



# Session ePoster

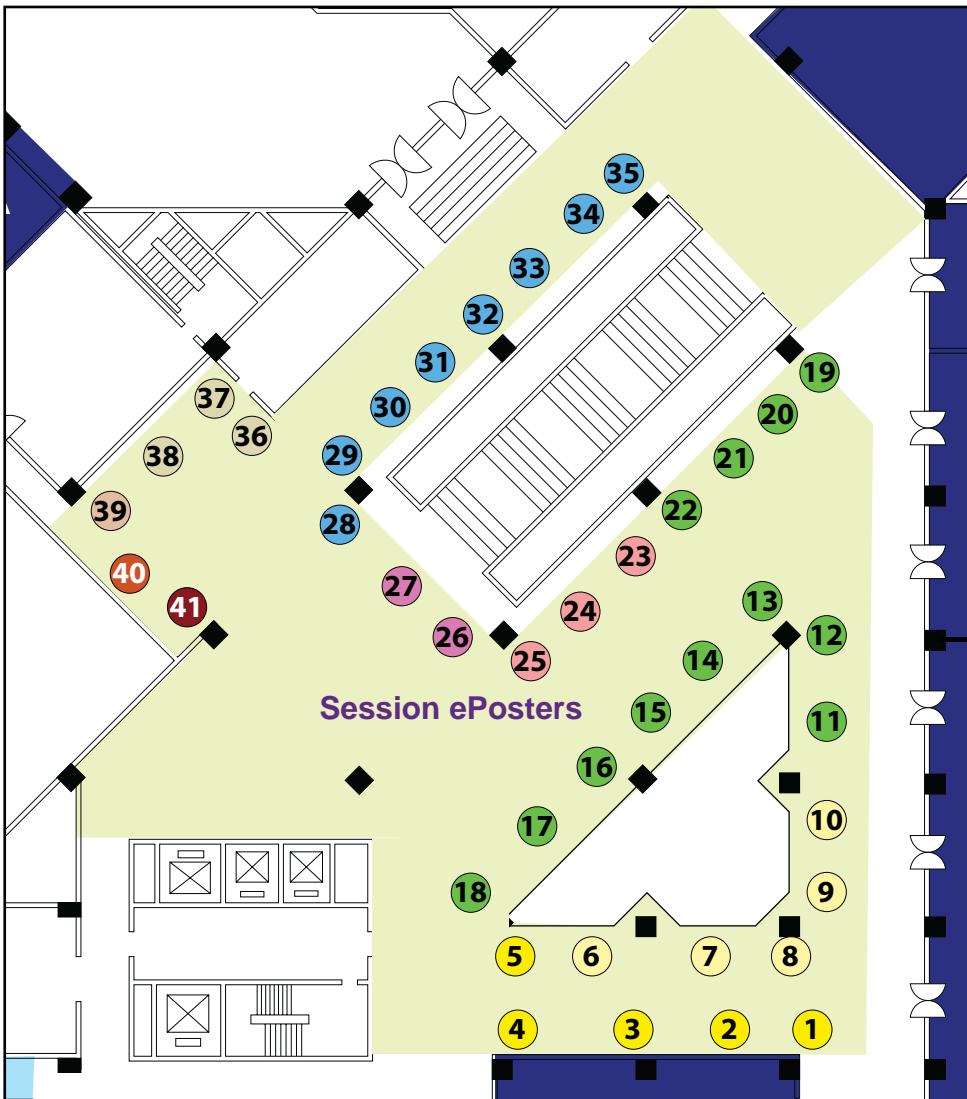
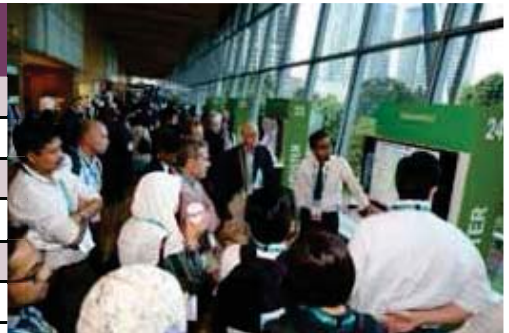
*\*AB: Indicates this technical paper is not available in the Digital Proceedings. The author opted for abstract only submission.*

*\*\*\*\*\* The top papers from the annual conferences of IPTC's four Sponsoring Societies – the Association of Petroleum Geologists (AAPG); the European Association of Geoscientists and Engineers (EAGE); the Society of Exploration Geophysicists (SEG); and the Society of Petroleum Engineers (SPE) – were invited to present their papers at IPTC.*

Session ePoster will feature a variety of technical presentations covering a range of related technical disciplines. An ePoster is an electronic version of the traditional poster, presented on a large digital flat screen. The electronic format offers the added benefit of animation and video to enhance the visual experience and provide greater interactivity between attendees and authors.

During the ePoster session, presenters will deliver their presentations in an informal setting and facilitate direct discussions with attendees at designated ePoster stations. Attendees are encouraged to attend the sessions for more knowledge sharing and networking opportunities. ePoster are also available for attendees' viewing at ePoster stations throughout the conference.

ePoster Presentation Schedule Venue: Lobby, Level 3		
<b>Tuesday, 26 March</b>	1530-1600 hours	Session ePoster 1
<b>Wednesday, 27 March</b>	1030-1100 hours	Session ePoster 2
	1330-1400 hours	Session ePoster 3
	1530-1600 hours	Session ePoster 4
<b>Thursday, 28 March</b>	1030-1100 hours	Session ePoster 5
	1330-1400 hours	Session ePoster 6



- Unconventional
- Industry 4.0: Cognitive Computing and Machine Systems
- E&P Geosciences
- Reservoir
- Integrated Geoscience/Engineering
- Drilling and Completions
- Development and Production
- LNG & GTL
- Project Management and Facilities
- Technologies in Sustainability



## UNCONVENTIONAL

### STATION 1

Tuesday, 26 March

Time Paper

- 1530 19216 **Molecular Simulation of Methane Adsorption Behaviour in Kerogen Nanopores for Shale Gas Resource Assessment**  
J. Cao, Y. Liang, and Y. Masuda, The U. of Tokyo; H. Koga, H. Tanaka, K. Tamura, and S. Takagi, JOGMEC; T. Matsuoka, Fukada Geological Inst. (Alternate paper in Session 1: Unconventional Reservoirs)

