

SPE Annual Technical Conference and Exhibition 2016

Dubai, United Arab Emirates
26 - 28 September 2016

Volume 1 of 8

ISBN: 978-1-5108-3133-9

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© (2016) by Society of Petroleum Engineers
All rights reserved.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact 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: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

VOLUME 1

1D and 2D Modeling in Studying Petroleum Potential of the South Kara Basin.....	1
<i>Kishankov, Aleksei</i>	
3D Downhole Drilling Automation Based on Minimum Well Profile Energy.....	7
<i>Mittal, Manish; Samuel, Robello</i>	
3-D Reconstruction of Porous Media and Rock Characterization	24
<i>Naraghi, Morteza Elahi</i>	
Abandonment of a Stimulated Gas Reservoir.....	43
<i>Muhammad Danish; Krishnan, Gopi; Khan, Faisal</i>	
Accelerating the Learning Curve of Next Generation Exploration and Production Workforce through Smart Data and Knowledge Environment.....	54
<i>David, Richard Mohan</i>	
Adaptive Grid Refinement Improves Gas Injection Modeling	60
<i>Gonzalez, Karin G.</i>	
Additives for CO₂ EOR Applications.....	78
<i>Rommerskirchen, Renke; Nijssen, Patrick; Bilgili, Harun; Sottmann, Thomas</i>	
Advanced Distributed Fiber Optic Sensors to Monitor Cement Hydration and Detect Annular Hydrocarbon Migration for Enhanced Zonal Isolation	91
<i>Wu, Qian; Nair, Sriramya; Shuck, Michelle; van Oort, Eric; Guzik, Artur; Kishida, Kinzo</i>	
Advanced Inflow Control Device in Horizontal Well Extends Economic Field Life: A Case Study and Technological Overview.....	112
<i>Jalan, Shiv Narayan; Kotecha, Rohit Kumar; Gazi, Naz H.; Al-Sabea, Salem; Bu-Quraish, Abdulla; Al-Azmi, Mohammad Saad; Al-Houti, Naser</i>	
Advanced Production Data Analysis in Oil Carbonate Reservoirs	125
<i>Adrian, P. M.</i>	
Advancement in Openhole Sand Control Applications Using Shape Memory Polymer.....	148
<i>Wang, Xiuli; Osunjaye, Gbenga</i>	
The Advantages of Longitudinally Fracturing the Barmer Hill Porcellinite - A Case Study of Successfully Fractured Horizontal Wells in Barmer Basin, Rajasthan, India	162
<i>Nagar, Ankesh; Tibbles, Raymond; Guha, Rupdip; Chidambaram, Prasanna; Sinha, Ankaj; Pathak, Shashank; Agarwal, Prashant; Misra, Anurag; Ranjan, Amit; Ranjan, Vishal; Tiwari, Shobhit; Dwivedi, Nikhilesh</i>	
Analysis of Production Rates of a Gas Well Using Computational Fluid Dynamics and Rate-Dependent Pseudo-Skin Factor	179
<i>Molina, Oscar</i>	
Analytical Study of Flowing and In-Situ Compositions in Unconventional Liquid-Rich Gas Plays	193
<i>Zhang, Miao; Ayala, Luis F.</i>	
Anomalous Diffusion Approach and Field Application for Fractured Nano-Porous Reservoirs	216
<i>Albinali, Ali; Ozkan, Erdal</i>	
Application of Multi-Well Pressure Pulse-Code Testing for 3D Model Calibration	234
<i>Aslanyan, A.; Aslanyan, I.; Farakhova, R.</i>	
Application of Reservoir Characterization Synthetically Applied With Ant Tracking and Geological Statistics Inversion in Offshore Oilfield Development: A Case Study of CFD11-X Oilfield in Bohai Bay Ba.....	265
<i>Wei, Yang; Qingyun, Bai; Peng, Meng; Guangming, Pan; Chuangqi, Liu</i>	
Application of Simultaneous Operations in Saudi Arabia's Causeway Oilfields Development	279
<i>Arulkhe, James O.; Duthie, Laurie S.; Hernandez, Jose Rodulfo; Ahmari, Abdulrahman S.; Hanbazazah, Shadi M</i>	
Applications of Additive Manufacturing to Rock Analogue Fabrication	295
<i>Anderson, Timothy</i>	
Applying Big Data Analytics to Detect, Diagnose, and Prevent Impending Failures in Electric Submersible Pumps	307
<i>Gupta, Supriya; Saputelli, Luigi; Nikolaou, Michael</i>	
Applying Data-Driven Method to Production Decline Analysis and Forecasting.....	322
<i>Jia, Xinli; Zhang, Feifei</i>	
Appraising Unconventional Play from Mini-Frac Test Analysis, Actual Field Case	332
<i>Ibrahim, M.; Pieprzica, C.</i>	
Approach towards Establishing Unified Petroleum Data Analytics Environment to Enable Data Driven Operations Decisions	343
<i>David, Richard Mohan</i>	
Architecture Modeling of Stacked Point Bar Reservoir Based on Meander Loop Database and Automatic Pattern Reconstruction Algorithm: A Case Study in the M Oilfield, Bohai Bay Basin, East China	351
<i>Shu, Xiao; Dong, Rengcheng; Hu, Yong; Jin, Baoqiang; Ren, Baicong; Shi, Hongfu; Wang, Jijun</i>	
Assessment of Permeability Anisotropy in Anisotropic Reservoirs With Integrating Multicomponent Induction and Conventional Permeability Logs	364
<i>Hou, Junsheng; Mekic, Natasa; Quirein, John; Donderici, Burkay; Torres, David</i>	
An Assessment of the Probability of Subsurface Contamination of Aquifers from Oil and Gas Wells in the Wattenberg Field, Modified for Water Well Location.....	385
<i>Stone, C. H.; Fleckenstein, W. W.; Eustes, A. W.</i>	

Assuring Optimum Production and Enhanced Operational Efficiency through Transient Simulation: A Case Study in North Kuwait Jurassic Fields	408
<i>Al-Sharrad, Mohammad; Prakash, Roshan; Trudvang, Christian F.; Al-Mai, Noura; Hajjayah, Abrar A.; Al-Failakawi, Abdulaziz H.</i>	
Automated Surveillance and Diagnostic Workflow for the Management of Water Production in Naturally-Fractured Carbonate Reservoirs	423
<i>Cinar, Y.; Shehab, M. A.; Dallag, M. M.; Jama, A. A.</i>	
Best Practices and Lessons Learned from more than 1,000 Treatments: Revival of Mature Fields by Hydraulic Fracturing in Khalda Ridge, Egypt's Western Desert	433
<i>Salah, Mohamed; El-Sebaee, Mohamed; Batmaz, Taner</i>	
Best Practices for Obtaining Representative Formation Water Samples Using Formation Testers	478
<i>Kim, I.; Ramaswami, S. R.; den Heuvel, M. Mooijer-van; Koot, W.; Cornelisse, P. M. W.; Elshahawi, H.</i>	
Big Data Yields Completion Optimization: Using Drilling Data to Optimize Completion Efficiency in a Low Permeability Formation	497
<i>Lehman, Lyle V.; Jackson, Kale; Noblett, Bruce</i>	
Bitumen and Tar Deposition and Tar Mat Formation Accounted for by Multiple Charging, Trap Filling and Fluid Geodynamics	513
<i>Mullins, Oliver C.; Primio, Rolando Di; Uchytil, Steve; Zuo, Julian Y.; Dumont, Hadrien; Mishra, Vinay; Pfeiffer, Thomas; Achourou, Vladislav</i>	
Bottomhole Pressure Prediction Using Multiphase Hydraulics in Underbalanced and Managed Pressure Drilling Operations	528
<i>Morales, Gabriela; Urdaneta, Gustavo; Poletzky, Isabel C.</i>	
Calibrated Clay Parameter Improves Continuous Permeability Estimation with LWD Logs in Complex Siliciclastic Reservoirs	545
<i>Li, Xingli; Lu, Yunlong; Zhu, Jianmin; Wang, Xijie; Li, Ting; Zhang, Lei</i>	
Capturing Complex Reservoir Heterogeneity in a Field Under Water Injection – A Case Study of a Niger Delta Field	556
<i>Nanaghan, Karena O.</i>	
Carbon Quantum Dots Fluorescent Tracers for Production and Well Monitoring	568
<i>Murugesan, Sankaran; Kuznetsov, Oleksandr; Suresh, Radhika; Agrawal, Devesh; Monteiro, Othon; Khabashesku, Valery N.</i>	
Case Story: Dynamic Underbalance Applied With Gun Hanger Technology in Mature Field	576
<i>Patino, Jorge; Gainza, Fausto; Cosios, Gustavo</i>	
A Case Study of Open and Cased Hole Well Completions in More than 400 Wells in On-Shore Block in India	590
<i>Panigrahi, Nishant; Bohra, Avinash; Ranjan, Ashish; Nekkanti, Satish; Kumar, Abhishek; Kestwal, Ashish; Vaibhav, Ankit; Jain, Himanshu; Kumar, Animesh</i>	
A Case Study of Water Injection Well Stimulation in a Low Permeability Oil Reservoir	606
<i>Shaoul, J. R.; Spitzer, W. J.; Fekkai, S.; Sepulveda, L.</i>	
Challenges During Execution, Construction and Operational Readiness Phase of Surface Facilities in a Full Field Polymer Flood Project	628
<i>Mohanram, Santosh; Bhattacharjee, Premashis; Jain, Shagun</i>	
Characterization of Rock Pore Size Distribution and its Effects on Wormhole Propagation	638
<i>Dubetz, D.; Cheng, H.; Zhu, D.; Hill, A. D.</i>	
Characterizing and Predicting Reservoir Quality in Argillaceous Sandstone Reservoirs, Offshore Brunei	654
<i>Saha, Sourav; Espejo, Irene; Gelinsky, Stephan; Keym, Matthias; Naeth, Jochen; Jäger, Günter</i>	
A Chemical Potential Dominated Model for Fracturing-Fluid Flowback Simulation in Hydraulically Fractured Gas Shale	671
<i>Fei, Wang; Ziqing, Pan; Hun, Lin; Shicheng, Zhang</i>	
Collaborative Working Across the E&P Lifecycle and Evolving With New Technologies	688
<i>van den Berg, Frans G.; Awobajo, Mayowa; van Dijk, Jaap; Weiss, Chris</i>	
Combined Technology of Weak Gel Flooding Assisting Thermal Huff and Puff Enhances Oil Recovery for Offshore Heavy Oil Field	697
<i>Pan, Guoming; Chen, Jianbo; Zhang, Caiqi; Liu, Dong; Wu, Jintao; Li, Hao; Fang, Zhou; Qu, Jifeng; Zhang, Junting</i>	
Combining Frequent 4D Seismic and Mechanistic Reservoir Modeling to Improve the Effectiveness of Steam Injection Operations	712
<i>Przybysz-Jarnut, J. K.; Wills, P. B.; Araujo, M. G.; Lopez, J. L.</i>	
Combining Soluble Particle Diverter with Specially Engineered Proppant to Enhance Fracture Complexity and Post-Fracture Conductivity	725
<i>Gomaa, Ahmed M.; Spurr, Naima; Pirogov, Alexander; McCartney, Elizabeth</i>	
Comparative Analysis of Various Failure Theories for Borehole Breakout Predictions	739
<i>Morita, Nobuo; Nagano, Yu</i>	
Complementary Surveillance Microseismic and Flowback Data Analysis: An Approach to Evaluate Complex Fracture Networks	770
<i>Xu, Yanmin; Ezulike, Obinna Daniel; Zolfaghari, Ashkan; Dehghanpour, Hassan; Virues, Claudio</i>	
Completion Design Production Case Study in the Duvernay Shale Formation	800
<i>Thomson, Jim; Zaslavsky, Greg; Leshchyshyn, Tim</i>	

