pierce, Chris Ross</i>	
OTC 19166 Flow Assurance in 30" But Sub-Sea Pipeline Without the Usage of PPD	138
<i>Jitendra Prasad, Vinod Sharma</i>	

OTC 19170 A System Level Approach to Subsea Hydraulic Control Line Reliability Issues	149
<i>S.T. Ellis, G. Siappas, A. Colyer, R. Mitchell</i>	
OTC 19172 Case Histories of Improved Horizontal Well Cleanup and Sweep Efficiency With Nozzle-Based Inflow Control Devices in Sandstone and Carbonate Reservoirs	164
<i>A.G. Raffn, M. Zeybek, T. Moen, J.E. Lauritzen, A.H. Sunbul, D.E. Hembling, A. Majdpour</i>	
OTC 19173 Submarine Debris Flow Impact on Pipelines: Drag Forces, Mitigation, and Control	173
<i>Arash Zakeri, Kaare Hoeg, Farrokh Nadim</i>	
OTC 19185 A Generic Model for the Prediction of Sand Production in Oil and Gas Well Systems	183
<i>Kingsley E. Abhulimen</i>	
OTC 19188 Reservoir Characterization through Joint Interpretation of EM, Seismic and Well Log Data	208
<i>Lucy MacGregor, Peter Harris, Joel Walls</i>	
OTC 19190 A CFD-Based Model to Locate Flow Restriction Induced Hydrate Deposition in Pipelines	213
<i>Esam Jassim, M.A. Abdi, Y. Muzychka</i>	
OTC 19192 Improvement of Fatigue Life of SCR and OOL in West Africa	230
<i>Daniel Bertaso, Graham Hutt, Jue Wang, Paul Tews</i>	
OTC 19193 Characterization of Soft Deepwater West Africa Clays: SHANSEP Testing is Not Recommended for Sensitive Structured Clays	238
<i>M.-H. Le, J.-F. Nauroy, V. De Gennaro, P. Delage, E. Flavigny, N. Thanh, J.-L. Colliat, A. Puech, J. Meunier</i>	
OTC 19197 Development of the End Fitting Tensile Wires Fatigue Analysis Model: Sample Tests and Validation in an Unbonded Flexible Pipe	251
<i>Yijun Shen, Frank Ma, Zhimin Tan, Terry Sheldrake</i>	
OTC 19198 Polyester Moorings — Is Insert Recovery & Testing The Best Way To Determine Rope Integrity?	263
<i>Ray Ayers, Nick O’Hear</i>	
OTC 19202 Developing a Monitoring and Verification Plan with Reference to the Australian Otway CO₂ Pilot Project	277
<i>Kevin Dodds, Sandeep Sharma</i>	
OTC 19207 DW RUPE: A New Deepwater Pipeline Repair Capability for the Gulf of Mexico and Other Deepwater Regions	285
<i>Ray Ayers, Steve, Hoysan, Armando Rebello, Eric Gage, Mike Stark</i>	
OTC 19210 Understanding the Impact of Completion Brine Packer Fluids on Cracking Susceptibility of CRA Materials for Deepwater Applications	301
<i>Paul H. Javora, Mingjie Ke, Richard Stevens, Qi Qu</i>	
OTC 19213 Real-Time Completion Monitoring Estimates Production Impairment With Acoustic Waves	307
<i>Andrey Bakulin, Alexander Sidorov, Boris Kashtan, Mikko Jaaskelainen</i>	
OTC 19217 ACG Offshore Platforms Temporary Pin-Pile Foundations	317
<i>Neil Kitney, Allan Penman</i>	
OTC 19218 ACG Jackets Design and Fabrication	335
<i>Richard T. Ciezarek, Archie M. Cormack, Allan D. Penman, Richard Mackie, Geoff Tate</i>	

OTC 19226 Panel Presentation: Managing Risk in the Offshore Industry in the New Millenuim	357
<i>Buford Boyd Pollett</i>	
OTC 19227 Toppides and Jacket Modelling for Floatover Installation Design	364
<i>J Hamilton, R French, P Rawstron</i>	
OTC 19228 Development of a High-Fatigue-Life Spoolable Connector for Offshore Applications	378
<i>Asif Ehtesham, Joseph Hriscu, Allan Zhong</i>	
OTC 19229 Guidance for Licensing CO₂ Storage Operations World Wide	387
<i>Heleen Groenenberg, Mike Carpenter, Todd Flach, Kim Zink-Jørgensen, Peter Schröder, Brendan Beck, Nils-Peter Christensen, Andy Chatwick, Marc Lescanne, Nicolas Aimard</i>	
OTC 19230 Float-Over of Arthit PP Deck	395
<i>A. Kocaman, Seto Jian</i>	
OTC 19233 Emergency Response Training Using Simulators	406
<i>Brian Veitch, Randy Billard, Anthony Patterson</i>	
OTC 19234 Capillary Pressure Measurement in Petroleum Reservoir Cores with MRI	413
<i>Prisciliano F. de J. Cano Barrita, Bruce J. Balcom, Michael J. McAloon, Derrick P. Green, Josh Dick</i>	
OTC 19235 ACG Programme – Performance Enabled Through a Production Line of Standardised Concepts and Components Delivered at Scale	424
<i>Bruce Luberski, Neil Shaw, Mike Brown, Adrian Luckins, Greg Withers</i>	
OTC 19236 ACG Toppides Design and Fabrication	430
<i>Carroll Kearney Jr., Mike James, Tim Nethercott, Geoff Tate</i>	
OTC 19237 Caspian Challenge for Marine Installation	453
<i>Frank Wilson, Alex Munro-Kidd</i>	
OTC 19238 ACG Phase 3 Subsea Water Injection Scheme	463
<i>Adrian Richmond, Peter Barralet</i>	
OTC 19239 Innovative Pipe System for Offshore LNG Transfer	469
<i>C. Frohne, F. Harten, K. Schippl, Knut Erik Steen, Rune Haakonsen, Jørgen Eide, Jon Høvik</i>	
OTC 19241 Geology of Marine Gas Hydrates and Their Global Distribution	480
<i>T.S. Collett</i>	
OTC 19242 An Evaluation of Perforating Techniques and Use of Caesium Formate Kill Pills to Maximise Productivity in HPHT Gas Wells and Minimise HSE Risks	489
<i>Alistair Roy, Allan Twynam, Jeff Parke, Angus Morrison, John Downs</i>	
OTC 19244 Multi-Phase Flow and Trapping of CO₂ in Saline Aquifers	511
<i>Sally M. Benson</i>	
OTC 19247 Developing Hydrate Monitoring and Early Warning Systems	515
<i>B. Tohidi, A. Chapoy, J. Yang, F. Ahmadloo, I. Valko, Z. Zain</i>	
OTC 19249 Infl uence of Fatigue Issues on the Design of SCRs for Deepwater Offshore Brazil	523
<i>Ana Lúcia Fernandes Lima Torres, Marcio Martins Mourelle, Stael Ferreira Senra, Enrique Casaprima Gonzalez, Jose Mauricio Teixeira da Gama Lima</i>	

