

SPE/IADC Middle East Drilling Technology Conference and Exhibition 2018

Abu Dhabi, United Arab Emirates
29-31 January 2018

Volume 1 of 2

ISBN: 978-1-5108-5825-1

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© (2018) by Society of Petroleum Engineers
All rights reserved.

Printed by Curran Associates, Inc. (2018)

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

SESSION 1: HEALTH, SAFETY, AND ENVIRONMENT

APPLICATION OF INNOVATIVE HIGH TEMPERATURE DEEP PYROLYSIS TECHNOLOGY TO TREAT DRILLING CUTTINGS HARMLESSLY IN TARIM BASIM	1
<i>Long, Li ; Da, Yin ; Fengbao, Liu ; Zihang, Yan; Cha, Ma ; Xiao, Liu</i>	
HAPPINESS: A KEY TO SUSTAINABLE SUCCESS IN ALMANSOORI.....	14
<i>Rahuma, Abdalla ; Al Ali, Maha ; Kuijken, Chris</i>	

SESSION 2: DRILLING AND COMPLETION IN CHALLENGING ENVIRONMENTS – I

11 ERD WELLS ENGINEERED TO DELIVER 50+ FIELD RECORDS IN QARN ALAM CLUSTER, SULTANATE OF OMAN	26
<i>El Hawy, Ahmed ; Picha, Mahesh S. ; Soliman, Fathy ; Haeser, Patrick A. C. M. ; Al Hadrhrami, Moosa ; Al Kindi, Adil ; Eljenni, Mounir ; Busaidi, Ibrahim A. ; Busaidi, Adil Z. A. ; Bazara, Magdi ; Omara, Ahmed S.</i>	
DRILLING FLUIDS AUTOMIX.....	47
<i>Hestad, Vidar ; Gulbrandsen, Arild</i>	
MECHANICAL SPECIFIC ENERGY AND STATISTICAL TECHNIQUES TO MAXIMIZING THE DRILLING RATES FOR PRODUCTION SECTION OF MISHRIF WELLS IN SOUTHERN IRAQ FIELDS	54
<i>Alsubaih, Ahmed ; Albadran, Firas ; Alkanaani, Nuhad</i>	
DEVELOPMENT AND DEPLOYMENT OF NEXT GENERATION HIGH PRESSURE HIGH TEMPERATURE MULTISTAGE CEMENTING TOOL	70
<i>Albassam, M. ; Al-Yami, A. S. ; Almalki, B.</i>	

SESSION 3: ADVANCEMENTS IN COMPLETION AND STIMULATION TECHNOLOGY – I

PRODUCTION SEGMENTATION COMPLETION TECHNIQUE PSCT: AN INNOVATIVE APPROACH FOR HORIZONTAL WELL OPTIMIZATION.....	79
<i>Alshmakhy, Ahmed ; Dominguez, Isidro</i>	
SUCCESSFUL ACIDIZING OF AN HF ACID SENSITIVE FORMATION USING A PROTECTIVE ION-COMPLEXING AGENT	98
<i>Al Salmi, Ahmed ; Al-Yaaribi, Ahmed ; Al-Ruzeiqi, Saleh</i>	
FIRST MULTILATERAL WELL WORLDWIDE WITH AN INTELLIGENT COMPLETION SYSTEM AND OPENHOLE ACID STIMULATION	110
<i>Hart, Sofiri ; Saggaf, Hatem</i>	
PILLAR FRACTURING TECHNIQUE APPLICATION IN THE ALGERIAN DESERT FOR WELL PRODUCTION ENHANCEMENT	122
<i>Dal Forno, Luca ; Melchiorre, V. ; Fragola, D. ; Allal, Mohammed A. ; Gheraissa, Mohammed ; Kateb, Mahmoud ; Mohammed, Omar</i>	
HIGH RATE MATRIX ACIDIZING TECHNIQUE USING INNOVATIVE DIVERTER TECHNOLOGIES TO RESTORE AND IMPROVE WELL PERFORMANCE IN NORTH KUWAIT JURASSIC GAS NKJG.....	138
<i>Ahmed, Zamzam ; Al-Muhanna, Danah ; A-Enezi, Abeer ; Prakash, Roshan ; Salem, Abrar ; Mahmoud, Wael</i>	