VOLUME 2

Completion Quality Classes to Characterize Basin Complexity: New Framework to Incorporate Localized and Regional Reservoir Heterogeneity into Field Exploration and Development Optimization.....	820
<i>Gurnen, M. Nihat; Fredd, Christopher N.; Batmaz, Taner; Kurniadi, Stevanus; Al Zeidi, Omar; Kanneganti, Kousic; Nasredin, Gaisoni; Khan, Saifdar; Tineo, Roberto; Subbiah, Surej Kumar</i>	
Complex Facilities and Multireservoir Production Management Using a Tightly Integrated High Performance Simulator with a Flexible User Procedure Facility.....	849
<i>Vanderheyden, W. B.; Dozzo, J. A.; Mastny, E.; Hanson, B.; Kaebsch, I.; Smart, G. T.; Fleming, G. C.; Crockett, S.</i>	
Compositional Rate Transient Analysis in Liquid Rich Shale Reservoirs.....	862
<i>Alhartly, Najeeb; Teklu, Tadesse; Kazemi, Hossein; Graves, Ramona</i>	
A Comprehensive Approach to Measure the RealTime Data Quality Using Key Performance Indicators	881
<i>Otalvora, William Contreras; AlKhudiri, Musab; Alsanie, Faisal; Mathew, Binil</i>	
Computer Modeling for Intelligent Control of Gas-Condensate Reservoir	892
<i>Mikolajczak, Edyta</i>	
Connectivity Assessment and Permeability Upscaling of Fracture Network Using Grid Independent Particle Tracking Algorithm.....	899
<i>Anupam, Ankesh; Srinivasan, Sanjay</i>	
Consistent Integration of Drill-Stem Test Data into Reservoir Models on a Giant Field Offshore Norway	913
<i>Sætrøm, Jon; Selseng, Harald; MacDonald, Alister; Kjølseth, Tore; Kolbjørnsen, Odd</i>	
A Continued Assessment of the Risk of Migration of Hydrocarbons or Fracturing Fluids into Fresh Water Aquifers in the Piceance, Raton, and San Juan Basins of Colorado.....	931
<i>Stone, C. H.; Eustes, A. W.; Fleckenstein, W. W.</i>	
Continuous Microfacies Analysis in Clastic Environments Utilizing Pseudo Grain Size Distribution from Electrical Borehole Images.....	981
<i>Yang, S.; Aviantara, A.; Delius, H.; Le Nir, I.; Gong, H.; Wang, K.</i>	
Corporate Wikipedia in Upstream: Bimodal IT Case.....	1001
<i>Khasanov, M. M.; Krasnov, F. V.; Belozerov, B. V.</i>	
Cost Effective Monitoring and Visualization System Used for Real-Time Monitoring of Downhole Operations from the Wellhead.....	1007
<i>Hlidek, Barry T.; Potts, Douglas; Quinlan, Andrew</i>	
Cost Reduction on Onshore Rig Operation with Offline Stand Building System.....	1016
<i>Ugasciny, A.; Chang, B. T.; Hampson, A.</i>	
A Critical Examination of the Way the Drilling Industry Traditionally Calculates Pressure Drop for Fluids in Laminar Flow.....	1026
<i>Hempill, Terry</i>	
Cubic Law Evaluation Using Well Test Analysis for Fractured Reservoir Characterization.....	1035
<i>Denetto, S.; Kamp, A. M.</i>	
Current State and Future Trends in the Use of Downhole Fluid Analysis for Improved Reservoir Evaluation	1047
<i>Elshahawi, H.; Dong, C. L.; Ramaswami, S. R.; Cornelisse, P. W.</i>	
Data Management Requirements for Supporting Digital Energy Initiatives.....	1070
<i>Kozman, Jess B.</i>	
Deconvolution of Vibrational Data to Reduce the Ambiguity in Downhole Tool Failure.....	1078
<i>Lakhanpal, Vikrant; Samuel, Robello</i>	
Defining Sand Control in an Uncharted Frontier: A Case Study on the Zawtika Field Development in Myanmar.....	1087
<i>Grant, Graham; Soon, Lee Boo; Moses, Nicholas; Syifaa'i, Arfi; Wallace, Cal; Ling, Chin Pui; Kikuchi, Masato; Pattarakupong, Wiwat; West, Simon James</i>	
Delineating Overburden Anomalies through Dip-Constrained Tomography for Improved Reservoir Imaging in an Offshore Carbonate Field.....	1107
<i>Wagas, Muhammad; Nakayama, Shotaro; Benson, Mark; Goraya, Yassar; Kleef, Franciscus van; Macri, Giuseppe; Sroka, Agata; Mills, Keith; Cowley, John</i>	
Deployment of a Generic Expert System to Rank Operations Business Opportunities Automatically Under Ever Changing Economic Conditions.....	1115
<i>Stundner, Michael; Zangl, Georg; Neuhofer, Lisa; Zabel, David; Tippel, Philipp; Pantazescu, Cosmin-Ionut; Krcmarik, Vladimir; Staicu, Andrei Iulian; Krenn, Lisa; Hachmöller, Barbara; Zabel, David</i>	
De-risking Polymer Flooding of High Viscosity Oil Clastic Reservoirs - A Polymer Trial in Oman	1127
<i>Anand, Adi; Ismaili, AbdulRahman</i>	
Describing and Modeling Saturation Versus Height in Fields With Immobile Hydrocarbons Below the Contact	1144
<i>Pentland, Christopher H.; Yarabi, Mohamed K.; Boya Ferrero, Maria J.; Svec, Robert K.</i>	
Design and Implementation of the First CO2-EOR Demonstration Project in Saudi Arabia.....	1157
<i>Kokal, Sunil; Sanni, Modiu; Alhashboul, Almohannad</i>	
Detecting Production Choke Wear in High Rate Dry Gas Wells using Graphical Trending of Production Parameters: An Offshore Saudi Arabia Gas Field Case Study.....	1172
<i>Ayoola, Olakunle T; DeLandro, Wendell WC; Muslim, Ali M</i>	
Determination of Oil Well Production Rate by Analysis of the Real-Time Dynamometer Card.....	1185
<i>Han, Guoqing; Tan, Chaodong; Li, Jun; Pan, Zhejun; Zhang, He; Ling, Kegang</i>	
Determination of Preferential Flow Direction in a Low Permeability Carbonate Reservoir Through Real-Time Data and Rate Transient Analysis RTA.....	1207
<i>Alcantara, R.; Vazquez, J. L.; Briones, M.</i>	

Development and Rheological Characterization of Suspension of Hollow Glass Beads	1229
Lumsden, Simone; Singh, John P.; Morgan, Ronnie G.; Hundt, Gregory	
Development of a Chemical Flood Simulator Based on Predictive HLD-NAC Equation of State for Surfactant	1246
Jin, Luchao; Li, Zhitao; Jamili, Ahmad; Luo, Haishan; Lu, Jun; Delshad, Mojdeh; Shiao, Ben; Harwell, Jeffrey H.; Rui, Zhenhua	
Development of a Reactive Transport Simulator for Carbonates Acid Stimulation	1271
Maheshwari, P.; Gharbi, O.; Thirion, A.; Ali, N. S. El Cheikh; Peyrony, V.; Aubry, E.; Poitrenaud, H. M.; Benquet, J. C.	
Development of a Subsurface Reverse Circulation Tool System to Cement Weak and Depleted Zones in Deepwater Formations	1282
Reagins, Deandre; Herr, David; Jee, Bobby; Ownby, John; Duthie, Jason; Giroux, Richard; Kendziora, Larry	
Development of Centrifugal Downhole Oil/Water Separator: Simulation and Experimental Study	1302
Hashem, Mohamed Hossni	
Development of Permeability and Mechanical Properties of Class G Cement from Slurry to Set	1327
Maharidge, R.; Bottiglieri, A.; Digne, S. S.; Holley, A.; Zhang, H.; Koch, A.	
Development of Software Application for Optimization of Primary Cementing Operations Using Visual Basic	1351
Chaudhry, Abdul Manan	
Diagnostics of Reservoir Fluid-Fill Cycle and Relevance for Tailoring Field Developments in Oman	1370
Ferrero, M. Boya; Kawa, R.; Hadhrami, M.; Dhahli, A.; Neidhardt, J.; Pentland, C.	
A Direct Method for Stratigraphically Consistent Assisted History Matching of Object-Based Geomodels – Algorithm and Field Application	1398
Alpak, Faruk O.; Jennings, James W.; Gelderblom, Paul; Chen, Chaohui; Gao, Guohua; Du, Kuifu	
Downhole Fluid Sampling and Analysis in Challenging Reservoirs Using 3D Radial Probe Case Study from Deepwater Gulf of Mexico	1422
Mishra, V. K.; LeCompte, B.; Gendur, J.; Chen, L.; Garcia, G. D.; Dumont, H.; Cantwell, W.; Agarwal, A.	
Drill Rig Control Systems: Debugging, Tuning, and Long Term Needs	1434
Pastusek, Paul; Owens, Michael; Barrette, Dave; Wilkins, Victoria; Bolzan, Alex; Ryan, James; Akyabi, Khalid; Reichle, Melanie; Pais, Darren	
Drilling with Casing Technology Eliminates Wiper Trips, Lost Circulation, Water Influx, and Wellbore Stability in Two Continuous Sections, Saving up to Five Days in Northern Bolivia	1462
Ibañez, Julio C. Toro; Aguirre, Edwin C. Badani; Pinto, José E. Campos; Tan, Ming Zo; Mendez, Marco A. Dominguez	
Duvernay Proppant Intensity Production Case Study and Frac Fluid Selection	1480
Leschitsyn, Tim; Thomson, Jim; Larsen, Cory	
Dynamic Hybrid Modelling Framework for Resources Management in Exporting Under-Developed and Developing Nations	1505
Echendu, Joseph C.	
Dynamic Reservoir Characterization from Microbuildups with Formation Tester	1518
Azari, Mehdi; Khan, Waqar; Jambunathan, Venkat; Hadibekir, Hamid; Iskander, Fady; Malik, Mayank; Nash, Derek; Kurniawan, Bobby	
The Effect of Brine Concentration on Asphaltene Stability	1531
Demir, A. Birkar; Bilgesu, Ilkin H.; Hascakir, Berna	
Effect of Date Palm Fiber (DPF) Sorbent Age on Sorption of Crude Oil During Oil Spill Cleanup: Gas Chromatography Study	1542
Nasir, Mohammad I.; Hameed, Z. M.; Charpentier, P. A.; Neamh, H. A., Muhammad, A. A.; Abbas, Z. A. A.	
Effect of Dynamic Active Fracture Interaction DAFI on Activation of Natural Fractures in Horizontal Wells	1563
Daneshy, Ali	
Effect of Well Trajectory on Liquid Removal in Horizontal Gas Wells	1579
Brito, R.; Pereyra, E.; Sarica, C.	
An Effective Utilization of Internal Resources, a Cost Intensive Approach to Develop Technical Competencies of Subsurface Manpower	1596
Al-Daihani, Eisa Hadi; Nandi, Arun Kumar; Raza, Syed Mohammad	
Effects of Confined Space on Production from Tight Reservoirs	1604
Stimpson, Brian C.; Barrufet, Maria A.	