Wednesday, 27 March

Time Paper

- 1030 19085 **Consistent Evaluation of the Organic Content of the Qusaiba Shale Using Digital-Rock Methodology**  
M.O. Abouelresh, M.R. Khodja, R. Hussaini, H.S. Almukainah, and A.Z. Ali, King Fahd U. of Petroleum and Minerals (Alternate paper in Session 17: Unconventional Geological Reservoir Characterisation and Modelling)
- 1330 19090 **Numerical Study on Proppant Transport and Placement in Complex Fractures System of Shale Formation Using Eulerian Multiphase Model Approach**  
R. Yang, J. Guo, T. Zhang, and X. Zhang, Southwest Petroleum U.; J. Ma, Sinopec; Y. Li, Southwest Petroleum U. (Alternate paper in Session 25: Fracturing Materials & Monitoring)
- 1530 19197 **Integrated Geology Sweet Spot and Micro Seismic Monitor to Optimise Reservoir Stimulation - A Case for Shale Gas, China**  
W. Liu, BGP, CNPC and Chengdu U. of Technology; Z. He and J. Cao, Chengdu U. of Technology; J. Zhang, G. Xu, X. Wan, and G. Yu, BGP, CNPC (Alternate paper in Session 33: Fracturing Modelling and Design)

Thursday, 28 March

Time Paper

- 1030 19115 **Evaluation of Dynamic Reserves in Ultra-Deep Naturally Fractured Tight Sandstone Gas Reservoirs**  
R. Luo, J. Yu, Y. Wan, X. Liu, and L. Zhang, RIPED, PetroChina; Q. Mei, Y. Zhao, and Y. Chen, PetroChina Southwest Oil & Gas Co. (Alternate paper in Session 41: Tight Sandstone Oil and Gas)
- 1330 19119 **Environmental Impact Study and Experience Sharing of Produced Water Reinjection from Unconventional Gas Development**  
C. Chen, X. Li, B. Wu, K. Zhang, and Q. Song, CNPC Research Inst. of Safety & Environment Technology (Alternate paper in Session 57: Advancing in Fracturing Technology)

### STATION 2

Tuesday, 26 March

Time Paper

- 1530 19081 **Characterisation of Continental Shale Gas with Integrated Geoscience-Engineering Approach**  
L. Zhang, Research Inst. of Shaanxi Yanchang Petroleum (Group) Co. Ltd.; F. Ma, Schlumberger; C. Jiang, Research Inst. of Shaanxi Yanchang Petroleum (Group) Co. Ltd.; C. Xian, Schlumberger; C. Liu, Research Inst. of Shaanxi Yanchang Petroleum (Group) Co. Ltd.; X. Zhao, Schlumberger; Y. Gao, Exploration and Development Research Center of Yanchang Oilfield Co. Ltd.; Q. Wang, Schlumberger; C. Guo, Research Inst. of Shaanxi Yanchang Petroleum (Group) Co. Ltd.; Y. Pan, Schlumberger (Alternate paper in Session 1: Unconventional Reservoirs)

Wednesday, 27 March

Time Paper

- 1030 19209 **Hydraulic Fracture Calibration for Unconventional Reservoirs: A New Methodology for Predictive Modelling**  
P. Pankaj, P. Shukla, and W.K. Wang, Schlumberger (Alternate paper in Session 33: Fracturing Modelling and Design)
- 1330 19561 **Reducing Hydroxypropyl Guar Gum Adsorption on Rock by Silica Nanoparticles for Tight Reservoir Damage Remediation**  
Y. Li, J. Guo, S. Wang, R. Yang, and Q. Lu, Southwest Petroleum U. (Alternate paper in Session 25: Fracturing Materials & Monitoring)
- 1530 19562 **A Novel New Technology for the Rapid Appraisal of Shale Gas Resource Potential: Down-Hole Reservoir Raman System**  
\*AB U. Ahmed, G. Myers, J. Pope, and J.R. Walker, WellDog (Alternate paper in Session 17: Unconventional Geological Reservoir Characterisation and Modelling)

Thursday, 28 March

Time Paper

- 1030 19229 **Exploration and Practice of "Methane-Leading" Reservoir Stimulation Technology of High-Rank Coalbed Methane**  
Q. Zhu, Y. Yang, L. Chen, Y. Wang, B. Chen, C. Liu, C. Zhang, and X. Wang, PetroChina Huabei Oilfield Co. (Alternate paper in Session 49: Heavy Oil and Coalbed Methane)
- 1330 19069 **Characteristics and Influence Factors of the Middle-Lower Jurassic Tight Sandstone Reservoirs in the Taibei Sag, Turpan-Hami Basin**  
X. Si, Y. Xu, X. Wang, H. Guo, Y. Li, and X. Shan, PetroChina Hangzhou Research Inst. of Geology (Alternate paper in Session 41: Tight Sandstone Oil and Gas)

**STATION 3**

Wednesday, 27 March

Time Paper

**1030 19106 Compositional Variation of Natural Gas in Kerogen During Production**

W. Pang, Sinopec Research Inst. of Petroleum Engineering; I. Akkutlu, Texas A&M U.; S. Ding and T. Zhang, Sinopec Research Inst. of Petroleum Engineering; W. Xia, Harding Shelton Petroleum Engineering & Technology  
(Alternate paper in Session 17: Unconventional Geological Reservoir Characterisation and Modelling)

**1530 19110 Geomechanical Anisotropic Method Increased Fracturing Efficiency in Tight Oil Production: A Case Study of Yanchang Formation, Ordos Basin**

S. Xi, Y. Hou, X. Li, and X. Hu, PetroChina Changqing Oilfield Co.; P. Liu and X. Zhao, Schlumberger  
(Alternate paper in Session 33: Fracturing Modelling and Design)

Thursday, 28 March

Time Paper

**1030 19178 Case History: Real-Time Fiber-Optic Technology Maximises Tight Carbonate Formation Returns in Kuwait, Multistage Acid Fracturing Diagnostics, Post-Treatment Flowback Allocation, and Production Profiling**