SESSION 4: WELL INTEGRITY – I

RESERVOIR SOURING TRACKING USING H2S COUPONS VIA SLICKLINE OPERATIONS: SUCCESSFUL APPLICATION IN NORTH KUWAIT.....	148
<i>Al-Shuaib, Mariam ; Chetri, H. ; Al-Hindal, A. ; Al-Failakawi, Hamid Y. ; Al-Mansour, Yusef ; Al-Busaili, Abdulrahman ; Ayyad, Hazim</i>	

STRUCTURAL INTEGRITY ASSURANCE FOR CORRODED CONDUCTORS IN OFFSHORE SHALLOW-WATER WELLS	157
<i>Spuskanyuk, Oleksandr ; Mumtaz, Saad ; Mahmoud, Amr ; Gan, Chee L. ; Abdulhai, W. M. ; Wheatley, Edward J. ; Salim, A. ; Khemakhem, David</i>	
WELL INTEGRITY - NEXT DEVELOPMENTS	177
<i>Brechan, Bjorn ; Sangesland, Sigbjorn ; Naaden, Christoffer</i>	
OVERVIEW OF LUBRICATION REGIMES AND CONTACT PRESSURE DISTRIBUTION IN PROPRIETARY TUBULAR CONNECTIONS FOR SPECIAL DRILLING ENVIRONMENTS	192
<i>Meza, O. G. ; Sinaga, S.</i>	
SELF HEALING DURABLE CEMENT; DEVELOPMENT, LAB TESTING, AND FIELD EXECUTION	202
<i>Al-Yami, A. S. ; Alqam, M. H. ; Riefky, A. ; Shafqat, A. U.</i>	

SESSION 5: DRILLING AND COMPLETION IN CHALLENGING ENVIRONMENTS – II

CURING LOSSES IN VUGGY CARBONATE FORMATIONS	220
<i>Alshubbar, G. D. ; Nygaard, R.</i>	
INVESTIGATING THE IMPACT OF DYNAMIC EFFECTIVE STRESS WHILE PERFORATING LOW-STRENGTH FORMATIONS	232
<i>Haggerty, Dennis ; Craddock, Gerald ; McGregor, Jacob</i>	
DEVELOPMENT OF A GEOMECHANICAL MODEL FOR DRILLING DEVIATED WELLS THROUGH THE ZUBAIR FORMATION IN SOUTHERN IRAQ	244
<i>Abbas, Ahmed K. ; Al-Asadi, Yousif M. B. ; Alsaba, Mortadha ; Flori, Ralph E. ; Alhussainy, Shaban</i>	

SESSION 6: ADVANCEMENTS IN COMPLETION AND STIMULATION TECHNOLOGY – II

INTEGRATED OFF-BOTTOM CEMENTED INFLOW CONTROL DEVICE SYSTEM DESIGN TOWARD WELL DELIVERY OPTIMIZATION	259
<i>Al Madan, Mohammed A. ; Khamseen, Mazen B. ; Suherdiana, Hedy ; Al Abdulmohsen, Ahmad</i>	
PERFORATING VERTICAL SMART WELL COMPLETIONS USING TUBING-CONVEYED PERFORATING GUN ASSEMBLIES: CASE HISTORY	269
<i>Wood, Stuart ; Comb, Lachlan ; Singh, Mandeep K. ; Lavery, Joshua ; Biddle, Matthew ; Hyatt, Paul</i>	
NEW TECHNIQUE TO EVALUATE THE PERFORMANCE OF HYDRAULICALLY FRACTURED HORIZONTAL WELLS	287
<i>Abdalla, Mohamed ; Hassan, Amjed ; Abdulraheem, Abdulazeez ; Elkatatny, Salaheldin ; Mohamed, Abdelmjeed</i>	
FIRST RUN IN THE GCC OF HYBRID CABLE DTS AND DHPG	295
<i>Al Mutawa, Ahmed A. ; ElBarbary, Abdalla Y. ; Quintero, Fernando ; Awad, Abdul S. ; Khaled, Moutaz F. ; Al-Mansi, Mohammad K.</i>	
PIONEERING THE FIRST HYDRAULIC FRACTURING IN IRAQ'S COMPLEX RESERVOIR	306
<i>Syed, I. H. ; Ahmed, A. R. ; Hatem, R. ; Alabdali, S. A. ; Yandong, C. ; Wenxin, C. ; Xinmin, Z. ; Zhaowei, L. ; Jin, O. ; Mingyue, C. ; Ding, Y. ; Zhu, D. ; Liang, C. ; Theseira, K. ; Faiz, M. M. ; Murad, M. A.</i>	