VOLUME 3

Efficient Calculation of Proppant Transport in a Wellbore-Fracture System	1625
Filippov, Andrey; Lu, Jianxin; Popa, Florentina	
An Efficient Method for Fractured Shale Reservoir History Matching: The Embedded Discrete Fracture Multi-Continuum Approach	1635
Chai, Z.; Yan, B.; Killough, J. E.; Wang, Y.	
Enabling Expected Value Economics Thinking within a Capital Budget Constrained E&P Portfolio	1649
Adejumo, Adebola; de Jesus, Justin; Casey-Yorro, Meaghan	
End of Tubing EOT Placement Effects on the Two-Phase Flow Behavior in Horizontal Wells: Experimental Study	1658
Dinata, Randy; Sarica, Cem; Pereyra, Eduardo	
Engineering Gravel Packs for Reliability	1677
Wassouf, Philip; Jain, Samyak; Kranenburg, Aart van	
Enhanced Heavy Oil Recovery by Liquid CO₂ Injection under Different Injection Strategies	1696
Farzaneh, Seyed Amir; Seyyedsar, Seyed Mehdi; Sohrabi, Mehran	
Enhanced Oil Recovery by Combined Nanofluid and Low Salinity Water Flooding in Multi-Layer Heterogeneous Reservoirs	1717
Yuan, Bin; Moghanloo, Rouzbeh Ghanbarnezhad; Zheng, Da	

Enhancing the Understanding of Hydraulically Fractured Well Performance in Gas Fields Using Production-History Matching-Case Studies.....	1736
Waheed, Arshad; Brohi, Imad; Rahim, Zillur; Omair, Ahmed; Pacheco, Eduardo	
Ensemble-Based Assisted History Matching With Rigorous Uncertainty Quantification Applied to a Naturally Fractured Carbonate Reservoir.....	1748
Maucec, Marko; De Matos Ravanelli, Fabio M.; Lyngra, Stig; Zhang, Shu J.; Alramadhan, Aymen A.; Abdelhamid, Osama A.; Al-Garni, Saad A.	
Environment-Friendly Colloidal Nanoparticles for Stabilizing Clays Within Subterranean Formations	1763
Agrawal, D. K.; Kuznetsov, O. V.; Suresh, R.; Welch, J.; Khabashesku, V. N.	
Estimation of Inter-Well Connections in Waterflood under Uncertainty for Application to Continuous Waterflood Optimization of Large Middle-Eastern Carbonate Reservoirs.....	1779
Zhai, Xiang; Wen, Tailai; Matringe, Sebastien	
Evaluating and Optimizing Refracs - What the Diagnostics Are Telling Us.....	1794
Leonard, R. S.; Woodroof, R. A.; Senters, C. W.; Wood, T. M.; Drylie, S. W.	
Evaluating the Development of a Multi Stacked Gas-Condensate Field to Supply LNG Using A Multi-Tiered Optimization Tool.....	1818
Lemke, Alexander van Nauta; Bouts, Marcel; Drophm, Julius	
Evaluating the Impact of Multiphase Flow Properties on Formation-Tester Pressure Transients	1828
Gómez, Juan D.; Escobar, Torres-Verdín, Carlos; Poret, Mark A.; Ma, Shouxiang	
Evaluation and Development of Complex Clastic Reservoirs using NMR	1846
Hursan, Gabor; Silva, Andre; Zeghlache, Mohamed L.	
Evaluation of Completion Practices in the STACK Using Completion Diagnostics and Production Analysis	1858
Senters, C. W.; Van Sickle, S.; Snyder, D.	
Evaluation of Preformed Particle Gels Penetration into Matrix for a Conformance Control Treatment in Partially Open Conduits	1872
Imqam, Abdulmohsin; Aldalfag, Ahmed; Wang, Yanling; Bai, Baojun	
Evaluation of Transvers and Longitudinal Fractures Using Simulation and Well Deliverability Provides Optimal Completion Scenario for Improved Production in Gas Reservoirs	1892
Rahim, Zillur; Al-Kanaan, Adnan A.; Soliman, M. Y.; Pacheco, Eduardo	
Evolve: A Linear Workflow for Quantifying Reservoir Uncertainty.....	1903
Thiele, Marco R.; Batycky, Rod P.	
Examining the Geomechanical Implications of Pre-Existing Fractures and Simultaneous-Multi-Fracturing Completions on Hydraulic Fractures: Experimental Insights into Fracturing Unconventional Formations.....	1923
Alabbad, Emad A.; Olson, Jon E.	
Experimental and Numerical Investigation of Oil Recovery from Bakken Formation by Miscible CO₂ Injection	1939
Zhang, Ke	
Experimental and Numerical Investigation on Stress Dependence of Sandstone Electrical Properties and Deviations from Archie's Law	1962
Farid, M. F.; Arns, J.-Y.; Pinczewski, W. V.; Arns, C. H.	
Experimental and Theoretical Study of Water-Solute Transport in Organic-Rich Carbonate Mudrocks	1980
Padin, A.; Torcuk, M. A.; Katsuki, D.; Kazemi, H.; Tutuncu, A. N.	
Experimental Study and Modeling of Sand Erosion in the Gas-Liquid Cylindrical Cyclone GLCC Separators.....	1999
Arabnejad, H.; Sajeev, S.; Guimmarra, A.; Vieira, R.; Shirazi, S. A.	
Experimental Study of Gas-Liquid-Coal Fines Three-Phase Flow in Undulating Horizontal Wellbore	2009
Han, Guoqing; Pan, Zhejun; Zhang, He; Ling, Kegang; Teodoriu, Catalin	
An Extension of Johnson, Bossler and Neumann JBN Method for Calculating Relative Permeabilities	2026
Abbas, Mamudu	
Extreme Expansion Openhole Packer with HP/HT Capabilities.....	2038
Mills, Aubrey; Deng, Guijun; Wakefield, John; Prieto, Carlos	
Fast 2D Inversion for Enhanced Real-Time Reservoir Mapping While Drilling.....	2049
Thiel, Michael; Dupuis, Christophe; Omeragic, Dzevat	
Field-Wide Determination of Directional Permeabilities using Transient Well Testing.....	2059
Pan, Yan; Kamal, Medhat; Narr, Wayne	
First Autonomous Inflow Control Valve AICV Well Completion Deployed in a Field Under an EOR Water & CO₂ Injection Scheme.....	2070
Kais, Ransis; Mathiesen, Vidar; Aakre, Haavard; Woiceshyn, Glenn; Elarabi, Amr; Hernandez, Ricardo	
First Dual Zone Drillstem Test With Acoustic Telemetry Using Multiple Retrievable Packers for Single Trip Testing of Two Independent Reservoirs	2100
Dolciani, Gregory; Tiwari, Shrikant; Adewuya, Opeyemi; Mousa, Ali; Osaimi, Falah; Al-Gannas, Musab; Gill, Harmohan; Martin, Adam; Azhar, Sheikh Saqib; Zeller, Vince	
First Ever 14 3/4 X 17 1/2-in Rathole Elimination in Gullfaks Satellite Using Downhole Drilling Mechanics and Dynamics Tool and Latest Features on PDC Design.....	2113
Khalil, Haitham; Blackburn, Jason; Harmer, Richard; Skofteby, Geir; Kallestad, Richard	
First Flowline Scale Inspection in Ghawar Field Using a Robust Infrared Technology Offers a Reliable and Cost Effective Approach.....	2129
Al-Ghamdi, Abdullah A.; Mohamad El-Zefzafy, Ibrahim; Al-Malki, Mohammad H.; Al-Mulhim, Abdullah A.	
First-Time Application of Catenary Concentric Coiled Tubing and Vacuuming Technology.....	2153
Choo, Der Jiun; Kothari, Nikita; Larke, James	

Flash Calculation and Phase Stability Analysis of Reservoir Gas-Water System—Implication for Extracting Dissolved CH₄ by CO₂ Injection.....	2163
<i>Zhao, Haining</i>	
Flow Assurance During Deepwater Gas Well Testing: When and Where Hydrate Blockage Would Occur.....	2196
<i>Zhao, Yang; Wang, Zhiyuan; Zhang, Jianbo; Wang, Xuerui; Sun, Baojiang</i>	
Flow of Multicomponent Gases in Carbon-Based Organic Nanopores.....	2220
<i>Kazemi, Mohammad; Takbiri-Borjeni, Ali</i>	
Flow Rate Estimation of Downhole Leaks Using Acoustic Sensor Array.....	2231
<i>Lu, Yinghui; Walters, Darren; Hill, Freeman</i>	
Flow-Biased Inflow Control Device Enhances Injection Rates While Still Maintaining Desired Production Resistance	2240
<i>Snitkoff, Joshua; Abdelfattah, Tarik; Russell, Ronnie</i>	
A Fully 3-D, Multi-Phase, Poro-Elasto-Plastic Model for Sand Production.....	2251
<i>Wang, Haotian; Sharma, Mukul M.</i>	
A Fully Coupled 3D Finite Element Investigation of Hydraulic Fracture Growth in Elastoplastic Rocks	2266
<i>Pirayesh, Elias; Soliman, Mohamed Y.; Morse, Stephen M.; Emadi, Hossein</i>	
Further Discuss the Roles of Soaking Time and Pressure Depletion Rate in Gas Huff-n-Puff Process in Fractured Liquid-Rich Shale Reservoirs	2283
<i>Yu, Yang; Li, Lei; Sheng, James J.</i>	
Geopolitics of Unconventional Resources Outside North America	2300
<i>Charlez, Philippe A.</i>	
Geopolymer Composites as Efficient and Economical Plugging Materials in Peanuts Price Oil Market.....	2315
<i>Salehi, S.; Ali, N.; Khattak, M. J.; Rizvi, H</i>	
Geospatial Analysis of Compositional Variations across the Eagle Ford and Barnett Shale Plays.....	2327
<i>McMillan, M. D.; Nwachukwu, C. R.; Rahmema, H.</i>	
Graduate Employability: Key Challenges and Possible Solutions.....	2345
<i>Afolayan, Tumbosun</i>	
Hierarchical Geological Realism for Reliable Reservoir Predictions.....	2355
<i>Kuznetsova, Alexandra</i>	
High-Efficiency, High-Yield Pulsed Neutron Generators for the Well Logging Industry.....	2364
<i>Navarro, Juan; Guo, Weijun</i>	
Highly Efficient Dehydration and Desalting of Crude Oil from Mature Fields in the Middle East	2373
<i>Sellman, Erik; Mandewalkar, Pavan</i>	
History Case: Integrated Approach to Sand Management and Completion Evaluation for Sand Producer in Mature Field North Sea	2389
<i>Ruslan, M.; Korsgaard Hansen, S.; Dahl, H.; Szabó, N.; Benson, G.</i>	
Holistic Approach Toward's the Deployment of Various Lost Circulation Control Materials Yields Cementing Rewards in the Caspian Region	2406
<i>Nuriyev, Farid R.; Marcano, Kenny</i>	
Horizontal Steam Injection Flow Profiling Using Fiber Optics	2417
<i>Shirdel, Mahdy; Buell, R. S.; Wells, Mike; Muhamar, Cece; Sims, Jackie</i>	

VOLUME 4

How Many Back Up Prepared For Asphaltene Onset Pressure Measurement Using Costly Collected Single Phase Bottomhole Fluid Samples?.....	2444
<i>Yonebayashi, Hideharu; Miyagawa, Yoshihiro; Ikarashi, Masayuki; Watanabe, Takumi; Maeda, Haruo; Yazawa, Nintoku</i>	
How to Correct the Petro-Physical Properties for Simulating Shale Gas Production Using Current Commercial Simulators?.....	2461
<i>Wang, Jing; Liu, Huiqing; Zhang, Hongling; Luo, Haishan; Cao, Fei; Jiao, Yuwei; Sepehrnoori, Kamy</i>	
How to Develop a Well Specific Blowout Contingency Plan that Covers Engineering Analysis of the Deployment, Installation, and Soft Shut-In of a Subsea Capping Operation.....	2478
<i>Oskarsen, Ray T.; Emilsen, Morten H.; Paknejad, Amir S.; Cargol, Mike; See, Kwee Choong</i>	
Hydraulic Fracture Propagation in a Highly Laminated Shale Reservoir with Complex Natural Fracture Network - Case Study Using Higher-Accuracy, Full 3-D Simulation	2490
<i>Hussain, Maarruf; Saad, Bilal; Negara, Ardiansyah; Elgassier, Mokhtar; Agrawal, Gaurav; Sun, Shuyu; Abdullah, King</i>	
Hydraulic Fracturing Treatment Design Considerations for Effective Proppant Pillar Construction.....	2508
<i>Gomaa, Ahmed M.; Hudson, Harold; Nelson, Scott; Brannon, Harold</i>	
The Impact of Geomechanics and Perforations on Hydraulic Fracture Initiation and Complexity in Horizontal Well Completions.....	2521
<i>Waters, George; Weng, Xiaowei</i>	
Impact of Hydraulic Fracturing Fluid Damage on Shale Gas Well Production Performance.....	2557
<i>Eveline, Vena F.; Akkulju, I. Yucel; Moridis, George J.</i>	
Impact of Improved Neutron-Gamma Density Measurement while Drilling in Formation Evaluation - A Case Study	2585
<i>Mahiout, Said; Belowi, Ali; Alqunais, Ali; Mohamed, Jad Kareem</i>	
Impact of Internal Magnetic Gradients on Nuclear Magnetic Resonance Measurements and NMR-Based Pore Network Characterization	2599
<i>Tandon, Saurabh; Heidari, Zoya</i>	