S. Gorgi and J.F. Joya, Halliburton; A.E. Al-Ebrahim, M.R. Al-Othman, M.A. Al-Dousari, A.M. Ahmed, M.O. Hassan, J.M. Al-Mansour, and A. Elsayed, Kuwait Oil Co.; A.S. Alboueshi, A. Allam, and F. Robles, Halliburton  
(Alternate paper in Session 57: Advancing in Fracturing Technology)

**1330 19295 Study of Ultra-Dry CO<sub>2</sub> Foam Fracturing Fluid Enhanced by Graphene Oxide**

Q. Lv, China U. of Petroleum, Beijing; Z. Li and R. Zheng, China U. of Petroleum (East China)  
(Alternate paper in Session 57: Advancing in Fracturing Technology)

**STATION 4**

Tuesday, 26 March

Time Paper

**1530 19460 Advanced Modelling of Production Induced Pressure Depletion Impact on Infill Well Using Cloud Computation in the Haynesville**

W. Zheng, T. Xu, J.D. Baihly, R. Malpani, and J. Li, Schlumberger  
(Alternate paper in Session 9: Unconventional Production)

Wednesday, 27 March

Time Paper

**1030 19165 The Development and Field Test of Fiber Microseismic Fracturing Monitoring Technology**

\*AB

B. Xie, Y. Pan, and S. Duan, PetroChina Xinjiang Oilfield Co.; M. Zhang, Peking U.; S. Pan, Southwest Petroleum U.; F. Liu, Peking U.; N. Wang, PetroChina Xinjiang Oilfield Co.  
(Alternate paper in Session 25: Fracturing Materials & Monitoring)

**1330 19151 The Study of Surfactant Huff and Puff of Horizontal Well with SRV in Tight Oil Reservoirs**

W. Li and Z. Dong, Xi'an Shiyou U.; G. Lei, King Fahd U. of Petroleum and Minerals; C. Wang, RIPED, CNPC; H. Wang, Peking U.  
(Alternate paper in Session 25: Fracturing Materials & Monitoring)

**1530 19282 Innovative Reservoir Classification with Natural Fracture Geometry to Guide Well Stimulation for Unconventional Tight Gas Field**

J. Xu, J. Yue, H. Wang, and B. Wygrala, Schlumberger  
(Alternate paper in Session 41: Tight Sandstone Oil and Gas)

Thursday, 28 March

Time Paper

**1030 19265 Yanbei-Unlocking the Tight Gas Green Field Development Potential through Integrated Technology Application**

M.Z. Zaini, K. Du, M. Zhu, L. Feng, H. Yang, L. Wei, and Y. Liu, Schlumberger  
(Alternate paper in Session 41: Tight Sandstone Oil and Gas)

**1330 19253 Utility of Sonic Anisotropic Measurements in Accurate Rock Mechanics Calculation for Hydro-Fracturing Design and Wellbore Stability Analysis in Unconventional Reservoirs**

R. Kumar, J. Zacharia, D.G. Yu, A.K. Singh, R. Talreja, A. Bandyopadhyay, and S.K. Subbiah, Schlumberger  
(Alternate paper in Session 57: Advancing in Fracturing Technology)

**STATION 5**

Tuesday, 26 March

Time Paper

**1530 19416 Static and Dynamic Elastic Moduli of Bakken Formation Samples**

J. He and K. Ling, U. of North Dakota; X. Wu, U. of Oklahoma; P. Pei and H. Pu, U. of North Dakota  
(Alternate paper in Session 9: Unconventional Production)

Wednesday, 27 March

Time Paper

**1030 19308 Flow Enhancement by High Power Laser Technology**

S.I. Batarseh, A. Al-Harith, H.A. Othman, and H. Al-Badairy, Saudi Aramco  
(Alternate paper in Session 17: Unconventional Geological Reservoir Characterisation and Modelling)

**1330 19484 Successful Integration of Well Logs and Real Time Data Acquisition with Numerical Fracturing Model to Optimise Reserve Tapping in Tight Oil Sands**

\*AB

S.K. Goenka, S. Gupta, A.K. Bora, A. Deo, and R.J. Tibbles, Cairn Oil & Gas, Vedanta  
(Alternate paper in Session 49: Heavy Oil and Coalbed Methane)



- 1530 19307 **Novel Application of Distributed Temperature Sensing and CT Real-time Downhole Flow Measurement Tool for Thermochemical Treatments**  
A.R. Al-Nakhli, Saudi Aramco; M. Arifin and D. Ahmed, Schlumberger  
(Alternate paper in Session 41: Tight Sandstone Oil and Gas)

#### Thursday, 28 March

- Time Paper**  
1030 19150 **Advanced Study of Pore Structure and Mechanical Property Change of Tight Sand Due to Thermochemical Treatment**  
A.R. Al-Nakhli, Saudi Aramco; M. Mahmoud, KFUPM; H. Al-Badairy and M.H. Alqam, Saudi Aramco  
(Alternate paper in Session 33: Fracturing Modelling and Design)
- 1330 19078 **Study on Seven-Property Relation of Tight Oil Reservoirs via Well Logs**  
R. Mao, Z. Wang, and N. Zhang, PetroChina Xinjiang Oilfield Co.

#### INDUSTRY 4.0: COGNITIVE COMPUTING AND MACHINE SYSTEMS

#### STATION 6

Tuesday, 26 March

- Time Paper**  
1530 19193 **Digitisation Using IIoT and Cloud Technology in Oil and Gas Upstream - Merits and Challenges**  
A.C. Dange and P. Ranjan, Middlesex U.; H.M. Mesbah, Ajal Group; R.N. Chokshi, Accutant Solutions  
(Alternate paper in Session 2: Cloud Computing)

#### Wednesday, 27 March

- Time Paper**  
1030 19060 **Automated Pressure Transient Analysis: A Cloud-Based Approach**  
Y. Guo, A. Zidane, Y. Panchal, O.A. Abou-Sayed, and A.S. Abou-Sayed, Advantek Waste Management Services LLC  
(Alternate paper in Session 2: Cloud Computing)
- 1330 19174 **An Improved Model for Gas-Liquid Flow Pattern Prediction Based on Machine Learning**  
G. Mask and X. Wu, U. of Oklahoma; K. Ling, U. of North Dakota  
(Alternate paper in Session 26: Reservoir & Production Machine Learning)
- 1530 19299 **The Fundamental Work to the Pre-Frac Evaluation of Deep Shale Reservoir: Evaluating Reservoir Heterogeneity Based on Principal Components Analysis and Artificial Neural Network**  
W. Zhai, J. Li, Y. Xi, G. Liu, H. Yang, and H. Jiang, China U. of Petroleum, Beijing; Y. Zhou, CNPC Engineering Technology R&D Co. Ltd.  
(Alternate paper in Session 34: Artificial Intelligence for the Oil & Gas Industry)