SESSION 7: WELL DESIGN – I

LONGEST ULTRA SLIM LATERAL IN THE WORLD DRILLED WITH SLIM MUD MOTOR TECHNOLOGY IN KUWAIT OIL COMPANY FIELDS SPE	318
<i>Alkhalidy, Meshal ; Alsaadi, Dhari ; Al-Shuaibi, Nawaf ; Al-Saffar, Maytham ; Elafify, Ibrahim ; Alkubaish, Yasser ; Moustafa, Shady ; Mobasher, Mohamed ; Al Dalali, Hamad ; Saleh, Rashad ; Keot, Chandan J. ; Jokhi, Ayomarz H. ; Hasan, Said</i>	
EFFECT OF THE ROTARY STEERABLE SYSTEM STEERING MECHANISM ON WELLBORE TORTUOSITY IN HORIZONTAL WELLS	332
<i>Alrushud, Albaraa ; Mohammad, Muntasar ; Oliveira, Victor ; Zahrani, Bader</i>	
STEP CHANGE IN WELLBORE POSITIONING ACCURACY	346
<i>ElGizawy, Mahmoud ; Aklestad, Darren ; Lowdon, Ross</i>	
WELLBORE STABILITY AND HOLE CLEANING MANAGEMENT FOR SUCCESSFUL WELL DESIGN OPTIMIZATION IN DEEP TIGHT GAS FIELD	355
<i>Kumar, Rajeev ; Al Busaidi, Salim ; Al Ghafri, A. M. D. ; Al Amri, Aryaf ; Uwe, Jonathan S. ; Khaldi, Saud</i>	

SESSION 8: MPD AND UBD

OPTIMIZING THE APPLICATION OF UNDERBALANCED DRILLING THROUGH THE USE OF AIR AND FOAM SYSTEMS IN LOW-PRESSURE GAS RESERVOIRS	366
<i>Porter, Mika ; Hill, Adam ; Vieira, Paco ; Wuest, Chad ; Gregorio, Adrian P. ; Sardo, Antonio ; Orta, Cesar</i>	
USE OF MANAGED PRESSURE DRILLING PAVED THE WAY TO A MASSIVE GAS FIELD DISCOVERY IN EGYPT WESTERN DESERT: CASE HISTORY	387
<i>Emam, S. S. ; Brand, P. R. ; Gabaldon, O. R. ; Vityk, M. ; El Leithy, A. ; Shanab, M. A. ; Hamdy, B. ; Abdel-Moniem, M. ; El-Desouky, W. ; El-Azm, H. A.</i>	
DATE PIT-BASED ADDITIVE AS DENSITY REDUCING AGENT IN UNDERBALANCED DRILLING	409
<i>Adewole, Jimoh K. ; Najimu, Musa O. ; Adewunmi, Ahmad A.</i>	
PRESSURIZED MUD CAP DRILLING DRASTICALLY IMPROVES DRILLING EFFICIENCY IN EXPLORATION WELL, SOUTH SUMATRA	415
<i>Dipura, Yongki S. ; Ardiyaprana, Faruk B. ; Putra, Ery M. F.</i>	

SESSION 9: CAPITALISING ON BIG DATA

IMPROVE THE DRILLING OPERATIONS EFFICIENCY BY THE BIG DATA MINING OF REAL-TIME LOGGING	423
<i>Yin, Qishuai ; Yang, Jin ; Zhou, Bo ; Jiang, Menglei ; Chen, Xiaoliang ; Fu, Chao ; Yan, Li ; Li, Lei ; Li, Yatao ; Liu, Zhengli</i>	