OTC 19250 Flexible Pipe Design Optimization for West Africa Deepwater: Agbami Production Riser Case Study	532
<i>E. Sas, J.M. Péré, P. Savy, A. Omar</i>	
OTC 19251 Fatigue Life Assessment of a Drilling Riser Containing Corrosion Pits	543
<i>Alejandro A. C. Benjamin, D. J. S. Cunha, G. C. Campello, F. E. Roveri, R. C. C. Silva, J. N. C. Guerreiro</i>	
OTC 19254 An Overview of the Roncador Field Development, a Case in Petrobras Deep Water Production	553
<i>E. Bordieri, V. C. Barbosa, R. Dias</i>	
OTC 19257 The Application of Similarity and Repeatability Premises in a FPSO Conversion	562
<i>C.B.B. Barbosa, M.N. Klein, M.T.P. Machado, A.B. dos Santos, J.C.A. Filho, F.P. Guedes</i>	
OTC 19258 A General Overview of a Great Project Built in Brazil	571
<i>J.O.A.I. Oliveira, R. Moro, P.M.S. Rodrigues, F.S. Junior, J.C.A. Filho, F.P. Guedes</i>	
OTC 19259 New Waves in the Gulf of Mexico	579
<i>Russ Ford, Darrell Hollek, Chris Oynes, Brian Smith, Sandeep Khurana, Tom Miller</i>	
OTC 19260 Ultrasonic Wave Velocities Associated with Formation and Dissociation of Methane Hydrate in Artificial Sandy Sediment	589
<i>T. Ebinuma, K. Suzuki, J. Nagao, H. Oyama, H. Narita</i>	
OTC 19261 Flowline and Riser: Soil Interaction in Plastic Clays	597
<i>Hédi Dendani, Christophe Jaeck</i>	
OTC 19262 How Subsea Processing Impacts Flow Assurance and Field Architecture in Ultra Deepwater	608
<i>J.F. Saint-Marcoux, T. Fontfreyde</i>	
OTC 19267 Preparing the Way for Future Offshore LNG Marine Terminals	618
<i>Phillip J.C. Cox</i>	
OTC 19269 Compressed Air Breathing Apparatus for Helicopter Evacuation	629
<i>P.N.A. Gibbs</i>	
OTC 19270 Small Field Development—Offshore Newfoundland and Labrador, Canada	636
<i>Dave Hawkins, Graham Dillabough, Max Ruelokke, Fred Way</i>	
OTC 19271 Produced Water Discharge Monitoring	648
<i>T. Husain, B. Veitch, K. Hawboldt, H.Niu, S. Adams, J. Shanaa</i>	
OTC 19272 Protection and Risk Mitigation Strategies for Subsea Infrastructure in Ice Environments	658
<i>Charles Randell, Vincent Morgan, Freeman Ralph</i>	

VOLUME 2

OTC 19273 The Offshore Petroleum Industry in Atlantic Canada – A Regional Overview	667
<i>R.P. Barnes</i>	
OTC 19274 Development of Subsea Facilities in the Roncador Field (P-52)	672
<i>José Maurício T. G. Lima, Mariele Lima Kuppens, Paulo Ferreira da Silveira, Pedro Felipe K. Stock</i>	

OTC 19275 Ice Management for Ice Offshore Operations	690
<i>A.J. Keinonen</i>	
OTC 19277 Mechanical Properties of Natural Gas Hydrate Bearing Sediments Retrieved from Eastern Nankai Trough	705
<i>Akira Masui, Kuniyuki Miyazaki, Hironori Haneda, Yuji Ogata, Kazuo Aoki</i>	
OTC 19280 Measured Swabbing Pressures and Implications for Shallow Gas Blow-Out	710
<i>Stella Kortekaas, Joek Peuchen</i>	
OTC 19282 Improved Construction Method for Modern Drill Ships	720
<i>K.H. You, S.H. Jeong, P.K. Das</i>	
OTC 19283 Field Scale Simulation for Consolidation and Gas Production Behavior during Depressurization Process of Methane Hydrate in Marine Sediments	735
<i>Y. Sakamoto, M. Shimokawara, K. Ohga, K. Miyazaki, N. Tenma, T. Komai, K. Aoki, T. Yamaguchi</i>	
OTC 19284 Estimation of the In-Situ Permeabilities of Nankai Trough Hydrate Bearing Sediments from Pressure Temperature Core Samplar (PTCS) Core Measurements	743
<i>K. Suzuki, T. Ebinuma, H. Narita</i>	
OTC 19286 Real-Time Casing Annulus Pressure Monitoring in a Subsea HPHT Exploration Well	749
<i>Neil Sultan, Jean-Baptiste Faget, Mikkel Fjeldheim, Jean-Claude Sinet</i>	
OTC 19289 Effectiveness of Polyethylene Helical Strakes in Suppressing VIV Responses After Sustaining High Roller Load Deformation During S-Lay Installation	760
<i>Rafik Boubenider, Kaya Alptunaer, Paul Fourchy, Jaap J. de Wilde</i>	
OTC 19290 Design and Testing Out of Deepwater Seabed Sampler	777
<i>Tom Lunne, Tor Inge Tjelta, Axel Walta, Andy Barwise</i>	
OTC 19291 Challenges of Flow Assurance in the Roncador Field	789
<i>G. Noe, R.F. Nascimento, S.G. Silva, F.H.F. Rodrigues</i>	
OTC 19295 On the Use of EM Technology in the Exploration Decision Making Process	799
<i>J. Mohr, C. Guargena, W. Svellingen, S. Sørensen</i>	
OTC 19296 Roncador Field Development: Reservoir Aspects and Well Development Strategy	805
<i>L. Cysne, M. K. Mihaguti</i>	
OTC 19297 Selecting Seal Materials for Deepwater Completions	818
<i>Jim Goodson</i>	
OTC 19298 Enhanced Fatigue Methodologies for Flexible Risers and Applications for Brazilian Offshore Conditions	824
<i>O. Sertã, B. O'Keefe, C. Takeda, C. A. D. Lemos, A. G. Vaillant</i>	
OTC 19300 Arthit Field Development: Float-over Hardware Design and Issues	830
<i>B. Tan, S Sahasrabudhe, J.A. Haney, B Leow</i>	
OTC 19302 Downhole Tool Design Challenges for Deepwater Highly Deviated Wells	841
<i>Matt Howell, Michael (Rick) Johnson, Grant Roscoe</i>	