#### Thursday, 28 March

- Time Paper**  
1030 19050 **Innovative Autonomous Maritime ISO-Container Vehicles (AMISOC Vehicles)**  
J.S. Whang, AEPLOG, Inc.  
(Alternate paper in Session 58: IoT & Robotics)
- 1330 19533 **A Real-Time Pipeline Tracking Using a Forward-Looking Sonar**  
Y. Tipsuwan and T. Kasetkasem, Kasetsart U.; P. Hoonsuwan, PTTEP; A. Leangaramkul, Kasetsart U.

#### STATION 7

Tuesday, 26 March

- Time Paper**  
1530 19386 **Prediction Methods of Key Development Indexes of Large Gas Fields Based on Big Data Analysis**  
Y. Sun, C. Guan, J. Zhang, Q. Li, J. Lu, and H. Tang, RIPED, CNPC; W. Shen, Inst. of Mechanics of Chinese Academy of Sciences; H. Li and H. Zhang, RIPED, CNPC  
(Alternate paper in Session 10: Big Data)

#### Wednesday, 27 March

- Time Paper**  
1030 19430 **A Data Driven Approach of ROP Prediction and Drilling Performance Estimation**  
J. Han, Y. Sun, and S. Zhang, PCITC  
(Alternate paper in Session 10: Big Data)
- 1330 19075 **A Novel Technique to Predict the Fluid Rate and Bottom Hole Flowing Pressure for Gas-Lifted Oil Wells Utilising Artificial Neural Network and Integrated Production Modelling**  
\*AB  
M. Bahaa and M. Kamal, Gulf of Suez Petroleum Co. (GUPCO)  
(Alternate paper in Session 26: Reservoir & Production Machine Learning)
- 1530 19107 **Use of Data Analytics to Incorporate Geophysical Surface Uncertainty into Subsurface Modelling**  
M. Hardy, A. Lockwood, and P. Thomas, Woodside Energy Ltd.  
(Alternate paper in Session 34: Artificial Intelligence for the Oil & Gas Industry)

#### Thursday, 28 March

- Time Paper**  
1330 19242 **A Working Condition Diagnosis Model of Sucker Rod Pumping Wells Based on Big Data Deep Learning**  
X. Wang and Y. He, Changzhou U.; F. Li, Luming Oil and Gas Exploration and Development Co., Ltd.; X. Dou, Changzhou U.; Z. Wang, Luming Oil and Gas Exploration and Development Co., Ltd.; H. Xu and L. Fu, Changzhou U.

#### STATION 8

Tuesday, 26 March

- Time Paper**  
1530 19248 **Accelerate Non-Metallic Seal Development for Downhole Applications by Applying a Big Data Method in Material Data**  
B.X. Huang and W. Furlan, Baker Hughes, a GE company  
(Alternate paper in Session 10: Big Data)



**Wednesday, 27 March**

- Time Paper**  
**1030 19100 A Consolidated Method for Selecting Drilling Parameters**  
 H.G. Suryadi, Schlumberger  
*(Alternate paper in Session 10: Big Data)*
- 1330 19556 A Machine Learning Method for Predicting Optimal Formation Pressure Testing Zones and Parameters**  
 \*AB  
 A. Garcia Mayans, M.A. Munoz Salinas, S. Park, F. Dubost, and M.L. Vizcaino, Schlumberger  
*(Alternate paper in Session 26: Reservoir & Production Machine Learning)*

**Thursday, 28 March**

- Time Paper**  
**1030 19179 Improving Drilling Simulation Computation Performance with Smart Logic and Machine Learning**  
 C. Mu, J. Liu, R. Chen, P. Bolchover, H.G. Suryadi, and T. Yu, Schlumberger  
*(Alternate paper in Session 42: Drilling & Completion Machine Learning)*
- 1330 19417 Digitalisation and Automation of Subsea Asset Integrity Data**  
 \*AB  
 N. Salman, Schlumberger; J.H. Vincent, OneSubsea, a Schlumberger Co.; I. Darilmaz and G. Papadopoulos, Shell

**STATION 9****Tuesday, 26 March**

- Time Paper**  
**1530 19548 Rate of Penetration Prediction in Shale Formation Using Fuzzy Logic**  
 A. Ahmed S, S. Elkatatny, A.Z. Ali, M. Mahmoud, and A. Abdulraheem, King Fahd U. of Petroleum and Minerals  
*(Alternate paper in Session 18: Data Analytics for Drilling & Completion)*

**Wednesday, 27 March**

- Time Paper**  
**1030 19045 Combining the Power of IoT and Big Data to Unleash the Potential of Digital Oil Field**  
 A.H. Al-Bar, H.M. Asfoor, A.A. Goz, and N.H. Ansari, Saudi Aramco  
*(Alternate paper in Session 58: IoT & Robotics)*
- 1330 19330 Comparative Analysis of Machine Learning Based Feature Selection Approach for Carbonate Reservoir Cementation Factor Prediction**  
 F.A. Anifowose, C. Ayadiuno, and F.S. Al-Reshedan, Saudi Aramco PE&D  
*(Alternate paper in Session 34: Artificial Intelligence for the Oil & Gas Industry)*
- 1530 19230 A Novel Machine Learning Model for Early Operational Anomaly Detection Using LWD/MWD Data**  
 M.A. Al-Ghazal, Saudi Aramco; V.V. Vedpathak, Stratagraph  
*(Alternate paper in Session 42: Drilling & Completion Machine Learning)*

**Thursday, 28 March**

- Time Paper**  
**1030 19155 Autonomous Underwater Vehicles Used for Seafloor Seismic Acquisition**  
 \*AB  
 C. Tsingas, Saudi Aramco; A. Muhaidib, Aramco Far East Business Services Co., Ltd.; T. Brizard, Seabed Geosolutions  
*(Alternate paper in Session 58: IoT & Robotics)*
- 1330 19414 Unmanned Aerial Vehicles for the Oil and Gas Industry**  
 \*AB  
 B. Li, C. Tsingas, M.M. Mezghani, and A. Saeed, Saudi Aramco  
*(Alternate paper in Session 58: IoT & Robotics)*