SESSION 10: DRILLING, CEMENTING, AND COMPLETION FLUIDS – I

SCALING AND COMPLETION FLUID PH EFFECT ON SANDSTONE FORMATION DAMAGE	435
<i>Hamzaoui, Bilel ; Al Moajil, Abdullah M.</i>	
CASE STUDY FOR CURING CIRCULATION LOSSES DURING PRIMARY CEMENTING OPERATIONS USING FIBER CEMENT IN ZUBAIR FIELD/IRAQ	441
<i>Hussein, Maher F. ; Eren, Tuna ; Rahman, Ahmed ; Ghidoni, E. C. ; Talib, Basheer</i>	
IN-SITU THERMAL RHEOLOGICAL PROPERTIES OF DRILLING MUDS	456
<i>Ettehad, Ali ; Altun, Gursat</i>	
AN ENHANCED EXPERIMENTAL METHOD TO ASSESS THE SHALE INHIBITION DURABILITY OF INHIBITIVE WATER-BASED DRILLING FLUIDS	479
<i>Al-Arfaj, Mohammed K. ; Amanullah, M. ; Mohammed, Al-Osail</i>	
NOVEL MODIFIED RECTORITE PROVIDES RELIABLE RHEOLOGY AND SUSPENDABILITY FOR BIODIESEL BASED DRILLING FLUID	488
<i>Li, Wai ; Liu, Jishan ; Zhao, Xionghu ; Zhang, Jian ; Jiang, Jiwei ; He, Tao ; Liu, Liu ; Shen, Peiyuan ; Zhang, Min</i>	
SYNTHESIS & EVALUATION OF SYNTHESIZED PAA/AMPS-G-SESBANIA GUM GRAFT COPOLYMER IN WATER BASED DRILLING MUD SYSTEM FOR MITIGATION OF BOREHOLE INSTABILITY IN CONVENTIONAL AND TROUBLESOME FORMATIONS	505
<i>Kumar, Saket ; Chaurasia, Siddharth ; Sundriyal, Pankaj ; Gautam, Sandarbh</i>	

SESSION 11: NEW APPROACHES TO WELL ENGINEERING AND CONSTRUCTION

FIBER GLASS CASING DESIGN, PLANNING AND INSTALLATION EXPERIENCE IN OBSERVATION WELLS	514
<i>Al-Oqab, Mohammad ; Kaushik, P. ; Ahmad, Abuzar T. ; Kumar, Subodh</i>	

VOLUME 2

DEVELOPMENT AND FIRST APPLICATION OF MONOBORE OPENHOLE EXPANDABLE CLAD IN THE TARIM OILFIELD	523
<i>Guo, H. J. ; Xu, B. G. ; Yin, H. W. ; Liu, Z. T. ; Lv, M. J. ; Wang, J. L.</i>	

WELL INTEGRITY MODEL - KLEVER & TAMANO COLLAPSE	535
<i>Brechan, Bjorn ; Kornberg, Even ; Sangesland, Sigbjorn ; Dale, Stein I.</i>	

SESSION 12: WELL INTERVENTION AND WORKOVER – I

RETRIEVAL OF INTELLIGENT COMPLETIONS CHALLENGES AND SOLUTION	569
<i>Kamal, Syed M. M. ; Teran, Juan M. P. ; Adamawi, Marwan M. ; Qazi, Muhammed Q.</i>	
UNLOCKING THE ECONOMIC POTENTIAL OF A MATURE FIELD THROUGH RIGLESS REMEDIATION OF MICROCHANNELS IN A CEMENT PACKER USING EPOXY RESIN AND ULTRAFINE CEMENT TECHNOLOGY TO ACCESS NEW OIL RESERVES	579
<i>Khanna, Manu ; Sarma, Phanijyoti ; Chandak, Krishna ; Agarwal, Apurv ; Kumar, Animesh ; Gillies, James</i>	
REPAIR OF SURFACE CASING FAILURE ALLOWING PRODUCTION RESTART OF HIGHLY PRODUCTIVE WELL	598
<i>Bourgoin, S. ; Mendizabal, C. R. ; Tierno, S. S. ; Portillo, L. ; Barbee, G.</i>	

SESSION 13: QA/QC AND RELIABILITY

OPERATIONAL PERFORMANCE IMPROVEMENT PLAN: HOW TO BOOST THE PERFORMANCE AND REDUCE THE COST DURING WELL CONSTRUCTION	622
<i>Ruzhnikov, Alexey ; Alzate, Jose ; Singh, Rudra ; Al-Wahedi, Khalid ; Al-Kindi, Rashid</i>	
NEW APPROACH: CONFIRMING WELL QUALITY AT WELL DELIVERY WITH STRINGENT WELL INTEGRITY CHECKS AT A WORLD CLASS DRILLING PROJECT	633
<i>Rashid, F. ; Butt, S.</i>	
DESIGN AND IMPLEMENTATION OF THE WELL DELIVERY PROJECT GATE SYSTEM	644
<i>Al-Salem, Mohammad ; Al-Shehab, Nawaf ; Decena, Jose</i>	
SUSTAINABLE MAINTENANCE IN DRILLING OPERATIONS: NEW RISKS, CHANGING STANDARDS AND CODES	654
<i>Dubey, Saurabh</i>	
MICROBIAL ASSESSMENT AND CONTROL IN DRILLING OPERATIONS	665
<i>Sindi, Mohammed E. ; Al-Humaid, Ghassan A. ; Al-Humam, Abdulmohsen A. ; Zhu, Xiangyang</i>	