Impact of Local Stress Heterogeneity on Fracture Initiation in Unconventional Reservoirs: A Case Study from Saudi Arabia	2618
<i>Oparin, Maksim; Sadykov, Almaz; Khan, Safdar; Tineo, Roberto</i>	
The Impact of Normalized Relative Permeability Data on Estimated Ultimate Recovery	2636
<i>Pollard, Victoria; Yusuf, Babatunde</i>	
Impact of Surfactant Mixtures on Microemulsion Phase Behavior	2651
<i>Magzumov, Daulet; Qiao, Changhe; Johns, Russell T.</i>	
Implementing Technical Improvements of ESP Application in Water Supply Wells for Extending Lifetime and Operation Efficiency	2668
<i>Al-Kady, Alaa A.; Al-Mulhim, Abdullah A.; AL-Subaie, Fehead M.; Cumings, Matthew; Al-Jandal, Ahmed A.; Al-Zain, Ahmed K.; Mulhem, Abdulaziz H.</i>	
Implementing Various Tactics to Overcome the Effects of the Big Crew Change	2680
<i>Kamble, P. D.; Bagga, P. S.; Kakade, R.</i>	
The Importance of Implementing Petropysically Meaningful 3D Anisotropic Velocity Models to Improve the Interpretative Value of Microseismic Data	2688
<i>Taylor, Scott; King, Jeremy; Schaeffer, Ben; McGreaham, Lucas; Ghuneim, Khaled; Hibbitts, Todd</i>	
Improved Characterization of Carbonate Rock Properties: A Multiphysics Integrated Approach	2702
<i>Kraishan, Ghazi M.; Ma, Shouxiang Mark; Dyshlyuk, Evgeny; Al-Ofi, Salah M.; Valori, Andrea; Abdallah, Wael; Crary, Steve</i>	
Improved Field Recovery and Drilling Costs in Agiba Using ESP Reversed Y-Tool Dump-Flood Solution	2721
<i>Al-Kady, M.; Selim, A.; Omar, A.; Ginawi, I.; Bahgat, A.; Abdeltotaal, H.; Botros, K.</i>	
An Improved Methodology for Simulating Oil Recovery by Carbonated Water Injection: Impact of Compositional Changes	2733
<i>Al Mesmari, Ali; Mahzari, Pedram; Sohrabi, Mehran</i>	
Improved Optimization Through Procedures as Pseudo Objective Functions in Nonlinear Optimization of Oil Recovery With Next-Generation Reservoir Simulators	2754
<i>Temizel, Cenk; Tiwari, Aditya; Kirmaci, Harun; Aktas, Sinem; Ranjith, Rahul; Zhu, Ying; Tahir, Sofiane; Aminzadeh, Fred; Yegin, Cengiz</i>	
Improved RBF-Based NMR Pore-Throat Size, Pore Typing, and Permeability Models for Middle East Carbonates	2772
<i>Shao, Wei; Chen, Songhua; Cheng, Yuesheng; Eid, Mahmoud; Hursan, Gabor</i>	
Improved Saturation Mapping Using Planar Transmission Lines and Magnetic Agents	2787
<i>Servin, Jesus M. Felix; Schmidt, Howard K.; Ellis, Erika S.</i>	
Improving the Foamer Selection Procedure for Gas Well Deliquification Application	2799
<i>Omrani, P.; Shoeibi, Shukla, R. K.; Vercauteren, F.; Nennie, E.</i>	
Increase Efficiency of Smart Field Integrated Operations Through Service Level Management	2809
<i>Reddicharla, Nagaraju; Bangari, Praveen; Konkati, Sarath</i>	
Increased Capabilities for Upward Recomplete of Remote Platform Wells	2816
<i>Denmon, Michael; Harive, Kevin; Clemens, Jack</i>	
Industrial Waste Injection Feasibility in North Dakota	2821
<i>Mohamed, I. M.; Block, G.; Abou-Sayed, O.; Abou-Sayed, A. S.</i>	
Inferring Interwell Connectivity Using Production Data	2844
<i>Tian, Chuan; Horne, Roland N.</i>	
The Influence of Fluid Ratios on Produced Water Separation and Quality of Chemical EOR	2855
<i>Kaiser, Anton; White, Alan; Belhimer, Yaz; Wylde, Jonathan</i>	
The Influence of HLB in Surfactants for Drill Cuttings Cleaning	2865
<i>Stanciu, C.; Fernandez, J. M.; Lambert, B.</i>	
Influencing Factors of the Microstructure and Macroscopic Performance of Foamed Cement	2878
<i>Pang, Xueyu; Singh, John P.; Jimenez, Walmy Cuello; Prince, Aaron C.</i>	
Injection Induced Fracture Propagation and Stress Reorientation in Waterflooded Reservoirs	2900
<i>Bhardwaj, Prateek; Hwang, Jongsoo; Manchanda, Ripudaman; Sharma, Mukul M.</i>	
Innovative Approach for Building and Calibrating Multiple Fracture Network Models for Fractured Carbonate Reservoirs	2918
<i>Souche, Laurent; Ghorayeb, Kassem; Belova, Natela; Neog, Niloltpaul; Dashti, Qasem</i>	
An Innovative Approach to Model Two-Phase Flowback of Shale Gas Wells with Complex Fracture Networks	2936
<i>Yang, Ruiyue; Huang, Zhongwei; Li, Gensheng; Yu, Wei; Sepehrnoori, Kamy; Tian, Shouceng; Song, Xianzhi; Sheng, Mao</i>	
An Innovative Management Approach for Fast Track Field Development	2964
<i>Mata, T. J.</i>	
An Innovative Partnership to Develop an Oman Based Pressure Pumping Company	2973
<i>Hogan, M. R.; Willis, R. B.</i>	
Insights on Overflushing Strategies from a Novel Modeling Approach to Displacement of Yield-Stress Fluids in a Fracture	2984
<i>Osipov, Andrei; Zilonova, Ekaterina; Boronin, Sergei; Desroches, Jean; Lebedeva, Natalia; Willberg, Dean</i>	
Integrated Analysis of Reservoir Architecture and Time-Lapse Seismic for Remaining Oil Prediction: A Lithologic Reservoir in Pearl River Mouth Basin, China	3002
<i>Yu, Lin; Yun, Ling; Jianming, Guo; Xiaomin, Zhang; Feng, Zhang; Yaonan, Li</i>	
Integrated Dynamic Simulation Leads to Successful Start-Up of Inactive Wells Through Rigless Operations	3016
<i>Yusuf, Rahel; Kumar Thakur, Kapil; Ahmed Jama, Ali</i>	
Integrated Gas Development Planning in Southern Iraq	3029
<i>Karnik, Amit A.; Gupta, Arjit; Wharton, Mark; Henry, Herve</i>	

Integrated History Matching on Interference Well Test Data in a Naturally Fractured Reservoir with Automated Adjoint Gradient Based Inversion Technique.....	3038
<i>Sarac, S.; Morton, K. L.; Theuveny, B.</i>	
Intelligent HSE Big Data Analytics Platform Promotes Occupational Safety	3057
<i>Tarrahi, Mohammadali; Shadravan, Arash</i>	
International Regulations and Compliance for Relief Well and Blowout Contingency Planning	3078
<i>Szemat Vielma, W. E.; Mosti, I.; Gallagher, L.; Nergaard, K.</i>	
Interpretation and Analysis of Transient Sandface and Wellbore Temperature Data	3088
<i>Onur, M.; Ulker, G.; Kocak, S.; Gok, I. M.</i>	
Interpretation of the Performance Results of a Polymer Flood Pilot in the Tambaredjo Oil Field, Suriname.....	3134
<i>Delamaide, E.; Let, K. Moe Soe; Bhoendie, K.; Paidin, W. R.; Jong-A-Pin, S.</i>	
Intervention-Less Multi-Zone Lower Completion Tools – A Case Study.....	3159
<i>Murdoch, Euan; Robertson, Bruce; Munro, Christopher; Edwards, Andrew; Ghaempanah, Babak; Loonstra, Cornelis; Kimmitt, Kyle; Rahman, Shamsur; Bakker, Eelco</i>	
Introducing a New Capacitance-Resistance Model and Solutions to Current Modeling Limitations.....	3178
<i>Altaheini, S.; Al-Towijri, A.; Ertekin, T.</i>	
Investigating the Fundamental Mechanisms Governing Solid Production in Superdeep Hot Tight Gas Reservoirs and Exploring Potential Solutions	3192
<i>Yang, Xiangtong; Jin, Xiaochun; Zhang, Yang; Yin, Qing; McLennan, John; Dai, Caili; Fan, Wentong; Xiao, Yong</i>	
Investigation of Methods to Rotate Casing Sections Independent of Surface Rotation	3208
<i>Fleckenstein, W. W.; Eustes, A. W.; Yaakob, G. H.; Rostad, R. D.</i>	
An Investigation on Propagation Mechanisms of Steam Chamber during Expanding Solvent SAGP ES-SAGP in Thin Heavy Oil Reservoirs	3222
<i>Pang, Zhanxi; Wang, Lei; Lv, Xiacong; Liu, Yongge; Wu, Guanghuan; Wei, Tao</i>	
Joule-Thomson Coefficients from Well Test Analysis Data	3233
<i>Meisingset, Knut Kristian; Pedersen, Karen Schou</i>	