**STATION 10****Tuesday, 26 March**

- Time Paper**  
**1530 19093 Unique Data Standardisation Challenges and Solutions: Raw and Basic Processed Microseismic Data**  
 L. Al-Thani, R. Al-Naim, A. Al-Zayer, and A. Bin Mahfoodh, Saudi Aramco

**Wednesday, 27 March**

- Time Paper**  
**1030 19458 Research and Application of Big Data Analysis Platform for Oil and Gas Production**  
 R. Zhao, J. Shi, and X. Zhang, RIPPED, CNPC; J. Li, China U. of Petroleum, Beijing; Y. Peng, C. Xiong, M. Liu, and F. Deng, RIPPED, CNPC; S. Song and G. Miao, Daqing Oilfield Co., CNPC  
*(Alternate paper in Session 10: Big Data)*
- 1330 19508 A Model Designed for HSE Big Data Analysis in Petroleum Industry**  
 T. Wu, Y. Mao, and G. Zhao, CNPC Research Inst. of Safety & Environment Technology
- 1530 19485 Data Mining of Hidden Danger in Enterprise Production Safety and Research of Hidden Danger's Model Conversion**  
 K. Tian, H. Yan, Y. Mao, and S. Wu, CNPC Research Inst. of Safety & Environment Technology

**Thursday, 28 March**

- Time Paper**  
**1030 19077 A New Method to Predict Residual Oil Saturation of Light Oil Reservoir Based on Big Data Analytics**  
 X. Luo, J. Li, D. Yang, and H. Shi, CNOOC Ltd., Tianjin Branch
- 1330 19214 The Novel Dissolution of Bitumen by Commercial Enzymes**  
 \*AB  
 M. Mislán and I. Gates, U. of Calgary  
*(Alternate paper in Session 49: Heavy Oil and Coalbed Methane)*



## E&P GEOSCIENCES

### STATION 11

Tuesday, 26 March

- Time Paper**  
**1530 19194** **A Velocity Modelling Method of Converted Wave Pre-Stack Depth Migration and Its Application**  
 \*AB B. Ning, D. Li, and J. Yang, BGP, CNPC  
*(Alternate paper in Session 3: Full Wavefield Inversion & Velocity Model Building)*

### Wednesday, 27 March

- Time Paper**  
**1030 19279** **Great Breakthroughs and Key Technologies in Exploration of Ordovician Deep Buried Hill in Northern Jizhong Depression**  
 Y. Zhang, J. Tian, D. Yang, S. Chen, X. Liu, F. Hou, R. Tian, and C. Zhang, CNPC Huabei Oilfield Co.  
*(Alternate paper in Session 20: Geological Challenges)*
- 1330 19567** **Numerical Simulation Study of Focused Borehole to Surface Electric Imaging**  
 H. Hu, Z. Xiao, B. Zhao, Z. Yu, R. Zhu, and J. Liu, CNPC Logging Co. Ltd., Research Inst. of Logging Technology  
*(Alternate paper in Session 27: Borehole Geophysics)*
- 1530 19278** **A New Technique to Support Future Energy Exploration of Continental Sedimentary Basin: BWH Full-Frequency Fidelity and Amplitude Preserving Processing Technology**  
 Y. Bao, C. Wang, S. Chen, J. Wang, Z. Chen, J. Pei, and J. Wu, E&D Research Inst., PetroChina Daqing Oilfield Co. Ltd.  
*(Alternate paper in Session 35: Advances in Seismic Acquisition & Processing)*

### Thursday, 28 March

- Time Paper**  
**1030 19139** **Study on the Brittleness Evaluation in the Naturally Fractured Carbonate Formation and Its Application in the Ordos Basin**  
 X. Ma, PetroChina Changqing Oilfield Co.; J. Kao and Z. Zhou, China U. of Petroleum, Beijing  
*(Alternate paper in Session 59: Geophysical Reservoir Characterisation)*

### STATION 12

Tuesday, 26 March

- Time Paper**  
**1530 19113** **Accumulation Stages Division of Carbonate Hydrocarbon Pool in the Western Yingxiongling Area of Qaidam Basin**  
 K. Wu, Y. Zhang, and S. Zhang, Research Inst. of Exploration & Development of Qinghai Oil Field, CNPC  
*(Alternate paper in Session 4: Advanced Geological Concepts)*

### Wednesday, 27 March

- Time Paper**  
**1030 19225** **Improved Seismic Imaging with Multi-Azimuth PSDM Processing: A Case History South China Sea**  
 J. Liu, M. Zhong, Z. Fang, Z. Dan, and L. Sun, China Oilfield Services Ltd., CNOOC  
*(Alternate paper in Session 11: Seismic Imaging & Migration)*
- 1330 19103** **Seismic Acquisition of Walkaway VSP and Walk Around VSP in the Xihu Sag of East China Sea Basin**  
 Z. Xiong, Z. Jiang, and Y. Jiang, CNOOC Ltd., Shanghai Branch  
*(Alternate paper in Session 27: Borehole Geophysics)*
- 1530 19086** **Application of the Broadband Seismic Acquisition in Huizhou Sag, Pearl River Mouth Basin, China**  
 Z. Chen, D. Yang, W. Luo, and Y. Xu, CNOOC China Ltd., Shenzhen Branch  
*(Alternate paper in Session 43: Seismic Inversion)*

### Thursday, 28 March

- Time Paper**  
**1030 19329** **The Application of High Frequency Resonance Based on MPD in the Identification of Oil and Water Layer**  
 P. Zhang, D. Hou, X. Ma, and Y. Wang, CNOOC Ltd., Tianjin Branch  
*(Alternate paper in Session 59: Geophysical Reservoir Characterisation)*
- 1330 19196** **Insights into the Extra Heavy Oil Property and Oil Charging Combining Rock Pyrolysis Parameters, Geochemistry Data and Seismic Multi-Attribute Transformation**  
 B. Wang, C. Xu, K. Wu, R. Zhang, J. Deng, and N. Guo, CNOOC Ltd., Tianjin Branch  
*(Alternate paper in Session 60: Integrated Reservoir Characterisation)*