SESSION 14: DRILLING AND COMPLETION IN CHALLENGING ENVIRONMENTS – III

7- x 4 1/2-IN. MONOBORE COMPLETION SYSTEM CAPABLE OF 15-KSI TREATING PRESSURES IN HYDRAULIC FRACTURING APPLICATIONS FOR DEEP GAS WELLS	673
<i>AlGhuryafi, Ahmed M. ; Cruz, Raul A. G. ; Ashby, Scott F. ; Abuelnaga, Ahmed</i>	
ACCURATE MODELING OF SURGE AND SWAB PRESSURES OF YIELD POWER LAW FLUIDS IN CONCENTRIC ANNULI	682
<i>Erge, O. ; Akin, S. ; Gucuyener, I. H.</i>	

SESSION 15: WELL INTEGRITY – II

UNDERSTANDING CEMENT QUALITY IN INTERMEDIATE CASING AGAINST AQUIFERS USING CEMENT BOND LOGS: A CASE STUDY OF CEMENTING AGAINST AQUIFERS IN UAE	699
<i>Hanif, R. ; Ashour, S. H. ; Yee, S. ; Hay, M. A.</i>	
OPTIMIZING WELL INTEGRITY IN INTELLIGENT OIL FIELDS	708
<i>Khreibeh, Hanaa A. ; Al Shamsi, Saoud ; Vasallo, Edilberto ; Farag, Fadi ; Lunt, Ged ; Bhardwaj, Jiten</i>	
A SYSTEMATIC APPROACH TO MONITORING AND MANAGEMENT OF ANNULUS PRESSURES	721
<i>Srivastava, Manish ; Al Ali, Abeer A. ; Alshehhi, A. S. ; Kumar, Amit ; Spuskanyuk, Oleksandr ; Abdulhai, W. M. ; Gan, Chee L.</i>	
GAS MIGRATION MODELING TO PREVENT SUSTAINED CASING PRESSURE AND CASING VENT FLOW	732
<i>Vu, Manh-Huyen ; Bois, Axel-Pierre ; Badalamenti, Anthony</i>	

SESSION 16: NEW GENERATION OF RIGS

A NOVEL 8000M RIG AND ITS APPLICATION FOR ULTRA-DEEP WELL DRILLING IN SUBMOUNTAIN REGION	756
<i>Chen, Peng ; Fang, Taian ; Zhou, Zhixiong ; Wang, Junjie ; Yuan, Xubo</i>	
ENHANCING JACK-UP PERFORMANCE USING SPUDCAN EXTENSIONS	769
<i>van der List, Remco H. ; Akkermans, Richard A. W. ; Blaauw, Floris W. ; Baan, Rutger C.</i>	
DRILLING CONTROL ROOMS OF THE FUTURE	781
<i>Botman, Espen</i>	