VOLUME 5

Large Scale Testing & Modelling for Cement Zonal Isolation of Water Injection Wells.....	3247
<i>Therond, Emmanuel; Bois, Axel-Pierre; Whaley, Kevin; Murillo, Rodrigo</i>	
Leading Oil and Gas Into the Future	3276
<i>Babey, Andrew G.; Hagel, Nick; Montilla, Carlos; Robins, Ryan; Harris, Craig</i>	
Leak Detection and Self Healing Pipelines Using Twin Balls Technology	3293
<i>Chalgham, Wadie; Seibi, Abdennour; Lomas, Matthew</i>	
Leveraging Single Phase Characteristics of Water Injectors to Optimize Reservoir Pressure Surveillance.....	3311
<i>Bangkong, Sabut A.; Al-Hajri, Nasser M.; Al-Ajmi, Mohammed D.; Al-Subaie, Fehead M.</i>	
Loose Coupling of Metadata and Actual Data in End-to-End Data Provenance	3320
<i>Rundle, R. T.; Vuurboom, R.; Monroe, B. V.</i>	
Low Salinity Flooding (LSF) in Sandstones at Pore Scale: Micro-Model Development and Investigation	3332
<i>Bartels, W.-B.; Mahani, H.; Berg, S.; Menezes, R.; van der Hoeven, J. A.; Fadili, A.</i>	
Low-Velocity Non-Linear Numerical Simulation in Tight Sandstone Oil Reservoirs.....	3349
<i>Tian, Xiaofeng; Cao, Renyi; Tian, Ji; Cheng, Linsong; Zhang, Miaoyi</i>	
Machine Learning Approach for Irregularity Detection in Dynamic Operating Conditions	3369
<i>Sidahmed, Mohamed; Bailey, Richard</i>	
Making a Cross-Flow Water Injector in the Alvheim Field	3379
<i>Langaas, K.; Hjellbakk, A.; Leonthin, M. A.; Stuart, K. L.</i>	
Managed Pressure Drilling Operations in Deepwater and Total Circulation Losses Environments	3391
<i>Kuehn, Andrej</i>	
Managing Competency in a Low Oil Price Environment: SPE Offers an Expanded Competency Management Tool to its Members.....	3401
<i>Jain, Alok; Donohue, Bradford R.</i>	
Maximizing Well Uptime Through Effective Well Operations And Integrity In South Iraq.....	3415
<i>Kumar, Randhir; Hindawi, Kareem; Awobadejo, Mayowa; Alharthy, Said; Al Jumah, Ali</i>	
Mechanical Characterization and Corrosion Effects on Glass Reinforced Vinyl Ester Liners used for Oil and Gas Production	3429
<i>Carpenter, Cole</i>	
A Mechanistic Computational Fluid Dynamic CFD Model to Predict Hydrate Formation in Offshore Pipelines.....	3450
<i>Neto, E. T.</i>	
Methodology and Array Technology for Finding and Describing Leaks in a Well	3462
<i>Hill, Freeman; Bond, Andy; Biery, Michael; Jagannathan, Srinivasan; Walters, Darren; Lu, Yinghui</i>	
Methodology for Development of Laboratory-Based Comprehensive Foam Model for Use in Reservoir Simulation of EOR	3472
<i>Abbaszadeh, Maghsoud; Varavei, Abdoljalil; de la Garza, Fernando Rodriguez; Pino, Antonio Enrique Villavicencio; Salinas, Jose Luis Lopez; Puerto, Maura C.; Hirasaki, George J.; Miller, Clarence A.</i>	
A Methodology to Integrate Multiple Simulation Models and 4D Seismic Data Considering Their Uncertainties.....	3497
<i>Assunção, Germano S. C.; Davolio, Alessandra; Schiozer, Denis J.</i>	
Microseismic Feedback Enhanced Real-Time Diversion Evaluation in Mancos Shale, Piceance Basin Completions	3513
<i>Scott, E. L.; Cape, J. H.; Maher, K. D.; Li, N.; Childers, A. R.</i>	

Mismanagement of Oil and Gas Rents in "Oil and Gas Rich Countries": Lessons for Ghana's Nascent Industry – Case Study: Norway and Angola	3524
<i>Opong, Riverson; Klaas, Olga; Benson Lamidi, Abdul-Latif</i>	
Mississippi Canyon Gulf of Mexico Frac Pack Case Histories and the Importance of Proppant Tracing and Gravel Pack Logging	3543
<i>Sanford, J.; Hopper, T.; Fink, J.; Woodrooff, R.; Darnley, A.; Peacher, M.</i>	
A Model for Optimizing Energy Investments and Policy under Uncertainty	3569
<i>Al-Ahmadi, Hasan A.; McVay, Duane A.</i>	
Modeling Impact of Aqueous Ions on Solubility of CO₂ and its Implications for Sequestration	3595
<i>Venkatraman, Ashwin; Argüelles-Vivas, F. J.; Okuno, Ryosuke; Singh, Gurpreet; Lake, Larry W.; Wheeler, Mary F.</i>	
Modeling of Wormhole Propagation During Matrix Acidizing of Carbonate Reservoirs by Organic Acids and Chelating Agents	3615
<i>Akanni, Olatokunbo O.; Nasr-El-Din, Hisham A.</i>	
Molecular Dynamics Study of Carbon Dioxide Storage in Carbon-Based Organic Nanopores	3643
<i>Kazemi, Mohammad; Takbiri-Borujeni, Ali</i>	
Monitoring of Matrix Acidizing by Using Resistivity Measurements	3653
<i>Ghommem, Mehdi; Qiu, Xiangdong; Brady, Dominic; Al-Tajar, Firas; Crary, Steve; Mahjoub, Alaa</i>	
Multifunctional Fracturing Additives as Flowback Aids	3672
<i>Yue, Zhiwei; Peng, Yang; He, Kai; Xu, Liang</i>	
Multiphase Analytics in a High Water-Cut Environment	3683
<i>Gannaway, Gregory R.; Ibrahim, Mazher</i>	
Multiphase Flow Meter Performance Evaluation Using Live Hydrocarbon Flow Loop Mimicking Real Field Conditions	3697
<i>Benlizidja, I.; Al Jarri, A. S.; Al Anazi, M. A.</i>	
Multi-Phase Well Control Analysis During Managed Pressure Drilling Operations	3711
<i>Ma, Z.; Vajargah, A. Karimi; Ambrus, A.; Ashok, P.; Chen, D.; van Oort, E.; May, R.; Macpherson, J. D.; Becker, G.; Curry, D. A.</i>	
Multiscale Change Characteristics of Chinese Wufeng Shale Under Supercritical Carbon Dioxide	3732
<i>Zhu, Hai-Yan; Tao, Lei; Liu, Qing-You; Lei, Zheng-Dong</i>	
Multiscale Method for History Matching Channelized Reservoirs Using Level Sets	3747
<i>Han, Jichao; Chen, Rongqiang; Datta-Gupta</i>	
Multi-thermal Fluid Assisted Gravity Drainage Process to Enhance the Heavy Oil Recovery for the Post-SAGD Reservoirs	3780
<i>Dong, Xiaohu; Liu, Huiqing; Zhang, Zhaoxiang; Wang, Lei; Chen, Zhangxin</i>	
Nanocapsules for Controlled Release of Waterflood Agents for Improved Conformance	3795
<i>Johnson, Leah M.; Norton, Chasity A.; Huffman, Nicolas D.; Mecham, Jeffrey B.; Rothrock, Ginger D.</i>	
Nanomaterials-Enhanced High-Temperature Fracturing Fluids Prepared with Untreated Seawater	3810
<i>Li, Leiming; Al-Muntasher, Ghaithan A.; Liang, Feng</i>	
Nanoparticles Adsorption, Straining and Detachment Behavior and its Effects on Permeability of Berea Cores: Analytical Model and Lab Experiments	3828
<i>Wang, Wendong; Yuan, Bin; Su, Yuliang; Wang, Kai; Jiang, Miaolu; Moghanloo, Rouzbeh Ghanbarnezhad; Rui, Zhenhua</i>	
Nested Optimization - A Practical Approach Delivering Increased Production Opportunities	3846
<i>Hadjipieris, Pieris; Bishop, Simon</i>	
New Algorithm to Quantify Productivity of Fishbone Type Multilateral Gas Well	3861
<i>Ahmed, Musa Eltayeb Musa; Alnuaim, Sami; Abdulazeem, A.</i>	
New Approach for Using Surfactants to Enhance Oil Recovery from Naturally Fractured Oil-Wet Carbonate Reservoirs	3869
<i>Parra, Jose E.; Pope, Gary A.; Mejia, Miguel; Balhoff, Matthew T.</i>	
A New Automated Algorithm for Designing the Optimal Single-Well-Chemical-Tracer SWCT Tests At Various Reservoir Conditions	3888
<i>Khaledaldusti, Rasoul; Kleppe, Jon</i>	
A New Class of Renewable Surfactants for Chemical Enhanced Oil Recovery	3919
<i>Kaiser, Anton; Curren, Morgan; Parmenter, David; Mahmoudkhani, Amir; Wyld, Jonathan</i>	
New Diblock Copolymers as Fluid Loss Additive for High Temperature Cementing	3928
<i>Cadix, A.; Wilson, J.; Phan, Ch.; Villafane, L.; Gomez, J. -R.; Bzducha, W.; Feuillette, A.; Poix-Davaine, C.; Thant, K.; Nelson, T.</i>	
New Generation of MPD Drilling Software - From Quantifying to Control	3941
<i>Rostami, S. Ameen; Gumus, F.; Simpkins, D.; Pobedinski, I.; Kinik, K.; Rajabi, M. Mir</i>	
New Generation of Rotary Steerable System Enables Higher BUR and Performance	3957
<i>Al Dabyah, Ali; Biscaro, E.; Mayer, Heinrich</i>	
New Hybrid Bit Technology Provides Improved Performance in Conventional Intervals	3967
<i>Wong, Alex; denOuden, Bruce; Herman, J. J.; Isnor, Sid; James, Phil; Marley, Ryan</i>	
A New Lab Device and Processing Method to Quantify Vuggy Porosity in OBM Logging Environments	3976
<i>Al-Mutwali, Omar; Khemissa, Hocine; Dama, Saeed; Zhang, Tianhua; Shrivastava, Chandramani; Maeso, Carlos; Chen, Yong-Hua; Laronga, Robert; Comparon, Laetitia; Guinois, Elodie Marquina; Al-Ofi, Salah; Al Felasi, Ali; Ahmed, Shafiq; Al-Neaimi, Ahmed Khalifa</i>	
A New Look At a Famous Well - Analysis of Staged Field Experiment #3 Including Stress Sensitive Permeability in a Multi-Layer Reservoir Simulation Model	3993
<i>Shaoul, J. R.; Park, J.; Berentsen, C.; Caballero, J.</i>	
A New Method to Calculate Effective Permeability of a Naturally Fractured Carbonate Reservoir from Seismic Attributes	4016
<i>Li, D.; Alharbi, M. S.; Ottinger, G.; El-Awawdeh, R. T.; Brunhuber, P.; Al-Jasmi, S. M.</i>	

A New Method to Estimate Cementation and Saturation Exponents From Dielectric Dispersion Data	4031
<i>Venkataramanan, L.; Donadille, J. M.; Reeder, S. L.; Van Steene, M.; Gkortsas, V.-M.; Fellah, K.; Ramsdell, D.; Al-Rubaiyea, J. A.; Al-Ajmi, F. A.; Al-Houli, M.; Wilkinson, P.; Bajunaid, H.</i>	