### STATION 13

Tuesday, 26 March

- Time Paper**  
**1530 19250** **High Precision Velocity Model Building Technology for Gas Cloud Areas and Its Application in P Oilfield, Bohai Bay Basin**  
 W. Li, L. Liu, J. Wang, and X. Liu, CNOOC Ltd., Tianjin Branch  
*(Alternate paper in Session 3: Full Wavefield Inversion & Velocity Model Building)*

### Wednesday, 27 March

- Time Paper**  
**1030 19490** **Study of Seismic Data Processing Techniques in Deepwater Slope**  
 Q. Li, China Oilfield Services Ltd., CNOOC  
*(Alternate paper in Session 19: Advances in Time Processing)*
- 1330 19540** **Comprehensive Identification Technology of Atypical Bright Spot Oil Reservoirs in Deepwater Area of Eastern South China Sea**  
 Z. Li, J. Liu, Z. Zhang, Z. Chen, B. Liu, and N. Shi, CNOOC Ltd., Shenzhen Branch  
*(Alternate paper in Session 43: Seismic Inversion)*



- 1530 19157 Oil Detection Based on Layer Buried-Depth Corrected Elastic Inversion in Deepwater of the Pearl River Basin**  
X. Liu, Z. Chen, H. Liu, and W. Zhang, CNOOC Ltd., Shenzhen Branch  
(Alternate paper in Session 43: Seismic Inversion)

#### Thursday, 28 March

- Time Paper**  
**1030 19068 Dynamic Capillarity During the Water Flooding Process in Fractured Low Permeability Reservoirs**  
Y. Li, and H. Li, Southwest Petroleum U.; S. Chen, U. of Calgary; Y. Lu, Southwest Petroleum U.; X. Li, U. of Calgary; H. Luo, C. Liu, and X. Cui, Southwest Petroleum U.  
(Alternate paper in Session 52: Integrated Reservoir Modelling)

- 1330 19309 Structural Dip Estimation from Crossbedding on Borehole Images**  
G. Sultan, Schlumberger Services Asia Ltd.; W. Jibreel, Schlumberger Oilfield Services Libya Ltd.  
(Alternate paper in Session 60: Integrated Reservoir Characterisation)

#### STATION 14 Tuesday, 26 March

- Time Paper**  
**1530 19372 Stratigraphic Forward Simulation of the Miocene Fan Delta in the South of Albert Basin, Uganda**  
W. Xu, Y. Zhang, L. Fang, Z. Jing, J. Zou, and J. Liu, CNOOC Research Inst. Co., Ltd.  
(Alternate paper in Session 4: Advanced Geological Concepts)

#### Wednesday, 27 March

- Time Paper**  
**1030 19475 Formation, Evolution and Dynamic Mechanism of Eastern Branch of the East African Rift System**  
\*AB  
S. Jia, CNOOC Research Inst. Co., Ltd.  
(Alternate paper in Session 12: Structural Systems and Trap Analysis)

- 1330 19212 Risk Management in Deepwater Exploration Well: Reduced Depth Uncertainty through Acquiring Seismic while Drilling**  
A. Purnomo, Kangean Energy Indonesia; T. Octaviani, G.A. Paterson, and I.T. Pasaribu, Schlumberger; R. Mori, MCX Asia; A. Ahmed, Schlumberger; K. Akama, Japex; M.F. Aini, Schlumberger  
(Alternate paper in Session 28: Geophysical Challenges)

- 1530 19171 Accurate Original Resistivity Inversion in a Heterogeneous Thick Flooded Reservoir through Electrical Interpretation Unit Classification**  
H. Liu, J. Xu, Y. Cui, Z. Lv, and X. Shi, CNOOC Ltd., Tianjin Branch  
(Alternate paper in Session 44: Geological Reservoir Characterisation)

#### Thursday, 28 March

- Time Paper**  
**1030 19298 Reactive Transport Modelling to Study Local Mesogenetic Dissolution in Carbonate and Sandstone Reservoirs Induced by Natural Gas Acidic Components**  
\*AB  
G. Zhang, Chengdu U. of Technology and Indiana U.; P. Lu, Indiana U.; E. Sonnenthal, Lawrence Berkeley National Laboratory; C. Zhu, Indiana U.  
(Alternate paper in Session 52: Integrated Reservoir Modelling)
- 1330 19122 Study on the "Incised-Channel" Lithologic Traps in Neogene in Enping Sag, Pearl River Mouth Basin**  
\*AB  
Z. Li, L. Ding, X. Zhang, X. Li, X. Zhang, and S. Zhang, CNOOC Ltd., Shenzhen Branch

#### STATION 15 Tuesday, 26 March

- Time Paper**  
**1530 19477 The Effect of High-Geothermal Field on the Diagenesis and Pore Evolution of Sandstone Reservoirs in Baiyun Sag, Pearl River Mouth Basin**  
Y. Ma, CNOOC Ltd., Shenzhen Branch  
(Alternate paper in Session 4: Advanced Geological Concepts)

#### Wednesday, 27 March

- Time Paper**  
**1030 19101 Salt Tectonic Control on the Subsalt Petroleum System in the Ultradeep Layer of the Kuqa Fold-Thrust Belt in Northwestern China**  
\*AB  
Y. Neng, China U. of Petroleum, Beijing at Karamay; Y. Li and Y. Tang, PetroChina Tarim Oilfield Co.  
(Alternate paper in Session 12: Structural Systems and Trap Analysis)

- 1330 19266 Cohesive Approach for High-Resolution Seismic Using Inversion & Imaging in Malaysian Carbonate Field**  
Y. Bashir, A. Babasafari, A. Biswas, R. Hamidi, and S. Moussavi Alashloo, U. Teknologi PETRONAS; H. Tariq Janjuah, American U. of Beirut; D. Prasad Ghosh and W. Chow, U. Teknologi PETRONAS  
(Alternate paper in Session 28: Geophysical Challenges)

- 1530 19127 Separation and Imaging of Diffraction Energy Towards Improved Interpretation of Small Size Geological Features**  
\*AB  
R. Alai and M. Mokhtar, PETRONAS Carigali Sdn. Bhd.; Y. Guo, J. Wang, and P. Wardaya, CGG; R. Pratama and H. Haryanto, PETRONAS Carigali Indonesia Operation  
(Alternate paper in Session 11: Seismic Imaging & Migration)