SESSION 17: ADVANCEMENTS IN COMPLETION AND STIMULATION TECHNOLOGY – III

ULTRA-HIGH-STRENGTH PROPPANT: AN UPDATE ON DEEPWATER APPLICATIONS IN THE GULF OF MEXICO	786
<i>Saldungaray, Pedro ; Palisch, Terry</i>	
SUCCESSFUL INSTALLATION OF MULTI TASK VALVES MTV WITH NEW GENERATION ICD IN THE MIDDLE EAST SANDSTONE RESERVOIRS SIMPLIFIES DEPLOYMENT'S OPERATION AND OPTIMIZES WELL PERFORMANCE	799
<i>Al-Arji, Hamad M. ; Faizal, Syed A. ; Suherdiana, Hedy</i>	
PROPPANT PERFORMANCE IN MARCELLUS SHALE FRACTURES UNDER EXPERIMENTAL IN-SITU STRESS CONDITIONS	808
<i>Elsarawy, Ahmed M. ; Nasr-El-Din, Hisham A.</i>	
SUCCESSFUL IMPLEMENTATION OF MULTI-MODAL, SELF-ASSEMBLING, SELF-DEGRADABLE AND ENVIRONMENTALLY FRIENDLY SOLIDS PARTICULATES AS DIVERTER IN ACID STIMULATION TREATMENTS IN CARBONATE RESERVOIRS	820
<i>Malik, Aatur R. ; Asiri, Mohammed A. ; Ogundare, Tolulope M. ; Khalifa, Mohamed</i>	
THE STUDY ON HYDRAULIC FRACTURE INITIATION AND PROPAGATION OF COPLANAR PERFORATION TECHNOLOGY IN THE HORIZONTAL WELL	831
<i>Zhang, Ruxin ; Hou, Bing ; Shan, Qinglin ; Lin, Botao ; Lu, Yunhu ; Wang, Yajun ; Zhang, Xiang</i>	

SESSION 18: WELL DESIGN – II

FIRST FULLY SUCCESSFUL APPLICATION OF A MULTISTAGE ACID FRACTURING OPERATION TO STIMULATE A CARBONATE FORMATION, RESULTING IN THE IMPLEMENTATION IN OTHER WELLS IN THE MATURE BAHRAH FIELD, NORTH KUWAIT	844
<i>Al-Othman, M. ; Alboueshi, A. ; Davis, J. ; Eid, W. ; Allam, A. ; Al Hamad, A. ; Sadeddin, S. ; Buhamad, A. ; Ashkanani, M. ; Aloun, S. ; Al-Haddad, M. ; Al-Mehanna, H.</i>	
ADVANTAGE OF STUDYING LITHOLOGY OF DENSE ZONES FORMATION TO AVOID WELL BORE COLLAPSE BETWEEN SIDETRACK AND LANDING POINT - CASE STUDY - OFFSHORE ABU DHABI	858
<i>Khemissa, Hocine ; Channa, Zohaib ; Nofal, Salman F. ; McNeilly, Kevin D. ; Al-Felasi, A. ; Al-Mazrooqi, Laila S. ; Al Qubaisi, Salama D. ; Al-Shamsi, Latifa A.</i>	
STUDY ON WORLD DRILLING LIMIT ENVELOPE AND BREAK ITS LIMITATIONS	867
<i>Li, Xin ; Gao, Deli ; Wen, Chang ; Zhang, Hui ; Gu, Yue</i>	

SESSION 19: SURFACE AND DOWNHOLE EQUIPMENT

PERMANENT DOWNHOLE CHEMICAL TRACER SYSTEM FOR WIRELESS SURVEILLANCE AND OPTIMIZING WELL PRODUCTION	881
<i>Anopov, Alexey ; Alshuraim, Fawaz ; Shammeri, Faleh ; Jacob, Suresh ; Leung, Ed</i>	
MULTISTAGE COMPLETION AND HYDRAULIC FRACTURING OF THE EXTENDED ZONES OF THE LONGEST LONG-STRING HORIZONTAL WELL IN SAUDI ARABIA ENABLED BY ADOPTING COMPLETION TECHNOLOGY AND EXPERIENCE FROM NORTH AMERICAN SHALE	893
<i>Rastegar, Reza ; Koloy, Tom ; Munawar, Mohammed</i>	

BENEFITS OF UTILIZING A FULLY MECHANICAL CASING RUNNING TOOL ON A 630 TON CASING STRING IN KUWAIT	910
<i>Saleh, Khaled ; Al-Shammari, Abdullah ; Shadad, Nawaf ; Mujahed, Emad ; Al-Jarid, Meshari A. ; Smith, Douglas G. ; Mattia, Chris D.</i>	
FIRST SUCCESSFUL UNDERREAMING-WHILE-DRILLING OPERATION DELIVERS STEP-CHANGE PERFORMANCE IMPROVEMENT IN A KUWAIT 3D DIRECTIONAL WELLBORE SECTION	921
<i>Boushari, Mohammed ; Al Hindi, Khaled ; Dashti, Mohammed ; Joby, Jacob ; Hazarika, Manoj ; Carasco, Anant ; Al Najdi, Faisal ; Saleh, Rashad M. ; Jokhi, Ayomarz ; Bandi, Mani ; Benny, Naveen ; Al Shar'an, Ismail Q. M. ; Fernandes, Daniel ; Nair, Prakash ; Helal, Karim ; Hassan, Said ; Mustafa, Mohammed M. ; Abdelbaset, Shady M. ; Dashti, Sulaiman ; Al Kubaish, Yasser</i>	
EVOLUTION OF DRILLING DYNAMICS MEASUREMENT SYSTEMS	929
<i>Akimov, O. ; Hohl, A. ; Oueslati, H. ; Reckmann, H.</i>	