VOLUME 6

A New Model to Evaluate Two Leak Points in a Gas Pipeline	4050
<i>Guoqing, Han; Zhenhua, Rui; He, Zhang; Kegang, Ling</i>	
A New Modeling Approach to Optimize Methane-Propane Injection in a Field After CHOPS	4061
<i>Soh, Ye Ji; Rangriz-Shokri, Alireza; Babadagli, Tayfun</i>	
New Pseudo-Pressure and Pseudo-Time Functions for Multiphase Flow	4077
<i>Shahenda, Mahran; Ahmed, H. El-Banbi</i>	
A New Technique to Characterize Fracture Density Using Neutron Porosity Logs Enhanced by Electrically-Transported Contrast Agents	4102
<i>Tang, Hewei; Killough, John E.; Heidari, Zoya; Sun, Zhuang</i>	
New Wireline, In-situ, Downhole Fluid Compositional Analyses to Enhance Reservoir Characterization and Management	4119
<i>Hursan, Gabor; Mark Ma, S.; Soleiman, Wael; Eyuboglu, Sami; Sethi, Neeraj; Guergueb, Nacer</i>	
New-Generation Ultrasonic Measurements for Quantitative Cement Evaluation in Heavy Muds and Thick-Wall Casings	4130
<i>Thierry, S.; Klieber, C.; Lemarenko, M.; Le Calvez, J.-L.; Brill, T. M.; Barrou, T.; Hayman, A.; Mege, F.; Van Os, R.</i>	
A Newly Developed Aqueous-Based Consolidation Resin Controls Proppant Flowback and Aids in Maintaining Production Rates in Fracture-Stimulated Wells	4155
<i>Salah, Mohamed; Abdel-Meguid, Ahmed; Abdel-Baky, Amr; El-Maghraby, Omar</i>	
The Next Generation of E&P Development Programs: Flipped, Blended and Mentored	4168
<i>Donohue, David A T; Bulath, Zsolt; Kavanaugh, Kimberly; Donohue, Tim; Ogle, Kenneth</i>	
An NMR Experimental Study and Model Validation on Capillary Condensation of Hydrocarbons Confined in Shale Gas Condensate Reservoirs	4180
<i>Wang, Haijing; Seltzer, Scott J.; Sun, Boqin; Wigand, Marcus; Horch, Carsten; Stallmach, Frank; Li, Baoyan; Thern, Holger; Mezzatesta, Alberto; Arro, Roberto; Zhang, Hao</i>	
A Novel Enhanced Oil Recovery Technology Using Dimethyl Ether/Brine: Spontaneous Imbibition in Sandstone and Carbonate Rocks	4200
<i>Chahardoli, M.; Farajzadeh, R.; Masalmeh, S. K.; Mahani, H.; Bruining, H.</i>	
Novel Method for Evaluating Shale Gas and Shale Tight Oil Reservoirs Using Well Log Data	4222
<i>Freedman, Robert; Rose, David; Sun, Boqin; Brown, Ronald L.; Malizia, Thomas</i>	
A Novel Method of Knowledge Transfer in Challenging Times	4250
<i>Nunno, Nii; Kumar, Aniket; Samuel, Robello</i>	
Novel Slim-Matrix PDC Construction Boosts Drilling Efficiency: A Field Study of Deep Applications	4258
<i>Sherif, M.; El Oufy, M.; Ragheb, A. M.; Aguib, K. A.</i>	
A Novel Technique for Generation of Accurate Capillary Pressure Pc Curves from Conventional Logs and Routine Core Data and New Pc Endpoint Functions after Considering the Sedimentary Environment and Pore Throat Size Distribution Shape PTSDS	4269
<i>FazelAlavi, Mohsen; FazelAlavi, Mina; FazelAlavi, Maryam</i>	
A Novel Test Automation Solution to Improve Petroleum Engineering Software Reliability and Development Efficiency	4300
<i>Chen, Zhongming; Chaudhary, Saleem; Xie, Liangjun; Sui, Xiaojing</i>	
Numerical and Experimental Investigation of Polymer-Induced Resistance to Flow in Reservoirs Undergoing a Chemical Flood	4310
<i>Hoteit, Hussein; Alexis, Dennis; Adepoju, Olaoluwa O.; Chawathe, Adwait; Malik, Taimur</i>	
Numerical Investigation of the Effect of Nonuniform Fracture Aperture of Eagle Ford Outcrop Maps on Production Performance	4328
<i>Sun, Jianlei; Schechter, David; Rui, Zhenhua</i>	
Numerical Modeling of Multiphase Flow Toward Fractured Horizontal Wells In Heterogeneous Nanoporous Formations	4350
<i>Holy, R. W.; Ozkan, E.</i>	
Oil Droplet Removal from Produced Water Using Nanoparticles and Their Magnetic Separation	4364
<i>Ko, Saebom; Kim, Eun Song; Park, Siman; Daigle, Hugh; Milner, Thomas E.; Huh, Chun; Bennetzen, Martin V.; Geremia, Giuliano A.</i>	
Oil Industry First Interwell Trial of Reservoir Nanoagent Tracers	4382
<i>Kosynkin, Dmitry; Alaskar, Mohammed</i>	
Oil Price Shocks: A Measure of the Exogenous and Endogenous Supply Shocks of Crude Oil	4397
<i>Economou, A.; Agnolucci, P.</i>	
Oil Viscosity Estimation from NMR Logs for In-Situ Heavy Oil Characterization	4439
<i>Hursan, Gabor; Seifert, Douglas J.; Lyngra, Stig; Palmer, Richard G.</i>	
On Job Training (OJT) Accelerated Learning of Reservoir Management Engineers	4452
<i>AL Muraihi, Ahmed; Wang, Yanhui A.; Elhayek, Soha; Shenawi, Shamsuddin; Alqahtani, Abdulwahab S.; Alnahdi, Afnan M.</i>	
On the Exact Representation of Pressure Decay Tests: New Modeling and Experimental Data for Diffusivity Measurement in Gas - Oil/Bitumen Systems	4459
<i>Ratnakar, R. R.; Dindoruk, B.</i>	

Optimization of Controlled Salinity Waterflooding in Carbonates.....	4493
<i>Al Mahrouqi, D. A.; Vinogradov, J.; Jackson, M. D.</i>	
Optimizing a Unique New Generation LWD Technology for Petrophysical Evaluation, Well-Placement, Geological Mapping and Completion Design-Carbonate Reservoir Case Study	4500
<i>Lutfallah, Mustafa; Hibler, A. Patrick; Mishra, Ashish; Babayeu, Oludiran; Hassan, El-Saeid; Al-Bugshi, Mustafa; Al Mubarak, Mustafa Ahmad</i>	
Optimizing Well Patterns for Various Geologic Facies Models.....	4509
<i>Hollander, Avi; Qi, Kevin; Ershaghi, Iraj</i>	
Overcoming Challenges, Improving Understanding, and Optimizing Liner Deployment in Long Laterals.....	4523
<i>Mathisen, Kim Daniel; Sørheim, Tore; Koløy, Tom Rune; Decker, Neil</i>	
Pattern Realignment Optimizes Waterflood in Thin Bed Sandstone	4539
<i>LeRoy, Melissa</i>	
Perdido - A Five Year Look at the Technologies that have Enabled Ultra-Deepwater Success.....	4553
<i>Riley, Chris</i>	
Performance Comparison of Novel Surfactant-scCO₂ Systems for Oil Recovery in High Salinity Carbonate Reservoirs.....	4560
<i>Jangda, Zaid; Sultan, Abdullah</i>	
The PetroChallenge – An Innovative E&P Learning Experience Using an Interactive Learning Simulation.....	4574
<i>Venugopal, Kalyanaraman; Kelly, Paula; Jamaluddin, Abul; McConnell, Charles; Alger, Monty; Morgan, Eugene; Ni, Rui; Dunn, Ronald; Grasselli, Giovani</i>	
Petrophysical Characterization of Tight Sands in Granite Wash, Anadarko Basin	4587
<i>Agarwal, Aditya; Rai, Chandra S.; Sondergeld, Carl H.; Truax, Jerome</i>	
Petrophysical Study of UAE Carbonate Outcrop at Jabal Hafit	4607
<i>Sondergeld, Carl H.; Wampler, Jeff; Abdelghany, Osman; Anin, Al; Rai, Chandra; Curtis, Mark</i>	
Phase Behavior of Fluid Mixtures in a Partially Confined Space	4620
<i>Liu, Yueliang; Li, Huazhou Andy; Okuno, Ryosuke</i>	
A Pigging Model for Wax Removal in Pipes	4646
<i>Huang, Qiyu; Wang, Wenda; Li, Weidong; Ren, Yijie; Zhu, Fangda</i>	
Pipe-Conveyed Microfrac Testing and Acoustic/Image Logs Enables Gas Depleted Formation Stress Calibration in Carbonate Reservoirs.....	4657
<i>Franquet, Javier A.; Jaiyeola, Abiodun I.; Al Beshr, Huda; El-Hamawi, Mohamed; Elarouci, Fethi</i>	
Planning For Uncertainties in Gas Composition: Reduce Project Risks by Early Adoption of a Robust Gas Processing Concept.....	4674
<i>Chilukuri, Pavan; Bowerbank, Gary</i>	
Pore Scale Investigation of Wettability Effect on Waterflood Performance	4682
<i>Mohammadmoradi, Peyman; Kantzas, Apostolos</i>	
Post-Treatment Horizontal Hydraulic Fracture Modeling with Integrated Chemical Tracer Analysis, a Case Study	4704
<i>Dang, Angela</i>	
The Potential Of CuO Nanoparticles to Reduce Viscosity and Alter Wettability at Oil- Wet and Water- Wet Rocks in Heavy Oil Reservoir.....	4720
<i>Tajmiri, Masoumeh; Ehsani, Mohammad Reza</i>	
A Practical Workflow for Probabilistic History Matching and Forecast Uncertainty Quantification: Application to a Deepwater West Africa Reservoir	4732
<i>Yeh, T.; Uvieghara, T.; Jennings, J. W.; Chen, C.; Alpak, F. O.; Tendo, F.</i>	
Prediction of Hydrogeological Features and Hydrocarbon Enrichment Zones in Well Area BQ of HanCheng Block, East Ordos Basin, China	4749
<i>Yang, Zhao; Fenjin, Sun; Bo, Wang; Xianyue, Xiong; Wuzhong, Li; Lianzhu, Cong; Jiaosheng, Yang; Meizhu, Wang</i>	
Prevention of Halite Formation and Deposition in Horizontal Wellbores: A Multi Basin Developmental Study	4759
<i>Hebert, Jeff; Leisure, Josh; Saldungaray, Pedro</i>	
Price Scenario Analysis - Best Practices in a Volatile Price World	4767
<i>Allan, Paul D.</i>	
Pricing Unquoted Crudes on Net-Back Basis: Where Are the High Value Markets?.....	4779
<i>Gbakon, Kaase</i>	
Production Performance Modeling of Shale Gas Wells with Non-Uniform Fractures Based on Production Logging	4789
<i>Pang, Wei; Du, Juan; Zhang, Tongyi; Mao, Jun; Di, Dejia</i>	
Production Pressure Drawdown Management for Fractured Horizontal Wells in Shale Gas Formations.....	4799
<i>Mirani, Ankit; Marongiu-Porcu, Matteo; Wang, HanYi; Enkababian, Philippe</i>	
Production Well Testing of Challenging Wells With an Enhanced Multiphase Flowmeter	4821
<i>Safar, Emad; Karacali, Ozgur; Al-Kanderi, Ibraheem; Fuentes, Escolastico Galvis; Acar, Cagdas</i>	
Proper Planning Supported by Latest Technology Leads to Drilling the Longest 8.5-in. Section in an Extended-Reach Well: Case Study.....	4837
<i>Al Dabyah, A. A.; Zubairi, B. A.; Al Umairin, I. S.; Chima, J. I.; Kunhiveetil, D.; Otaif, H. W.</i>	
Prospective Unlocking of Future Reserves in Offshore Abu Dhabi: Field Life Extension through Hybrid Development Concept	4850
<i>Nakashima, T.; Ouzzane, D.; Dudley, G.; Al-Marzouqi, M.</i>	

VOLUME 7

Protecting and Commercializing Advanced Petroleum Technology: The Role of Intelligent Energy Law in 2016	4864
<i>Fraser, H. G.; Dodd, J.</i>	