### Thursday, 28 March

Time Paper

1030 19445 **Fracture Network Mapping Using Integrated Micro-Seismic Events Inverse with Rate-Transient Analysis**

W. Wang, K. Zhang, and Y. Su, China U. of Petroleum (East China); M. Tang, PetroChina Oil & Gas Technology Research Inst. of Changqing Oil Field; Q. Zhang, China U. of Geosciences (Wuhan); G. Sheng, China U. of Petroleum (East China)

*(Alternate paper in Session 59: Geophysical Reservoir Characterisation)*

1330 19352 **Advanced Meandering Fluvial Reservoir Characterisation for Static Model Improvement**

H.H. Ismail, C. Lew, and M.R. Muhammad Som, PETRONAS Research Sdn. Bhd.; M.F. Abdul Kadir and M.R. Ahmad Tajuddin, Energy Quest Sdn. Bhd.

*(Alternate paper in Session 67: Geological Reservoir Modelling)*

### STATION 16

Tuesday, 26 March

Time Paper

1530 19398 **Reviving a Mature Basin through High-End Imaging Technology**

\*AB

K. Zhao, M. Burke, X. Li, S. Birdus, A. Artemov, J. Zhou, and N. Mudge, CGG

*(Alternate paper in Session 3: Full Wavefield Inversion & Velocity Model Building)*

### Wednesday, 27 March

Time Paper

1030 19273 **Time-Frequency Analysis of Seismic Data Using a Specialised Curvelet Transform**

\*AB

S. Tyson, U. Teknologi Brunei; J. Wang and Z. Li, China U. of Petroleum (East China); L. Gross, U. of Queensland

*(Alternate paper in Session 19: Advances in Time Processing)*

1330 19076 **Enhancing Velocity Model for Gas-Cloud Using First Break Travel Time Tomography Full Waveform Inversion**

S. Prajapati and D. Ghosh, U. Teknologi PETRONAS

*(Alternate paper in Session 28: Geophysical Challenges)*

1530 19301 **An Equivalent Media Theory for Reservoir Characterisation**

S. Prajapati and D. Ghosh, U. Teknologi PETRONAS

*(Alternate paper in Session 51: Rock Physics)*

### Thursday, 28 March

Time Paper

1030 19544 **Seismic Attribute Feasibility Study for Fault and Fracture Analysis and Integration with Spectral Decomposition: Application in Sarawak Basin**

R. Hamidi and D. Ghosh, U. Teknologi PETRONAS

*(Alternate paper in Session 59: Geophysical Reservoir Characterisation)*

1330 19339 **Effect of Layered Induced Anisotropy in Seismic Reservoir Characterisation**

\*AB

A. Babasafari, D.P. Ghosh, A. Salim, S. Moussavi Alashloo, and Y. Bashir, U. Teknologi PETRONAS

*(Alternate paper in Session 66: Geophysical Reservoir Modelling)*

### STATION 17

Wednesday, 27 March

Time Paper

1030 19283 **New Findings Source Rock Potential: Case Study West Natuna Basin, MA Block through Geochemistry Analysis and Hydrocarbon to Source Correlation**

M. Arisandy, M. Mazied, B. Permana Putra, E. Yogapurana, and J. B Mohd Idris, PETRONAS Carigali Indonesia Operations; H. Darmawan, PETRONAS Carigali Sdn. Bhd.

*(Alternate paper in Session 20: Geological Challenges)*

1330 19320 **Bioclastic Limestone Reservoir Characterisation of an Oilfield in the Middle East**

T. Lin, N. Wang, W. Wang, N. Li, S. Yang, Y. Liu, J. Dong, Q. Zhang, and R. Guo, RIPPED, CNPC

*(Alternate paper in Session 44: Geological Reservoir Characterisation)*

1530 19228 **Comprehensive Seismic Data Conditioning of the Bioclastic Limestone in the Middle East**

T. Lin, X. Wang, and J. Dong, RIPPED, PetroChina

*(Alternate paper in Session 43: Seismic Inversion)*

### Thursday, 28 March

Time Paper

1030 19199 **Calibration of Forward Depositional Models with Well Log Data Based on Advanced Bayesian Optimisation Methodology**

\*AB

Y. Li, Beijing Research Center, Saudi Aramco; M.M. Mezghani, Saudi Aramco EXPEC ARC

*(Alternate paper in Session 67: Geological Reservoir Modelling)*

1330 19503 **Seismic Facies Recognition and Stratigraphic Traps Characterisation Based on Neural Network**

S. Zhang, Y. Xu, M.A. Abu-Ali, and M. Teng, Saudi Aramco

*(Alternate paper in Session 66: Geophysical Reservoir Modelling)*

### STATION 18

Tuesday, 26 March

Time Paper

1530 19285 **Improving Imaging and Inversion through Least-Squares Q-Kirchhoff APSDM: A Case Study from Offshore China**

C. Jiao, J. Yao, K. Teng, and B. Hung, CGG; J. Lee, SK Innovation; H. Feng, CNOOC

*(Alternate paper in Session 11: Seismic Imaging & Migration)*

### Wednesday, 27 March

Time Paper

1030 19522 **Walkaway VSP Velocity Estimation Using Nonlinear Inversion Framework**

\*AB

A. Al-Ramadhan and A.A. Al-Dawood, Saudi Aramco

*(Alternate paper in Session 27: Borehole Geophysics)*





**1330 19424 Borehole Electromagnetic Technique for Reservoir Imaging and Monitoring from Uncased Sections of a Well Using Adjacent Casings as Receiver Antennas**  
A.R. Sena, Saudi Aramco PE&D  
(Alternate paper in Session 27: Borehole Geophysics)

**1530 19296 Drillcam: A Fully Integrated Real-Time System to Image and Predict Ahead and Around the Bit**  
\*AB  
E. Al-Hemyari and P. Golikov, EXPEC Advanced Research Center, Saudi Aramco; A. Al-Muhaidib and Y. Liu, Beijing Research Center, Saudi Aramco Asia  
(Alternate paper in Session 27: Borehole Geophysics)