OTC 19303 Soil Response and Stiffness Laboratory Measurements of SCR Pipe/Soil Interaction	846
<i>E.C. Clukey, G.S. Garmon, J.R. Dobias</i>	
OTC 19305 Relation between Permeability and Pore-Size Distribution of Methane-Hydrate-Bearing Sediments	858
<i>H. Minagawa, Y. Nishikawa, I. Ikeda, K. Miyazaki, N. Takahara, Y. Sakamoto, T. Komai, H. Narita</i>	
OTC 19306 Update on LNG Facility Construction	864
<i>Tom Phalen, Jim Scotti</i>	
OTC 19307 Drilling through Bitumen in the Gulf of Mexico: the Shallower vs. the Deeper	876
<i>Gang Han, Keith Hunter, Jerry Osmond, Jamie Ressler, Mike Zambonini</i>	
OTC 19309 A General Method for Calculating Subsurface CO₂ Storage Capacity	887
<i>L.G.H. (Bert) van der Meer, P.J.P. (Paul) Egberts</i>	
OTC 19310 Resource Assessment of Methane Hydrate in the Eastern Nankai Trough, Japan	896
<i>T. Fujii, T. Saeki, T. Kobayashi, T. Inamori, M. Hayashi, O. Takano, T. Takayama, T. Kawasaki, S. Nagakubo, M. Nakamizu, K. Yokoi</i>	
OTC 19311 Extraction of Methane Hydrate Concentrated Zone for Resource Assessment in the Eastern Nankai Trough, Japan	911
<i>T. Saeki, T. Fujii, T. Inamori, T. Kobayashi, M. Hayashi, S. Nagakubo, O. Takano</i>	
OTC 19313 Kuwait Oil Company Employs a Systematic Approach to Ensure Successful Underbalanced Drilling Project: A Case Study	919
<i>Mir Kabir, Essam Saloussy, Salem Al-Sabea, Anil Ambastha, Hani Qutob, Said Boutalbi, Jaime Villatoro</i>	
OTC 19315 Deepwater Moorings with High Stiffness Polyester and PEN Fiber Ropes	930
<i>P. Davies, C. Lechat, A. paint, A. Bunsell, M. Francois, F. Grosjean, P. Baron, K. Salomon, C. Bideaud, J. P. Labbe, A. G. Moysan</i>	
OTC 19316 Modeling Overburden Stress Change Due to Compaction of Stacked Reservoirs and Application of Model Results in 4D-Seismic and Infill Drilling	940
<i>C.O.H. Hindriks, P.M. Schutjens, C.L. Collins, J. van der Horst</i>	
OTC 19319 Geohazard Assessment and Avoidance on the GAZA Marine Subsea Development	949
<i>N.R.T. Willis, E.J. Parker, W.J. Johnson D'Appolonia</i>	
OTC 19320 Shale Inhibition Strategies for Reservoirs Containing Reactive Clay - Experiences Drilling High Angle Wells in Bohai Bay	963
<i>Jim McRae, David Bump, Ed Van Dike, Glenn Phillips, Catalin Aldea, Mark Dick</i>	
OTC 19324 Laboratory Study of Hydraulic Fracturing Behavior in Unconsolidated Sands for Methane Hydrate Production	969
<i>T. Ito, A. Igarashi, K. Suzuki, S. Nagakubo, M. Matsuzawa, K. Yamamoto</i>	
OTC 19326 Thermodynamic Conditions and Kinetics of Integrated Methane Recovery and Carbon Dioxide Sequestration	976
<i>J. Yang, A. Chapoy, B. Tohidj, P.S. Jadhawar, J. Lee, D.G. Huh</i>	
OTC 19328 Functional Verification of the Worlds First Full Field Subsea Separation System – TIORA	983
<i>Gro Mogseth</i>	

OTC 19329 Strain Criteria for Deep Water Pipe Laying Operations	996
<i>Dominique Perinet, Ian Frazer</i>	
OTC 19331 A New Technique for the Development and Quality Control of Flow-Optimized Shaped Charges	1005
<i>M.R.G. Bell, J. Hardesty, N.G. Clark</i>	
OTC 19332 Mechanisms by Which Methane Gas and Methane Hydrate Coexist In Ocean Sediments	1011
<i>Javad Behseresht, Yao Peng, Maša Prodanovi, Steven L. Bryant, Antone K. Jain, Ruben Juanes</i>	
OTC 19334 Extending the Use of Conventional Construction Technology for the Installation of Subsea Production Facilities in Deep Water	1034
<i>O. Vennemann, I. Frazer, R. Törnqvist</i>	
OTC 19336 The Roncador P-52 Oil Export System - Hybrid Riser at a 1800m Water Depth	1042
<i>F. E. Roveri, A. G. Velten Filho, V. C. Mello, L. F. Marques</i>	
OTC 19337 Marine Support to Offshore LNG Terminals	1057
<i>J.Y. Gourmelon</i>	
OTC 19339 Trends and Technologies in LNG Carriers and Offshore LNG Facilities	1073
<i>YoungMan Lee, Tai-Ik Cho, JungHan Lee, Oh-Yig. Kwon</i>	
OTC 19341 Expandable Screens: Optimized Horizontal Gas Production Through Collaboration	1086
<i>Alejandro Lopez Lara, Juan Aguirre Montalvo, Adrian Salas Zapata, Eddie G. Bowen, Gonzalo Garcia</i>	
OTC 19343 Arctic Offshore Projects and Technologies: Alaskan Beaufort Sea Exploration and Production Islands — Civil Design and Construction	1095
<i>J.C. Lucas, D.M. Masterson, J.D. Hall, C.J. Perry</i>	
OTC 19347 Leak Detection in Subsea Pipeline: A Mechanistic Modeling Approach with Fixed Pressure Boundaries	1107
<i>R. N. Gajbhiye, S. I. Kam</i>	
OTC 19348 Geophysical and Visual Identification of Chemosynthetic and Non-Chemosynthetic Communities Near Perdido Canyon, Northwest Gulf of Mexico	1131
<i>Thomas W. Neurauter, R. Craig Shipp, J. Larry Gibson</i>	
OTC 19349 Site Characterization through the Integration of Geophysical and Geotechnical Data	1147
<i>C.J. Ehlers, G.M. Lobley, D.R. Spikula, J.R. Brand</i>	
OTC 19350 Feasibility Assessment of a Mid-Water Transfer System	1160
<i>R. A. Alvim, P. Elman</i>	
OTC 19352 Seabed Imagery and Chemosynthetic Communities: Examples From Deep Offshore West Africa	1168
<i>Eric Cauquil, Jerome Adamy</i>	
OTC 19353 Oooguruk Offshore Arctic Flowline Design and Construction	1180
<i>Glenn A. Lanan, Todd G. Cowin, Beez Hazen, David H. Maguire, J.D. Hall, Conrad Perry</i>	
OTC 19354 Challenges to Delivering Tomorrow's Energy — Achieving a Balance between Energy Security and Climate Security	1193
<i>Ann Oglesby, Robert Fryklund, Shawn Huang</i>	

OTC 19355 Developing a Better Bio-Geology Overview and Information Needs for Effective Assessment of the Environmental Risks of Deepwater Oil and Gas Development	1200
<i>Robert S. Carney</i>	
OTC 19356 Integrated Site Investigation of Seafloor Features and Associated Fauna, Shenzi Field, Deepwater Gulf of Mexico	1208
<i>S. C. Williamson, N. Zois, A. T. Hewitt</i>	
OTC 19358 AUV and ROV Data Integration to Predict Environmentally Sensitive Biological Communities in Deep-water	1216
<i>Antony T. Hewitt, Jason L. Smith, Richard J. Weiland</i>	
OTC 19359 Specialized AC Drilling Rig for Arctic Offshore Drilling Applications	1230
<i>J.R. Neason</i>	
OTC 19360 Geological and Biological Relationships in the Puma Appraisal Area: from Salt Diapirism to Chemosynthetic Communities	1242
<i>R.J. Weiland, G.P. Adams, R.D. McDonald, T.C. Rooney, L.M. Wills</i>	
OTC 19364 Coupled Soil Deformation-Flow-Thermal Analysis of Methane Production in Layered Methane Hydrate Soils	1258
<i>M.Y.A. Ng, A. Klar, K. Soga</i>	
OTC 19365 Surge Pressure Analysis for Bijupira and Salema Water Injection System	1271
<i>Patricia Meliande, Elson A. Nascimento, João P. Dandoulakis, André L. L. Massa</i>	
OTC 19366 Effects of Startup and Shutdown of HPHT Wells on Wellbore Hydraulic Control-Line Design	1279
<i>C.T. Zhao, P.K. Notz</i>	
OTC 19367 Structural Design Overview of the Drillship	1287
<i>Yu-Chang Lim, Hae-Am Moon, Jin-Tae Kim, Jong-Koo Kim</i>	
OTC 19369 Coastal Engineering Design of the Oooguruk Project	1297
<i>Craig B. Leidersdorf, Peter E. Gadd, Gregory E. Hearon, J.D. Hall, Conrad J. Perry</i>	
OTC 19372 Investigation into the Limit State Design of XHPHT PIP Flowlines using Local and Global Finite Element Analysis Methods	1314
<i>Paul Jukes, Jason Sun, Ayman Eltaher</i>	
OTC 19373 Fairings versus Helical Strakes for Suppression of Vortex-Induced Vibration: Technical Comparisons	1325
<i>Don W. Allen, Li Lee, Dean L. Henning</i>	