Providing Accurate ESP Flow Rate Measurement in the Absence of a Test Separator.....	4868
Camilleri, L.; El Gindy, M.; Rusakov, A.	
Pushing the Completion Design Envelope in Ultra-Deepwater - Design, Installation, and Performance of Deep High Pressure Completions - A Case History of the Gunflint Development, Offshore Gulf of Mexico.....	4891
Sanford, Jack; Healy, John; Hopper, Tim; Fink, Josh; Grammer, Ladd; Koy, James; Perroux, Jocelyn; Magin, Ian; Williams, Kevin; Seeley, Tom	
Pushing the Envelope of Residual Oil Measurement: A Field Case Study of a New Class of Inter-Well Chemical Tracers.....	4917
Sanni, Modiu; Al-Abbad, Mohammed; Kokal, Sunil; Dugstad, Øyvind; Hartvig, Sven; Huseby, Olaf	
Pushing to the Extreme—Microseismic Monitoring of Hydraulic Fracturing in an HP/HT Horizontal Well in the Sultanate of Oman.....	4929
Briner, Andreas; Nadezhdin, Sergey; El Ghani, Mahmoud; Al-Wadhahi, Taimur; El-Taha, Yasin Charles; Harrasi, Othman; Kelkar, Shrihari	
Quantification of Directional Pore Network Connectivity and Rock Fabric and its Application in Enhanced Assessment of Hydrocarbon Reserves.....	4940
Garcia, Artur Posenato; Heidari, Zoya	
Quantifying and Mitigating the Impact of Asymmetric Induced Hydraulic Fracturing from Horizontal Development Wellbores	4967
Walser, Doug; Siddiqui, Shameem	
Quantifying Anisotropy for Completion Optimization in Shale Using Dipole Sonic Logging	4980
Kinoshita, Toshihiro; Wago, Toshimichi; Tohda, Masahide; Sakiyama, Naoki; Kajikawa, Yohei; Endo, Takeshi; Bammi, Sachin; Wells, Peter; Velez, Edgar; Shigekane, Akito; Wada, Yuichiro	
Quantitative Analysis of Proppant-Formation Interactions by Digital Rock Methods.....	4995
Hu, Dandan; Benoit, Denise N.; Nguyen, Philip; Gashimov, Ruslan	
The Radial Approach to Safety Factors for Tubular Design.....	5006
Liu, Zhengchun; Klever, Frans; Samuel, Robello; Gonzales, Adolfo; Kang, Yongfeng	
Radio Frequency Identification RFID-Enabled Circulation Sub Improves Hole Cleaning in High-Angle Wells	5027
Goodwin, Alex; Reitsma, Rienk; Osei-Kuffour, Jonathan	
Rate-Transient Analysis for Multistage Fractured Horizontal Wells in Conventional and Un-Conventional Homogeneous and Naturally Fractured Reservoirs	5034
Kuchuk, Fikri; Morton, Kirsty; Biryukov, Denis	
Reducing Cementing Blend Complexity: A Single Biopolymer Capable of Replacing Multiple Cement Additives	5057
Vorderbruggen, M. A.; Bryant, S.; Bottiglieri, A.	
Reducing Drilling Risks in ERD Wells Through Geomechanical Solutions	5070
Kaushik, Y. D.; Baishya, R. C.; Majithia, P. P. S.; Bagchi, D.; Pratap, Mahendra; Kumar, Rajeev; Kumar, Devendra; Rao, Dhiresh Govind; Singh, Hemant	
Reducing Freshwater Consumption in the Marcellus Shale Play by Recycling Flowback With Acid Mine Drainage	5085
Cavazza, Michael	
A Region-Based History Matching Approach Using Data-Driven Modeling Techniques	5093
Mital, M.; Verde, A.; Saputelli, L.	
Remote Detection and Flow rates Quantification of Methane Releases Using Infrared Camera Technology and 3D Reconstruction Algorithm	5110
Watremez, Xavier; Labat, Nadège; Audouin, Grégoire; Lejay, Bertrand; Marcarian, Xavier; Dubucq, Dominique; Marlé, André; Foucher, Pierre-Yves; Poutier, Laurent; Danno, Ronan; Elie, Damien; Chamberland, Martin	
Reservoir Characterization Using Fuzzy Kriging and Deep Learning Neural Networks.....	5127
Korjani, M. M.; Popa, A. S.; Grijalva, E.; Cassidy, S.; Ershaghi, I.	
Reservoir Fluid Geodynamics; the Link between Petroleum Systems and Production Concerns Relating to Fluids and Tar Distributions in Reservoirs	5142
Mullins, Oliver C.; Di Primio, Rolando; Zuo, Julian Y.; Uchytil, Steve; Mishra, Vinay K.; Dumont, Hadrien; Pfeiffer, Thomas; Achourou, Vladislav V.; Pomerantz, Andrew E.; Forsythe, Jerimiah; Betancourt, Soraya S.; Elshahawi, Hani	
Retrofit Gas-Lift Straddles in the North Sea.....	5157
Masson, Graham; Bill, Bjorn; Campbell, Atholl; Mackay, Andrew; Brodie, Alan; Emslie, Murray; Isaj, Albert	
Reuse of Produced Water by Membranes for Enhanced Oil Recovery	5170
Nair, Remya Ravindran; Protasova, Evgenia; Bilstad, Torleiv; Strand, Skule	
Revitalization of a 75-Year-Old Multi-Layered Permian Basin Field Results in 10-Fold Increase in Primary Production	5186
Keiser, Leslie J.; Sisemore, Nathan A.; Barnhill, Emily L.; Bowser, Peter D.	
A Rigorous Upscaling Procedure to Predict Macro-scale Transport Properties of Natural Gas in Shales by Coupling Molecular Dynamics with Lattice Boltzmann Method.....	5202
Ning, Yang; He, Shuai; Liu, Honglin; Wang, Hongyan; Qin, Guan	
A Road Map to Improve Coiled Tubing Well Intervention Services	5217
Ginest, N.; Al-Nuhayan, F.; Ashby, S.; McClelland, K.; Phillips, J.; Green, T.; Winkelman, D.	
A Robot that Removes Operators from Extreme Environments	5232
Peerless, Ian; Serblowski, Adam; Mulder, Berry	
Rock Typing Classification and Hydraulic Flow Units Definition of One of the Most Prolific Carbonate Reservoir in the Onshore Abu Dhabi.....	5245
Alhashmi, N. F.; Torres, K.; Faisal, M.; Cornejo, V. Segura; Bethapudi, B. P.; Mansur, S.; Al-Rawahi, A. S.	
The Role of E-Well Books in Conducting Integrated Well Reviews and Identification of Production Optimization Opportunities, A Case Study from Iraq.....	5259
Radhwan, AlSaad; Sundararaman, Subramanian; Jumah, Al; Kumar, Ali; Alhartthy, Randhir	

Role of Fluid Injection on Fault Activation During Hydraulic Fracture Stimulations	5271
<i>Baig, Adam; Urbancic, Ted; Viegas, Gisela</i>	
ROP Optimization Using Artificial Intelligence Techniques with Statistical Regression Coupling	5282
<i>Mantha, B.; Samuel, R.</i>	
Rospo Mare Integrated Reservoir Study Italy, Adriatic Sea: An Innovative Approach of Karst System Modeling and History Match	5298
<i>Bellentani, G.; Godi, A.; Siliprandi, F.; Terdich, P.; Famy, C.; Fournier, F.; Jumeaucourt, C.; Leandri, P.; Le Maux, T.</i>	
Safe Mechanical Perforation of Pipe with Connected Control Lines	5309
<i>Denmon, Michael; Harive, Kevin; Babin, Jacques</i>	
SAGD Operation in Interbedded Sands With Application of Horizontal Multistage Fracturing; Reservoir Engineering Aspects	5316
<i>Saeedi, Majid; Settari, A. Tony</i>	
Sand Fines Erosion and Asset Integrity Management of Deepwater Gas Facilities: Effect of Liquid Loading	5337
<i>Subramani, Hariprasad J.; Rhyne, Lee D.; Gonuguntla, Praveen Kumar; Subramani, Vikramraja J.; Vedapuri, Damodaran</i>	
Sand Management and Erosion Prediction Models for Oil and Gas Applications - Experimental and Numerical Validation Studies	5345
<i>Ghraibah, Emad; Zhang, Yongli</i>	
Scaling Deposition Behavior in Sieve Tubes of Produced Water Filter in Polymer Flooding	5358
<i>Wang, Zhihua; Li, Jiexun; Yu, Xueying; Wang, Mingxin; Le, Xinpeng; Yu, Tianyu</i>	
Selection of Geologic Models Based on Pareto-Optimality Using Surface Deformation and CO₂ Injection Data for the in Salah Gas Sequestration Project	5374
<i>Min, Baehyun; Nwachukwu, Azor; Srinivasan, Sanjay; Wheeler, Mary F.</i>	
Self-Sealing Isn't Just for Cracks: Recent Advance in Sour Well Protection	5399
<i>Dieguez, E. Sevilla; Bottiglieri, A.; Vorderbruggen, M.; Saeed, Y.</i>	
A Semi-Mechanistic Model for Predicting Sand Erosion Threshold Velocities in Gas and Multiphase Flow Production	5412
<i>Shirazi, S. A.; McLaury, B. S.; Arabnejad, H.</i>	
A Shale Matrix Imbibition Model – Interplay between Capillary Pressure and Osmotic Pressure	5435
<i>Li, Xiaopeng; Abass, Hazim; Teklu, Tadesse W.; Cui, Qi</i>	
A Simple Unified Pressure Transient Analysis Method for Fractured Waterflood Injectors and Minifrac in Hydraulic Fracture Stimulation	5452
<i>Hoek, Paul van den</i>	
Simulation Opportunity Index, A Simple and Effective Method to Boost the Hydrocarbon Recovery	5479
<i>Saputra, Wardana</i>	
A SMART Framework for Contextualization of Drilling Data for Supporting Drilling Workflows	5496
<i>Arumugam, Sethupathi; Gupta, Sanjay; Rajan, Shebi; Ranjan, Rajeev</i>	
Solids Production Prediction and Management for Oil Producers in Highly Depleted Reservoirs in a Mature Malaysian Field	5506
<i>Asadi, M. S.; Khaksar, A.; Ring, M. J.; Saric, D.; Yin Yin, M.</i>	
Solvent Retrieval During Miscible Flooding in Heterogeneous Reservoirs Using New Generation Nano EOR Materials: Visual Analysis Through Micro Model Experiments	5524
<i>Cui, Jingwen; Babadagli, Tayfun</i>	
Solving the Challenges of Short and Long-Term Production Forecasting and Uncertainty Using a Fully-Coupled Implicit Integrated Production Modelling System	5537
<i>Pathak, Varun; Palaschak, Chelsea; Martinez, Oscar; Hudson, John; Ita, Joel; Saaf, Fredrik; Cotrim, Henrique; Segundo, Jose</i>	
Source Parameters of Repeating Microseismic Events During Hydraulic Fracturing Operations	5556
<i>Chao, Kevin; Prieto, German A.; Du, Jing</i>	
Specific Procedure for an Offshore Chemical EOR One Spot Pilot in a High Salinity High Temperature Environment	5567
<i>Morel, Danielle; Al-Amrie, Omar; Delattre, Eric; Cordelier, Philippe; Greder, Hugues; Rivero, Mayela; Romero, Carolina; Bursaux, Romain; Peltier, Sophie; Levitt, David</i>	
A Spirit of Change Sweeps the Denver-Julesberg Basin: Lowering \$/BOE Using A Novel Completion Strategy	5588
<i>Owens, Matt; Silva, Jesse; Volkmar, Matt; Poppel, Ben; Siegel, Joel; Losacano, Tony; Weijers, Leen</i>	
A Step-Change for Single Well Chemical Tracer Tests (SWCTT): Field Pilot Testing of New Sets of Novel Tracers	5603
<i>Al-Abbad, Mohammed; Sanni, Modiu; Kokal, Sunil; Krivokapic, Alexander; Dye, Christian; Dugstad, Øyvind; Hartvig, Sven; Huseby, Olaf</i>	
Stress Dependent Permeability of Carbonate Rock	5619
<i>Hamid, Osman; Osman, Haytham; Rahim, Zillur; Omair, Ahmed</i>	
A Study into Prediction of External Casing Corrosion from Contact with Overlying Aquifer and Injection Waters	5629
<i>Farooqui, Mohammad; Marmoush, Mohammed; Aly, Maher; Pacheco, Jorge; Morrow, Timothy</i>	
Successful Development and Implementation of 9 5/8 Subsurface Safety Valve for High Pressure, High Rate Gas Wells	5638
<i>Al-Muslim, Ali; Al-Yateem, Karam; Nafa, Hamed; Swan, Thomas; Abdelhamid, Amr</i>	
Successful Identification of Cold Oil Steamflood Development Projects	5649
<i>Popa, Andrei; Woolford, Jeff; Cassidy, Steve</i>	
Successful Managed Pressure Cementing With Hydraulic Simulations Verification in a Narrow Pore-Frac Pressure Window Using Managed Pressure Drilling in Saudi Arabia	5659
<i>Siddiqi, Faizan Ahmed; Riskiawan, Arris; Al-Yami, Abdullah; Elmarsafawi, Youssef; Jain, Bipin; Louati, Issam; Martanto, Roni; Taoutoua, Salim</i>	