SESSION 20: DRILLING, CEMENTING, AND COMPLETION FLUIDS 2

SMART LOSS CIRCULATION MATERIALS FOR DRILLING HIGHLY FRACTURED ZONES	942
<i>Mansour, A. K. ; Taleghani, A. D.</i>	
APPLICATION OF A WELLBORE SHIELD ELIMINATES NPT IN SOUTH CHINA SEA WELLS	951
<i>Bakar, Muhammad A. A. ; Nasrudin, Khairul A. ; Nor, M. A. M. ; Mcllellan, Justin ; Bradbury, Andy ; Syrapushchynski, Sasha ; Wilder, Michael ; Rockwood, Jene</i>	
REDUCTION OF SUBSURFACE LOSSES AND NON-PRODUCTIVE TIME DURING DEEPWATER DRILLING BY APPLICATION OF WELLBORE STRENGTHENING MECHANISM – A STRATEGIC APPROACH	968
<i>Alimuddin, Sultan ; Sharma, Sunil ; Mahadeshwar, Sachin ; Marinescu, Pavel ; Raman, Chakrapani V. ; Kumar, Yogesh ; Velavaraj, Nirmaladevi K. ; Panicker, Santosh ; Rahim, Syed A.</i>	
ATP BIOLUMINESCENCE ASSAY FOR ONSITE MICROBIAL ASSESSMENT IN DRILLING RIG OPERATIONS	977
<i>Hernandez, Susana A. ; Zhu, Xiangyang ; Al-Humaid, Ghassan A. ; Al-Attallah, Fahd S. ; Al-Humam, Abdulmohsen A.</i>	

SESSION 21: WELL CONTROL

WELL CONTROL FOR DRILLING WITH CASING: THEORETICAL AND EXPERIMENTAL INSIGHTS INTO HYDRAULIC BEHAVIOR IN SMALL ANNULAR CLEARANCES	985
<i>Meza, O. G. ; Kamp, K. ; Asgharzadeh, A. ; Bello, O. ; Freifer, R. ; Oppelt, J.</i>	
API 16A 4TH EDITION CHANGES IN TESTING FOR DRILL-THROUGH EQUIPMENT	997
<i>Berckenhoff, Mike ; Bieneman, Konstantin</i>	
A NOVEL MULTIPHASE HYDRODYNAMIC MODEL FOR KICK CONTROL IN REAL TIME WHILE MANAGED PRESSURE DRILLING	1003
<i>Zhou, H. ; Fan, H. ; Wang, H. ; Niu, X. ; Wang, G.</i>	
OPTIMIZATION OF TRIPPING SPEED TO MINIMIZE SURGE & SWAB PRESSURE	1019
<i>Al-Abduljabbar, A. M. ; Hossain, M. E. ; Al Gharbi, S. ; Al-Rubaii, M.</i>	

SESSION 22: WELL INTERVENTION AND WORKOVER – II

STEP-CHANGE PERFORMANCE IMPROVEMENT IN WELLBORE SIDETRACK OPERATIONS: A KUWAIT DUAL-CASING EXIT CASE STUDY	1028
<i>Al Khaldy, A. ; Hassan, Jassim ; Durge, Ashutosh ; Dashti, Reham ; Carasco, Anant ; Bandi, Mani ; Al Najdi, Faisal ; Fernandes, Daniel ; Jokhi, Ayomarz ; Helal, Karim ; Hassan, Said ; Nair, Prakash</i>	
A WELL CONTROL PROCEDURE FOR WELLS WITH HIGH RATE UPWARD CROSSFLOW	1036
<i>El-Nekhily, Mohamed M. ; Al-Hajri, Nasser M. ; Al-Ageel, Ibraheem M. ; Al-Obaidi, Ibrahim A.</i>	

Author Index