VOLUME 3

OTC 19374 Fairings versus Helical Strakes for Suppression of Vortex-Induced Vibration: Installation, Maintenance, and Economic Considerations	1339
<i>Don W. Allen, C. Wayne Allen</i>	
OTC 19376 Dissociation Rate Analysis from Methane Hydrate-bearing Core Samples by Using Depressurization or Depressurization with Well-wall Heating Method	1350
<i>Hiroyuki Oyama, Takao Ebinuma, Jiro Nagao, Kiyofumi Suzuki, Hideo Narita, Yoshihiro Konno, Yoshihiro Masuda</i>	

OTC 19377 Comparisons of Various Fairing Geometries for Vortex Suppression at High Reynolds Numbers	1357
<i>Don W. Allen, Dean L. Henning</i>	
OTC 19379 Estimation of Thermal Properties of Methane Hydrate Sediment	1373
<i>Yoshitaka.Yamamoto, Michica.Ohtake, Taro.Kawamura, Tomoya.Tsuji, Yuichi.Tsukada</i>	
OTC 19382 Prediction of Gas Productivity from Eastern Nankai Trough Methane-Hydrate Reservoirs	1379
<i>Masanori Kurihara, Akihiko Sato, Hisanao Ouchi, Hideo Narita, Yoshihiro Masuda, Tatsuo Saeki, Tetsuya Fujii</i>	
OTC 19383 Focused Seismic Monitoring (FSM) on the Snorre Field	1403
<i>Mark Thompson, Mona Andersen</i>	
OTC 19386 Fatigue Design of Flexible Risers with a Non-Dry Annulus	1409
<i>Russell J. Smith, Virgiliu Stoica, Patrick J. O'Brien</i>	
OTC 19389 The Pipe Separator: Simulations and Experimental Results	1419
<i>Svein Ivar Sagatun, Gunnar Hannibal Lie, Olav Johan Horgen, Marit Storvik, Torbjørn Ruud</i>	
OTC 19391 Fibre Optic Reservoir Monitoring: Field Trials and Results	1428
<i>Jan Langhammer, Hilde Nakstad, Morten Eriksrud, Arne Berg, Erlend Rønnekleiv, Ole Henrik, Mark Thompson</i>	
OTC 19393 Heavy Production Platform for Offshore LNG Development	1438
<i>J.M. Cholley, P.A. Thomas, G. Lebois, P. Maniere</i>	
OTC 19396 Lightering the Load (LNG)	1450
<i>Robert DM Gilchrist</i>	
OTC 19397 Flow Assurance and Optimal Design of Thermal Characteristics in Flexible Pipes	1457
<i>Karsten Gorm Nielsen, Mikael Kristiansen, Erik Bendiksen</i>	
OTC 19399 A Systematic Appraisal of the Thrulife Integrity Management and Life Extension of Deepwater Subsea Systems	1466
<i>Chris Saunders, Patrick O'Brien, Tim O'Sullivan</i>	
OTC 19400 Advancements in Response Prediction Methods for Deep Water Pipe-In-Pipe Flowline Installation	1473
<i>Robert O'Grady, Henk-Jan Bakkenes, Donogh Lang, Adrian Connaire</i>	
OTC 19401 Steel Catenary Riser Design Based On Prescribed Motions from Coupled Analysis Methodology	1482
<i>M. V. Rodrigues, V. L. Hansen, R. A. Bahiense, C. V. Raposo</i>	
OTC 19403 Lab Investigation of Oil Swelling Elastomers for Smart Well	1497
<i>A.S. Al-Yami, H.A. Nasr-El-Din, S.H. Al-Saleh, A.S. Al-Humaidi, M.K. Al-Arfaj, M.Z. Awang, K.S. Al-Mohanna</i>	
OTC 19405 LNG Trials of a New 16" Flexible Hose Based LNG Transfer System	1506
<i>Guillaume Rombaut, Alain Peigne, Philippe Loisel, Alain Le Cloirec, Fatima Machouat, David Maocec</i>	
OTC 19407 The IOR Research Programme	1521
<i>Astrid Helga Jørgenvåg, Jan Richard Sagli</i>	
OTC 19409 The Future Drilling Scenario	1527
<i>Steinar Strøm, Mohsen Karimi Balov, Halvor Kjørholt, Rune Gaasø, Rolf Rommetveit</i>	
OTC 19411 Trend Breaking Completions	1534
<i>Sigurd M. Erlandsen, Svein Omdal</i>	

OTC 19413 Life and Times of Eddy Zorro: A Review of the 2007 Gulf of Mexico Loop Current Activity	1539
<i>P.D. Coholan, J.W. Feeney, S.P. Anderson</i>	
OTC 19414 The Research Path to Determining the Natural Gas Supply Potential of Marine Gas Hydrates	1548
<i>R.M. Boswell, K.K. Rose, R.C. Baker</i>	
OTC 19417 Field Experience with Chemical Sand Consolidation as a Remedial Sand Control Option	1555
<i>H.K. Kotlar, A. Moen, T. Haaland, T. Wood</i>	
OTC 19418 Technology Contribution to Increased Recovery	1564
<i>H. Kjørholt, A. H. Jørgenvåg, S. Strøm</i>	
OTC 19421 Seabed Logging Survey Design Optimization Using Grid Modeling	1569
<i>E.U. Aasland, J.E. Danielsen, P.T. Gabrielsen</i>	
OTC 19425 Fatigue in Deep Water Steel Catenary Risers—A Probabilistic Approach for Assessment of Risk	1577
<i>Tapan K Sen</i>	
OTC 19427 Present and Future Possibilities in Optical Condition Monitoring of Flexible Pipes	1588
<i>Nick Weppenaar, Mikael Kristiansen</i>	
OTC 19429 A Coupled FE-SPH Approach for Simulation of Structural Response to Extreme Wave and Green Water Loading	1594
<i>J.C. Campbell, R. Vignjevic, M. Patel</i>	
OTC 19432 Investigation of Riser Seafloor Interaction Using Explicit Finite Element Methods	1605
<i>Edward Clukey, Paul Jacob, Partha Sharma</i>	
OTC 19433 Improvement of Near Wellbore Permeability by Methanol Stimulation in a Methane Hydrate Production Well	1617
<i>Yoshihiro Masuda, Yoshihiro Konno, Hiroki Iwama, Taro Kawamura, Masanori Kurihara, Hisanao Ouchi</i>	
OTC 19434 Multidimensional Simulations of Multiphase Flow for Improved Design and Management of Production and Processing Operation	1629
<i>Harald Laux, Ernst Meese, Sjur Mo, Tor Erling Unander, Stein Tore Johansen, Kris M. Bansal, Thomas J. Danielson, Alexandre Goldszal, Jon Ingar Monsen</i>	
OTC 19435 On the Performance of Class 2 and Class 3 Hydrate Deposits During Co-Production With Conventional Gas	1638
<i>George J. Moridis, Matthew T. Reagan, Keni Zhang</i>	
OTC 19437 The Free Standing Flexible Riser: A Novel Riser System for an Optimised Installation Process	1663
<i>Jeroen Remery, Cristiano Silva, Olivier Mesnage</i>	
OTC 19438 Subsea Umbilical Stability Analysis	1674
<i>M.K. Hossain, K-M. Tjok, A. Nobahar</i>	
OTC 19439 Engineering Considerations for Offshore FSRU LNG Receiving Terminals	1681
<i>Rong-Tai Ho</i>	
OTC 19441 Jet Induced Trenching Operations: Mechanisms Involved	1692
<i>J-F. Vanden Berghe, H. Capart, J. C. C. Su</i>	
OTC 19443 Managing Fatigue in Deepwater Flexible Risers	1703
<i>Dorthe de la Cour, Claus Kristensen, Niels-J. Rishøj Nielsen</i>	