VOLUME 8

Successful Use of Sophisticated Flow Modelling in the Planning and Operational Phase of Drilling, Liner Running and Cementing Operations: All in Managed Pressure Mode.....	5670
Barr Aas, I.; Skjerve, K.; Haaland, L. E.; Svendsen, M.; Rommetveit, R.	
Successfully Delivered Drill-In, Clay-Free Fluid with Innovative Delayed Acid Breaker for the Longest Horizontal Wells in Offshore Abu Dhabi	5680
Angelo, S. D.; Shabaka, H.; Hamed, M.; Vinci, M.; El Salam, M. Abd	
Successfully Developing Fields in a Mature Region Whilst Revenues are Going Down, a Non-Operating Partner Perspective.....	5701
Schulte, Ruud; Kreft, Eric; van Ewijk, Eric	
Super-Large Scale Horizontal Well Position Optimization Method and Infilling Practice in High Water-cut Large Complex Fluvial Reservoir Based On Multidisciplinary Innovative Techniques.....	5709
Wang, Kai; Wang, Haisheng; Shu, Xiao; Zhou, Dasheng; Wang, Ruizhe; Li, Yujun; Liu, Ning; Su, Zhikun; Ren, Baicong	
Surface Web Balance Method: A Neural Network-Based Approach to Mitigate Subsidence in Diatomites Coupling Surface Deformation and Injection/Production Data	5723
Temizel, Cenk; Tiwari, Aditya; Aktas, Sinem; Putra, Dike; Suhag, Anuj; Kirmaci, Harun; Balaji, Karthik; Ranjith, Rahul; Tahir, Sofiane	
A Technical Investigation on the Ongoing Evolution of the Market of Offshore Installation Vessels	5753
Li, Rui; Hansen, Kevin; Beltrami, Francesco	
Technology Driven Rejuvenation of a Mature Field by Doubling the Gross Production Rate	5769
Giden, I.; Kometer, B.; Toth, P.; Geier, H.; Florian, T.; Sieberer, M.	
Technology to Remove Asphaltene, Resin and Paraffin Deposits in Wells Using Organic Solvents	5784
Khaibullina, Karina	
Technology Trial Review: Selective Coiled Tubing Re-Entry of Seven-Lateral Openhole Well Using Electromechanical Arm	5790
Abdelaziz, Mohannad; Ahmad, Talha; Saeed, Abubaker; Zarea, Marwan; Busfar, Wessam; Sagr, Hani	
Temperature Transients Affect Reservoir Pressure Estimation During Well Tests - Case Study and Model	5800
Maizeret, Pierre-David; Sidorova, Maria; Lipovetsky, Tatiana	
The Thermal Limit of an HMX Perforating System for Through-Tubing Gas Well Operations.....	5815
Barker, James M.; Davidson, John P.	
Three-Phase Flow in Fractured Porous Media: Experimental Investigation of Matrix-Fracture Interactions.....	5830
Sabti, M.; Alizadeh, A. H.; Piri, M.	
Thru Tubing Deployed Electrical Submersible Pump with Downhole Wet Connector	5844
Malone, David; Nutter, Greg; Algeroy, John	
To the Barricades! Using a Self-Assembled Wall to Protect Ordinary Portland Cement from Acidic Corrosion	5850
Vorderbruggen, M. A.; Bryant, S.; Wilson, M.	
Towards a Robust Estimation of Permeability by Integrating Logging Data from Nuclear Magnetic Resonance, Acoustic, and Formation Tester	5857
Thern, Holger; Hinze, Iris; Mohnke, Oliver; Salazar, Jesus; Kriegshauser, Berthold	
Tracer and Streamline Modelling for Pattern Validation and Improved Reservoir Modelling	5876
Ahonsi, Wilson; Lager, Arnaud; Al Muhairi, Layla Saleh; El Mahdi, Ahmed	
Transforming the World of Asset Management in Near Real-Time Using an Intelligent Application to Optimize Daily Production Operations.....	5889
Gupta, Supriya; Kansao, Rami; Saputelli, Luigi; Escoria, Alvaro	
A Transient Coupled Wellbore-Reservoir Model Using a Dynamic IPR Function	5903
Garcia, A.; Posenato, de Sousa, P.; Cavalcanti, Waltrich, P. J.	
Truly Sustainable Building Blocks for Deepwater Field Development: The Need for Strategies Re-Definition in a Persistently Low Oil Price Scenario?	5921
Beltrami, Francesco; Hansen, Kevin	
Turning Data into Knowledge: Data-Driven Surveillance and Optimization in Mature Fields	5933
Temizel, Cenk; Energy, Aera; Aktas, Sinem; Kirmaci, Harun; Susuz, Onur; Zhu, Ying; Ranjith, Rahul; Tahir, Sofiane	
Two-Dimensional Visualization of Heavy Oil Displacement Mechanism During Chemical Flooding	5965
Voroniak, A.; Bryan, J. L.; Hejazi, H.; Kantzas, A.	
Ultra-high Temperature Rated Elastic Carbon Composite Packer for Reliable Downhole Zone Isolation	5983
Xu, Zhiyue; Zhao, Lei; Prieto, Carlos A.	
Uncertainty Quantification for History Matching Problems With Multiple Best Matches Using a Distributed Gauss-Newton Method.....	5992
Gao, Guohua; Vink, Jeroen C.; Chen, Chaohui; Tarrahi, Mohammadali; El Khamra, Yaakoub	
Unconventional Cyclone Gas Lift Completion for Offshore Wells of Cambay Basin: A Smart Completion to Optimize Production and Well Intervention	6016
Singh, Kumar Abhishek; Sarkar, Prakhar; Praleya, Pranshu; Sai, Gogineni Sudarsan	
Unconventional Reservoir Perforating Cluster Spacing Optimization Method for Staged-Fracturing Horizontal Well	6036
Lu, Qianli	
Underbalanced Coiled Tubing Mechanical De-Scaling Operations: A Case History for an Oil Well in Ghawar Field from Saudi Arabia	6057
Alabdulmohsin, Yousef A.; El-Zefzafy, Ibrahim Mohamed; Al-Malki, Mohammed H.; Al-Mulhim, Abdullah A.; Al-Ramadhan, Ali A.; Al Hamawi, Kaisar; Arfin, Mohammad; Ahmad, Danish	

UNFC: Expanding The Influence Of PRMS Beyond Petroleum	6071
<i>MacDonald, D.; Falcone, G.; Heiberg, S.; Ross, J.; Griffiths, C.; Denelle, F.; Coll, C.</i>	
A Universal Model of Water Flow Through Nanopores in Unconventional Reservoirs: Relationships Between Slip, Wettability and Viscosity	6080
<i>Wu, Keliu; Chen, Zhangxin; Xu, Jinze; Hu, Yuan; Li, Jing; Dong, Xiaohu; Liu, Yuxuan; Chen, Mingjun</i>	
Unlocking the Potential of Marginal Reservoirs in Kuwait Through the Application of Optimized Hydraulic Fracturing Technologies	6096
<i>Al-Othman, M. R.; Buhamad, A. A.; Al-Houti, N. B.; Ashkanani, M. S.; Al-Mehanna, H. S.; Al-Haddad, M. N.; Al-Dhafiri, A. A.; Al-Harbi, S. M.; Al-Ibrahim, A. A.; Al-Zuwayed, A. M.; Ahmed, A. M.; Al-Dousari, M. A.</i>	
Upscaling of Pore Connectivity Results From Lab-Scale to Well-Scale for Barnett and Haynesville Shale Plays	6124
<i>Davudov, Davud; Moghanloo, Rouzbeh Ghanbarnezhad</i>	
Use of DME as an EOR Agent: Experimental and Modeling Study to Capture Interactions of DME, Brine and Crudes at Reservoir Conditions	6141
<i>Ratnakar, R. R.; Dindoruk, B.; Wilson, L.</i>	
Use of Flow Control Valves to Increase Potential and Reserves on a Mature Field	6156
<i>Le-Roch, J. F.; Fernagu, J.; Marvillet, C.; Sofyan, M.; Briz-Quintero, X.</i>	
The Use of Temperature-Triggered Polymers to Seal Cement Voids and Fractures in Wells	6164
<i>Taleghani, A. Dahi; Li, G.; Moayeri, M.</i>	
Use of Transient Tests to Monitor Progress of Flooding in IOR / EOR Operations	6179
<i>Kamal, Medhat; Tian, Chuan; Suleen, Suleen</i>	
Using a Problem-Based Learning Approach in Technical Professional Training	6193
<i>Nelson, Jon S.; Musa, Ismael E.</i>	
Using an Innovative Tool System to Estimate In-Situ Permeability and Pressure at Multiple Targets in a Monitoring Well in Permian Basin	6204
<i>Zhan, Lang; Fair, Phil; Dombrowski, Robert; Quint, Edwin; Cao, Richard; Cui, Qi</i>	
Using Completion Diagnostics in Uinta Basin Vertical Wells to Reduce Completion Costs and Identify Horizontal Well Targets	6223
<i>Ramos, C.; Dineen, C.; Kolla, J.</i>	
Using Lagging and Leading Indicators and the Importance of Benchmarking Contractor Performance	6251
<i>Bibby, David</i>	
Using Turbine Technology to Run Casing, Liners and Completions to TD in Challenging Wells in Saudi Arabia	6255
<i>Okot, Mike; Chima, Jude; Mugeem, Muhammad; Hajji, Ali; Ramirez-Narino, Alfredo; Al-Haj, Haitham; Rider, John; Wardle, Magnus; Prescott, John</i>	
Utica Well Performance Evaluation; A Multi-Well Pad Case History	6262
<i>Shelley, Robert; Shah, Koras; Underwood, Keith; Davidson, Brian</i>	
Visual Data Analytics: Morphological Image Processing Approach on the Evaluation of Foamed Cement Quality	6280
<i>Ding, Bingjie; Samuel, Robello</i>	
Visualizing Portfolio Tradeoffs With Perceptually Accurate Self-Organizing Maps	6289
<i>Kostuk, K.; Mu, Y.; El-Beltagy, M.; Naiem, A.</i>	
Water Salinity Determination Over an Extended Salinity Range Using a Joint Interpretation of Dielectric and Neutron Cross-Section Measurements	6300
<i>Donadille, J. M.; Leech, R.; Pirie, I.</i>	
Wave Propagation Models Capture Pressure Behavior in Heterogeneous Unconventional Reservoirs	6318
<i>Li, Hanyu</i>	
Well Performance Calculations for Artificial Lift Screening	6331
<i>Kefferd, P. A.; Gaurav, M.</i>	
Wellbore Stability Analysis Based on Sensitivity and Uncertainty Analysis	6356
<i>Niño, Fernando Antonio Plazas</i>	
Wettability Alteration with Brine Composition in High Temperature Carbonate Rocks	6374
<i>Chandrasekhar, Sriram; Sharma, Himanshu; Mohanty, Kishore K.</i>	
Why Re-Fracturing Works and Under What Conditions	6395
<i>Asala, H. I.; Ahmadi, M.; Taleghani, A. Dahi</i>	
Wolfcamp Completions: Lessons Learned through the Implementation of Completion Diagnostics to Optimize Existing Drilling and Stimulation Practices	6423
<i>Warren, Mark N.; Dempsey, Christopher J.; Woodroof, Robert A.</i>	
Workover Operations Optimized in Tubingless Water Injectors through Comprehensive Analysis of Rigless Well Securement Practices	6443
<i>Al-Hajri, Nasser M.; Al-Subaie, Feheud M.; Al-Ajmi, Mohammed D.</i>	
Proposing, Drilling, Completing and Producing the World's First Offshore Horizontal Multi-Stage Proppant Fractured Well that Targeted Tight Carbonate Source Rock - Dubai's Unconventional Shilaif Formation Case Study	6451
<i>Chemin, Frederic; Freile, Juan Pablo; Moreira, Luis; Mehrotra, Nagendra; Alabi, Ibraheem; Thompson, Hamish; Arcano, Nelson Suarez</i>	
Author Index	