OTC 19445 Fiber Optic 4C Seabed Cable for Permanent Reservoir Monitoring	1710
<i>Steve Maas, Brett Bunn</i>	
OTC 19447 Sangachal Onshore Terminal Expansion	1715
<i>Norman Ingram, John Sutcliffe</i>	
OTC 19450 Impact of the use of FullQTF on LNGC Moored in Shallow Water Studies	1723
<i>Cédric Brun, Flávia Rezende, Damien Coache, Johan Mombaerts</i>	
OTC 19451 Multilateral Wells to Improve Production Performance in Heavy-Oil Reservoirs: The Challenges of the ZAM-408ML Well	1731
<i>D. Baldini, L. Tealdi, F. Okassa, L. Riccobon, D. Isella, A. Baioni, G. Obondoko, H. Malonga, F. Itoua Konga, M. Rampoldi</i>	
OTC 19454 Spectral and Cycle-Counting Fatigue Damage Estimation Methods for Steel Catenary Risers	1746
<i>T. L. Power, D. R. Maniar, D. L. Garrett, E. H. Phifer, J. P. Vogiatzis</i>	
OTC 19455 Mature Offshore Fields Rejuvenation via Long Reach Wells and Massive Hydraulic Fracturing: The Kitina Case History	1774
<i>F. Okassa, L. Tealdi, , D. Baldini, A. Casero, H. Malonga, D. Isella, A. Baioni, L. Riccobon, G. Obondoko, F. Itoua Konga, F. Pounga, M. Rampoldi</i>	
OTC 19458 Numerical Simulation of Methane Hydrate Production from Geologic Formations via Carbon Dioxide Injection	1783
<i>M.D. White, B.P. McGrail</i>	
OTC 19459 Evaluation of Landslide Impact on Deepwater Submarine Pipelines	1795
<i>Eric J. Parker, Roger Moore Trevor Evans, Nat Usher</i>	
OTC 19461 Improved Assessment of Chemosynthetic Community Presence in Areas of Potential Deepwater Oil and Gas Development by Modification of Routine Sampling Methods	1807
<i>J. Gharib, D. McConnell, A. Digby, J. Henderson, H. Danque, D. Orange</i>	
OTC 19462 The Motor Jacket: An Innovative System for ESP PCP Efficiency Improvement in Heavy-Oil Reservoirs	1817
<i>F. Okassa, H. Malonga, L. Tealdi, G. Obondoko, M. Rampoldi</i>	
OTC 19465 New Approach to Sand Removal	1826
<i>Stephen Douglas Coffee</i>	
OTC 19467 Kikeh Development: Delivering World Class Completion Performance	1841
<i>Tamara Webb, Kasim Selamat, Jusni Omar, Rusty Desormeaux</i>	
OTC 19469 Kikeh Development: Challenges in Implementing a Smart Field	1860
<i>Rick Chan, Bert Terry, Dave Dixon, Fred Gard</i>	
OTC 19471 Kikeh Development: Design of the World's 1st Gravity Actuated Pipe (GAP) Fluid Transfer System	1870
<i>P.A. Brown, E. Rooduijn, M Lemoël, G. Stone</i>	
OTC 19474 A System for Training Operators of Subsea Facilities	1880
<i>John Friedemann, Kristian Lokken</i>	
OTC 19477 A Methodology for Determining Offshore Floating Facilities Kinematics from Accelerometers and GPS Field Measurements	1889
<i>Vasileios Gkaras, Himanshu Gupta, Hugh Banon, Pol Spanos</i>	
OTC 19480 Seismic Time History Response of the Maleo Producer	1898
<i>Paul Jacob, Bil Stewart</i>	

OTC 19481 Kikeh Development: Project Overview	1907
<i>R.W. Jenkins, M.K. McFadyen, S.C. Dechant, J. Weber, T. Saifuzzaman</i>	
OTC 19482 Kikeh Development Project Execution Model	1914
<i>Stephen C. Dechant</i>	
OTC 19484 Kikeh Development: Sand Control Selection, Design and Implementation of ESS	1928
<i>Tamara Webb, Jusni Omar, Rusty Desormeaux, Pat Moran, Kasim Selamat, Steve Beare, Colin Jones, Kevin McWilliam</i>	
OTC 19485 HYDRAFLOW: A Multiphase Cold Flow Technology for Offshore Flow Assurance Challenges.....	1940
<i>R. Azarinezhad, A. Chapoy, R. Anderson, B. Tohidi</i>	
OTC 19489 Feasibility of Monitoring Gas Hydrate Production with Geophysical Methods	1948
<i>Michael B. Kowalsky, Seiji Nakagawa, George J. Moridis</i>	
OTC 19492 Technical Challenges and Production Forecast For Subsea Compression System	1961
<i>Johan Solvik, Rhodri Morgan, Bjørn Øiungen</i>	
OTC 19493 Interaction Model for Steel Compliant Riser on Soft Seabed	1970
<i>C. Aubeny, G. Biscontin</i>	
OTC 19494 Cyclic Tests of Model Pipe in Kaolin.....	1978
<i>C. Aubeny, C. Gaudin, M. Randolph</i>	
OTC 19495 Model Tests for Steel Catenary Riser in Marine Clay	1985
<i>Thomas Langford, Charles Aubeny</i>	
OTC 19496 Fluid and Gas Expulsion: Impacts on Seafloor Geology and Biology	1992
<i>Harry H. Roberts, William W. Shedd, Jesse Hunt Jr.</i>	

VOLUME 4

OTC 19498 A Novel Method for Coiled Tubing Installation	2005
<i>Peter James Simpson</i>	
OTC 19501 Scientific Objectives of the Gulf of Mexico Gas Hydrate JIP Leg II Drilling.....	2011
<i>E. Jones, T. Latham, D. McConnell, M. Frye, J. Hunt Jr., W. Shedd, D. Shelander, R. Boswell, K. Rose, D. Hutchinson, T. Collett, B. Dugan, W. Wood</i>	
OTC 19502 Fracture Mechanics-Based Fatigue Predictions for HPHT Equipment	2021
<i>R.D. Cordes, R.I. San Pedro</i>	
OTC 19504 Solving Pipeline Technology Challenges in the GoM by Innovation, Advanced Analysis Tools, and Engineering Competency	2032
<i>Paul Jukes, James Wang, Billy Duron</i>	
OTC 19505 Two Field Studies Demonstrate That New AA LDHI Chemistry is Effective at High Water Cuts Without Impacting Oil/Water Quality	2052
<i>R. Alapati, J. Lee, D. Beard</i>	
OTC 19510 LNG Imports into North America and Implications	2066
<i>Mike Juden, Tommy Inglesby, Scott Nyquist, Stuart Bodden, Dieuwert Inia, Morten Jørgensen</i>	

OTC 19513 3D Modeling Improves Deepwater Umbilical Design Dependability	2073
<i>M. Dixon, T. Zhao</i>	
OTC 19514 Predicting When and Where Hydrate Plugs Form in Oil-Dominated Flowlines	2084
<i>John Boxall, Simon Davies, Carolyn Koh, E. Dendy Sloan</i>	
OTC 19515 Carbon Storage in Deep Sea Sediments: An Important Part of the CCS Portfolio	2094
<i>Daniel P. Schrag</i>	
OTC 19516 Energy-Based Methodology for Collision Protection for LNG Carriers	2096
<i>Caroline J. Deetjen, Robin Pitblado, Thor Hysing</i>	
OTC 19517 Installation-Driven Field Developments for Deepwater Subsea Projects	2104
<i>Mark Dixon, Easter David</i>	
OTC 19518 Mitigating Flow Assurance Challenges Using Subsea Meters on Independence Hub	2110
<i>Nikhil B. Joshi, Bob Buck</i>	
OTC 19519 Four Critical Needs to Change the Hydrate Energy Paradigm from Assessment to Production: The 2007 Report to Congress by The U.S. Federal Methane Hydrate Advisory Committee	2120
<i>Dendy Sloan, Peter Brewer, Nader Dutta, Arthur Johnson, Emrys Jones, Kimberly Juenger, Miriam Kastner, Devinder Mahajan, Stephen Masutani, Robert Swenson, Jean Whelan, Scott Wilson, Robert Woolsey</i>	
OTC 19521 Offshore Routing of Large Diameter Pipelines through High Relief Outcrops	2126
<i>L. McClure, M. Dixon</i>	
OTC 19525 Virtual Metering Technology Field Experience Examples	2132
<i>Prashant Haldipur, Gregory Metcalf</i>	
OTC 19526 Oooguruk Project Field Development Concept and Execution	2155
<i>J. D. Hall, C. J. Perry</i>	
OTC 19528 In-Situ Measurement of Pipe-Soil Interaction in Deep Water	2168
<i>A.J. Hill, H. Jacob</i>	
OTC 19530 Geomechanics in Integrated Reservoir Modeling	2185
<i>A. (Tony) Settari, Vikram Sen</i>	
OTC 19531 Compact Electrostatic Separation Process	2194
<i>H. G. Wallace, D. L. Taggart, D. R. Manen, G.W. Sams</i>	
OTC 19532 Time-Lapse Seismic Modeling and Inversion of CO₂ Saturation for Storage and Enhanced Oil Recovery	2200
<i>M.A. Meadows</i>	
OTC 19534 Analyses and Measurement of Conductor Response for Jack-up Drilled Wells in 110 m Water Depth in Harsh Environment	2205
<i>Morten Bærheim, Andrew North, Oddrun Steinkjer</i>	
OTC 19535 Modern Deepwater Site Investigation: Getting It Right The First Time	2214
<i>Kerry J. Campbell, Gary D. Humphrey, Robert L. Little</i>	
OTC 19536 Permeability of Laboratory-Formed Hydrate-Bearing Sand	2230
<i>Timothy J. Kneafsey, Yongkoo Seol, Arvind Gupta, Liviu Tomutsa</i>	

OTC 19539 Improving Reliability and Reducing Intervention Costs of Ultra-deep Subsea Technology at the Design Stage	2248
<i>Pedram Fanailoo, Goran Andreassen</i>	
OTC 19544 Structural Optimization of Subsea Pressure Vessel Equipment for HPHT Application with a Design by Analysis Case Study of a Typical BOP	2257
<i>Shafiq Khandoker, Greg Landthrip, Philip Huff</i>	
OTC 19545 Comparison of Jackup Rig Spudcan Penetration Methods in Clay	2267
<i>David Menzies, Richard Roper</i>	
OTC 19547 All Electric Subsea Tree System	2289
<i>Vidar Sten-Halvorsen, Evind Koren</i>	
OTC 19548 Base Material Considerations and the Selection of NACE Approved High-Strength Alloy Overlay for Use on HP/HT Exploration and Production Equipment	2298
<i>Philip A. Huff, Shafiq Khandoker, Greg Landthrip, Melissa Newbury</i>	
OTC 19550 Overcoming Weight Transfer Challenges in Complex, Shallow, Extended Reach Wells on Alaska’s North Slope	2309
<i>Randy Thomas, Dennis Hartwig, Steve McKeever, Dave Egedahl, John Patton, Keith Holtzman, Lee Smith</i>	
OTC 19551 The Commercial Advantages and Limitations-Onshore versus Offshore LNG Import Facilities	2324
<i>Hans Kristian Danielsen, Goran Andreassen</i>	
OTC 19552 Well Intervention in Deep Waters	2329
<i>Erling Mathiassen, Per Kristian Munkerud, H. Brian Skeels</i>	
OTC 19553 Overturning Analysis of Maleo Jack-Up Mat Foundation on Soft Clay	2342
<i>J.D. Murff, A.G. Young</i>	
OTC 19554 Sensitivity Analysis of Gas Production from Class 2 and Class 3 Hydrate Deposits	2350
<i>Matthew T. Reagan, George J. Moridis, Keni Zhang</i>	
OTC 19559 Mechanical Strength and Seismic Property Measurements of Hydrate-Bearing Sediments (HBS) During Hydrate Formation and Loading Tests	2384
<i>Seiji Nakagawa, Timothy J. Kneafsey, George J. Moridis</i>	
OTC 19561 A New Experimental Study on the Spreading of Liquid Nitrogen over Water	2393
<i>H.K. Kytömaa, M.K. Chernovsky, F.Gavelli</i>	
OTC 19563 Geohazard Challenges of the Woodside OceanWay Secure Energy LNG Development, Offshore Southern California	2401
<i>P. Hogan, A. Lane, J. Hooper, A. Broughton, B. Romans</i>	
OTC 19565 Monitoring of Floating Offshore Installations’ Wave Frequency Motions	2411
<i>Pierre Liagre, Himanshu Gupta, Hugh Banon</i>	
OTC 19566 Paraffin Cleanout in a Single Subsea Flowline Environment: Glycol to Blame?	2421
<i>J.Claire Bailey, Stephan J. Allenson</i>	
OTC 19568 Use of Analytical Models and Monte-Carlo Simulation for Quantification of Uncertainties Associated with Gas Production from Hydrate-Capped Gas Reservoirs	2429
<i>Mehran Pooladi-Darvish, Shahab Gerami</i>	

OTC 19569 Comparison of Axial Pile Capacities in Clay at Offshore Sites Investigated by both “Early” and “Recent” Sampling Techniques	2440
<i>G.W. Quirós, J.G. Aramburu, Patricia M. Peters</i>	
OTC 19572 Coupled Hydrological, Thermal and Geomechanical Analysis of Wellbore Stability in Hydrate-Bearing Sediments	2458
<i>Jonny Rutqvist, Tarun Grover, George J. Moridis</i>	
OTC 19573 Experimental Modeling of the Unburial Behaviour of Pipelines	2475
<i>B.W. Byrne, J. Schupp, C.M. Martin, J. Oliphant, A. Maconochie, D.N. Cathie</i>	
OTC 19575 Thinking About Risk in the Offshore Energy Industry	2488
<i>Scot W. Anderson</i>	
OTC 19576 Gulf of Mexico Offshore Platforms-Risk Engineering	2497
<i>T. T. “Tommy” Laurendine</i>	
OTC 19577 Financing New Technologies and Managing Financial Risks in the Offshore Industry	2509
<i>H. M. P. M. C. Diogo, B. Martejn</i>	
OTC 19580 Detailed Geotechnical Investigation Around In-Place Mat Foundation Including T-Bar and Cpt Comparisons	2515
<i>Jean M.E. Audibert, Steve Neubecker</i>	
OTC 19581 The Maleo MOPU Project—Project Overview and Keynote Address	2530
<i>Mike Ooley, William P. Stewart</i>	
OTC 19582 Soft Clay Dynamic Characteristics for Madura Straits from Advanced Geotechnical Tests	2539
<i>D. R. Spikula, G. S. Garmon</i>	
OTC 19583 Seismic Design Criteria for the Maleo Producer, Madura Straits.....	2549
<i>Ahmed Nisar</i>	
OTC 19589 Pipe-Soil Interaction During Lateral Buckling and Pipeline Walking — The SAFEBUCK JIP	2557
<i>David A.S. Bruton, David J. White, Malcolm Carr, Johnny C.Y. Cheuk</i>	
OTC 19596 3D Visualization Technology, Reducing Cycle Time and Improving Performance, from Basin Scale Assessment through Prospect Identification to Optimal Drill Site Selection	2577
<i>Frank R. Love, Nicholas Purday</i>	
OTC 19599 Improving Productivity of Hydraulically Fractured Gas Condensate Wells by Chemical Treatment	2586
<i>Vishal Bang, Chengwu Yuan, Gary A. Pope, Mukul M. Sharma, Jimmie R. Baran Jr., John D. Skildum, Harold C. Linnemeyer</i>	
OTC 19601 Borehole Pressure Coring and Laboratory Pressure Core Analysis for Gas Hydrate Investigations.....	2600
<i>P.J. Schultheiss, M.E. Holland, G.D. Humphrey</i>	
OTC 19602 Development of API RP 2MET: The New Path for Metocean	2610
<i>James Stear</i>	
OTC 19603 API RP2T and RP2FPS: Moving Forward.....	2618
<i>Steve Leverette, W. R. Wolfram</i>	
OTC 19605 ISO 19900 Series: Offshore Structures Standards	2625
<i>R.O. Snell, D.J. Wisch</i>	
OTC 19606 API Offshore Structures Standards: Changing Times	2630
<i>D. J. Wisch, Andrea Mangiavacchi</i>	

OTC 19607 API RP 2SK: Stationkeeping — An Emerging Practice	2642
<i>D.J. Petruska, C. Castille, C.A. Colby, J. Stiff, B.A. Stone, D.J. Wisch</i>	
OTC 19608 ISO Floating and Fixed Standards ISO 19902, ISO 19903, and ISO 19904	2654
<i>D.N. Galbraith, W.R. Wolfram, S. Leivestad</i>	

VOLUME 5

OTC 19612 Swellable Packer Technology Resolves Water Production Problem — Case History in Campos Basin, Brazil	2667
<i>Eduardo Midulfo Ueta, José Augusto da Silva Neto, Max Samuel Nunes, Oscar Barrios, André Luiz Rodrigues Tocchetto, Edison Barretto</i>	
OTC 19618 The Case Against Severe Cold Eddies	2677
<i>Cortis Cooper, James Stear, Sergei Frolov, Lee Gordon, Gus Jeans, Darryl Symonds, Michael Vogel</i>	
OTC 19620 Case History: New Design in Surface-Controlled Subsurface Safety Valves Resolves Valve Problems in Subsea Completions in the Gulf of Mexico	2685
<i>Gerald LeBoeuf, Shane Adams, Adam Pittman, Paul Dodd</i>	
OTC 19621 Development of a High-Temperature Rechargeable Battery for Downhole Use in the Petroleum Industry	2694
<i>Michael Fripp, Don Kyle, Syed Hamid, Darrell Moore, Josip Caja, T. Don Dunstan</i>	
OTC 19622 Case History: Two GOM Multi-Zone, Frac-Packed, Intelligent Deepwater Completions—How Success was Achieved and the Associated Lessons Learned.....	2702
<i>Stephen Jeu, Wayne Cunningham, Jacques Braile Salies, Richard Jannise, Brad Beridon, Brennan Oubre, George Arnold, Colton Puckett</i>	
OTC 19623 New Reservoir Testing and Sampling System Reduces Costs and Provides Improved Real-Time Data Acquisition in Deep Water and Environmentally Sensitive Wells Gulf of Mexico and Brazil Case Histories	2715
<i>Alejandro Salguero, Edgar Almanza, Henk Kool</i>	
OTC 19624 Design and Initial Results of EOR and Flow Assurance Laboratory Fluid Testing for K2 Field Development in the Deepwater Gulf of Mexico	2731
<i>Frank Lim, Eulalia Munoz, Brad Browning, Nikhil Joshi, Cuong Jackson, Stefan Smuk</i>	
OTC 19626 Performance Qualification of Seal Systems for Deepwater Completions	2765
<i>Buc Slay, Kent Ferrell</i>	
OTC 19632 Lessons Learned From the Openhole Completions in Two HP/HT Retrograde Gas Condensate Fields Using Expandable Liner Hangers, External-Sleeve Inflatable Packer Collars and Swellable Packers for Zonal Isolation.....	2779
<i>Yong Sook Kim, Kwon Ou Kwang, Basker Murugappan, James Williford, Tance Jackson, Irwan Nizam, Derek Lim</i>	
OTC 19634 Hydrates Blockage Experience in a Deep Water Subsea Dry Gas Pipeline: Lessons Learned	2794
<i>Moussa Kane, Aditya Singh, Ronny Hanssen</i>	
OTC 19636 LNG Terminal Expansions, Working Successfully within an Operating Plant.....	2804
<i>Dan Tennison</i>	

OTC 19637 Kikeh Development: Subsea Equipment Installation Challenges for Malaysia's First Deepwater Development	2810
<i>G. Murray, D. Lowther, A. Ledingham, T. J. Stensgaard</i>	
OTC 19639 Kikeh Development: Spar Topside Floatover Installation	2819
<i>D. Edelson, M. Luo, J. Halkyard, D. Smiley</i>	
OTC 19642 The Next Major Challenge for Deep Water: Developing Marginal Fields	2838
<i>Keith K. Millheim</i>	
OTC 19644 International Risk Management	2849
<i>Daniel V. Murphy</i>	
OTC 19645 Time Domain FE Seismic Analysis of Mat-Supported Jack-Up Structure on Soft Clay	2872
<i>J. S. Templeton III</i>	
OTC 19648 Integration of Solid Modeling into Real Time Navigation	2884
<i>Richard D. Beck, Jonathan P. Davis, Ron L. Butcher, Mark K. Burhke, James P. Clarke, Richard B. Simpson, Luis D. Benitez, John E. O Leary, Perry L. Smith</i>	
OTC 19650 Imaging Downed Platforms	2896
<i>Richard D. Beck, Jonathan P. Davis, Richard Lynch, Tom Philips, Mike Taylor, Graham Openshaw, Mark K. Burhke, Wojciech Tomaszewicz, Richard B. Simpson, Ron L. Butcher</i>	
OTC 19653 Methodology to Establish the Fitness for Continued Service of a Damaged Export Pipeline in 1000 m of Water	2909
<i>D. Raghu, Richard Swanson, Chris Alexander</i>	
OTC 19656 Solid Expandable Monobore Openhole Liner Extends 13-5/8 in. Casing Shoe without Hole Size Reduction	2921
<i>Pat York, Mike Sutherland, David Stephenson, Lev Ring</i>	
OTC 19657 Collaborative Effort Enables Repair of Prolific Gas Well with Solid Expandable Chrome Liner	2940
<i>Zdenek Sehnal, Robert M. Anderson, Robert V. Baker, P. D. Pattillo, J. C. Healy, Patrick York, Bill Rhinehart, Lev Ring, Brian Marr</i>	
OTC 19658 Critical Parameters for LNG Marine Terminal Site Selection	2959
<i>T.R. Sonne, J.G. Bomba</i>	
OTC 19659 Marine Magnetotelluric (MMT) Data Interpretation in the Gulf of Mexico for Subsalt Imaging	2977
<i>S. K. Sandberg, T. Roper, T. Campbell</i>	
OTC 19662 Overview of World LNG Industry	2984
<i>Warren R. True</i>	
OTC 19668 Pipeline Flotation in Liquefiable Soil	2996
<i>David Bonjean, Carl Erbrich, Jianguo Zhang</i>	
OTC 19669 Onshore Commissioning of Greater Plutonio FPSO Focused on Offshore Start Up	3006
<i>Matt Forster</i>	
OTC 19672 Greater Plutonio: Angola Deepwater Project	3012
<i>Jim Campbell</i>	
OTC 19673 Delivering Giant Wells in Angola	3017
<i>C. Graham Stewart</i>	
OTC 19674 Greater Plutonio — Progressive Subsurface Management in a High Cost, Subsea Environment	3024
<i>J.L.Peak, D.A.Booth</i>	

OTC 19675 The Greater Plutonio FPSO: Mixed Contracting Strategies to Optimize Delivery	3034
<i>G.A. Stewart</i>	
OTC 19676 Subsea, Umbilicals, Risers and Flowlines (SURF): Performance Management of Large Contracts in an Overheated Market; Risk Management and Learnings	3040
<i>Tony Oldfield</i>	
OTC 19678 Optimum Optical Architectures for Seismic Reservoir Monitoring	3055
<i>P. Nash, A. Strudley</i>	
OTC 19679 Development of EPS FPSO and Riser System for Deepwater Gulf of Mexico	3065
<i>J. Chung, W.A. Dupont, C.F. Mastrangelo, B.P. Hartman</i>	
OTC 19680 Simian / Sienna Controls Platform Case Study	3080
<i>Mohamed Gaber Abdul Raheim, Mamdouh Farouk, Wael F. Ellaithy</i>	
OTC 19683 Differences in Shear Strength between Jumbo Piston Core and Conventional Rotary Core Samples	3092
<i>Patrick C. Wong, Brian B. Taylor, Jean M. E. Audibert</i>	
OTC 19686 Footings Design for Temporarily Founded Seabed Drilling Systems	3109
<i>Pat Kelleher, Nazri Samsuri, John Carter</i>	
OTC 19687 Quality Assessment of Marine Sediments Recovered with a Hydraulically Tethered Piston Corer	3121
<i>Pat Kelleher, Tim Hull</i>	
OTC 19688 Design, Fabrication and Installation of the Neptune Export Lateral PLETs	3134
<i>J. K. Antani, W. T. Dick, D. Balch, T. van der Leij</i>	
OTC 19690 Asphaltene Instability Induced by Light Hydrocarbons	3146
<i>Jefferson L. Creek, Jill S. Buckley, Jianxin Wang</i>	
OTC 19691 Emerging Geophysical Technologies: Is Planting and Re-planting of Nodes in a 4C-4D Scenario the Optimum and Most Cost-Effective Solution for Field Reservoir Monitoring?	3158
<i>E.W.Berg, C.Vuillermoz, G.Woje, and G. Ekmann, SeaBed Geophysical AS</i>	
OTC 19693 Monitoring the Oilfield of the Present Using Live-Well Microseismic Technology	3171
<i>Stephen A. Wilson, Gilles Le Floch, Rob Jones</i>	
OTC 19694 Development of the 18-3/4" - 20,000 psi Subsea Wellhead System for High Pressure and High Temperature Applications	3180
<i>Shiva Singeetham, Bernard McCoy Jr.</i>	
OTC 19695 Improved EPC Integration Management for FPSOs	3188
<i>J.G. Kim, Y.H. Jo, W.R. Shelton, J.N. Choi, T.W. Jeon</i>	
OTC 19696 Collaboration for EPC of Offshore Structures	3202
<i>H.S. Shin., W.S. Sim., J.S. Moon., K.Y. Yoon</i>	
OTC 19699 An Alternative Approach to an Offshore Exploration Borehole for Gas Storage Caverns Using a Hybrid of Drilling Technology	3210
<i>Andy Frazer, Ross Stevens</i>	
OTC 19702 Application of Electromagnetic Scanning to an Australian Frontier Basin with Complex Bathymetry	3223
<i>D.J. Monk, F. Roth, J. Ross, C. Twarz</i>	

OTC 19703 High Integrity Pressure Protection Systems (HIPPS) Development for the Gulf of Mexico: Update on Deepstar, API 170 and Industry Developments	3230
<i>Christopher Curran</i>	
OTC 19704 Sandwich Pipes for Ultra Deepwater Applications	3247
<i>Xavier Castello, Segen F. Estefen</i>	
OTC 19705 Advancements in Methods for Quantifying Energy Dissipation in Unbonded Flexible Pipe	3261
<i>Adrian Connaire, Enda O'Sullivan, Tommie Carr, Martyn Witton</i>	
OTC 19706 The Challenges of Deepwater Gas Production Offshore Western Australia	3280
<i>J.E.P. Morgan</i>	
OTC 19707 Diverless Maintained Cluster Subsea Architecture—14 Years Experience	3289
<i>P.M. Roberts, J. White, R.J. Wood, R.N. Tucker</i>	
OTC 19708 Developments in Underwater Technology and the Role of the Learned Society	3303
<i>I Gallett</i>	
OTC 19709 Installing Disconnectable Turrets and Offloading Buoys	3310
<i>Brian K. Green, Keith McClure</i>	
OTC 19710 CO2 Sequestration in the Offshore Environment: Challenges, Opportunities and Solutions	3326
<i>Joseph M. Reilly</i>	
Author Index	