#### Thursday, 28 March

**Time Paper**  
**1330 19059 Strategic R&D Pillars of Electromagnetic Methods for Reservoir Mapping and Monitoring**  
\*AB  
A.F. Marsala, Saudi Aramco  
(Alternate paper in Session 66: Geophysical Reservoir Modelling)

#### STATION 19

Tuesday, 26 March

**Time Paper**  
**1530 19325 An Integrated Stratigraphic Modelling Approach to Understanding Tectono-Sedimentary Systems in Exploration Frontier Area**  
\*AB  
X. Wang, Aramco Asia Beijing Research Center; M.M. Mezghani, Saudi Aramco  
(Alternate paper in Session 4: Advanced Geological Concepts)

#### Wednesday, 27 March

**Time Paper**  
**1030 19476 Timing and Mechanism of Salt Movement in the Northern Red Sea**  
\*AB  
H. Al-Daif, Saudi Aramco; A. Afifi, King Abdullah U. of Science and Technology  
(Alternate paper in Session 12: Structural Systems and Trap Analysis)

**1330 19188 A Seismic Insight to the Root Cause of Drilling Challenges in the Triassic Section in the Central Area of Saudi Arabia**  
\*AB  
M. Alabbad, A. Muslem, R. Lubbe, Y. Hu, and M. Alawi, Saudi Aramco  
(Alternate paper in Session 28: Geophysical Challenges)

**1530 19200 Subsurface Stratigraphy Problem Resolved from Outcrop Stratigraphy: A Case Study from the Late Jurassic Hanifa Formation, Saudi Arabia**  
\*AB  
M. Fallatah, Saudi Aramco  
(Alternate paper in Session 44: Geological Reservoir Characterisation)

#### Thursday, 28 March

**Time Paper**  
**1030 19545 Predicting Porosity via Optimised Rock Physics Models**  
\*AB  
M. Bin Gubair, A. Ramadan and C. Ayadiuno, Saudi Aramco  
(Alternate paper in Session 51: Rock Physics)

**1330 19429 Facies Probabilities Driven by Seismic as a Training Image**  
\*AB  
S. Khattab and F. Al-Awam, Saudi Aramco  
(Alternate paper in Session 67: Geological Reservoir Modelling)

#### STATION 20

Tuesday, 26 March

**Time Paper**  
**1530 19270 Estimating Anisotropic Parameters via Joint Migration Inversion**  
\*AB  
A. Al-Shuhail, Saudi Aramco  
(Alternate paper in Session 11: Seismic Imaging & Migration)

#### Wednesday, 27 March

**Time Paper**  
**1030 19054 Scholte Wave Attenuation with Polarisation Filtering Using Pressure and Vertical Geophone Sensors**  
\*AB  
M.S. Diallo and M. Al-Marzooq, Saudi Aramco  
(Alternate paper in Session 19: Advances in Time Processing)

**1330 19287 Pre-Drill and Real-Time Mitigation of Drilling Risks Associated with Allochthonous Rafts and Evaporite Mélanges in the Red Sea**  
\*AB  
J.P. Brown, R.C. Sierraalta, K. Ghazi, and A.H. Zaher, Saudi Aramco  
(Alternate paper in Session 36: Integration Challenges)

**1530 19497 2D Sparse Radon Data Reconstruction**  
\*AB  
M. Al-Bannagi, Saudi Aramco; D. Verschuur, Delft U. of Technology  
(Alternate paper in Session 35: Advances in Seismic Acquisition & Processing)

#### Thursday, 28 March

**Time Paper**  
**1030 19163 Connected Reservoir Regions Map Created from Time-Lapse Pressure Data Shows Similarity to Other Reservoir Quality Maps in a Heterogeneous Carbonate Reservoir**  
B. Kayode, M.R. Yaacob, and F. Abdullah, Saudi Aramco  
(Alternate paper in Session 60: Integrated Reservoir Characterisation)

**1330 19183 Forward Integration of Dynamic Data into 3-D Static Modelling Significantly Improves Reservoir Characterisation**  
B. Kayode, O. Meza, N. Quintero, and S. Al-Dossary, Saudi Aramco  
(Alternate paper in Session 67: Geological Reservoir Modelling)

#### STATION 21

Tuesday, 26 March

**Time Paper**  
**1530 19569 Signal to Noise Ratio Enhancement Using Empirical Wavelet Transform**  
W.Y. Lee, R. Hamidi, D.P. Ghosh, and M.H. Musa, U. Teknologi PETRONAS



### Wednesday, 27 March

- Time Paper**  
**1030 19535 VSP Inversion of Azimuthal Velocity Variations for Seismic Anisotropy**  
 \*AB  
 K. Al Dulaijan, Saudi Aramco  
*(Alternate paper in Session 19: Advances in Time Processing)*
- 1330 19345 A Case Study – Identifying Optimal Well Placement for a Stratigraphic Reservoir Truncation Play with Limited Geophysical and Offset Well Data**  
 \*AB  
 Y. Al-Sharhan, D. Mackertich, M. Teng, and S. Black, Saudi Aramco  
*(Alternate paper in Session 36: Integration Challenges)*
- 1530 19221 Calibrated Natural State Model in Sorik Marapi Geothermal Field, Indonesia**  
 S. Mulyani, Schlumberger; Z. Sarmiento, KS Orka; V. Chandra, R. Hendry, S. Nasution, and R. Hidayat, Sorik Marapi Geothermal Power; J. Jhonny, P. Puspa Sari, and D. Juandi, Schlumberger  
*(Alternate paper in Session 52: Integrated Reservoir Modelling)*

### Thursday, 28 March

- Time Paper**  
**1030 19505 Application of Seismic AVAZ Ratio Method for Reservoir Fracture Characterisation**  
 \*AB  
 M. Zagzoog, M.A. Hussain, and A. Suleiman, Saudi Aramco  
*(Alternate paper in Session 51: Rock Physics)*
- 1330 19096 Modelling Early Carbonate Diagenesis for Reservoir Quality Prediction: Constitutive Relations from Recent Marine Sediments**  
 \*AB  
 S. Zhang, Aramco Services Co., Aramco Research Center – Houston; P. Lu, Saudi Aramco EXPEC ARC  
*(Alternate paper in Session 67: Geological Reservoir Modelling)*

### STATION 22

Tuesday, 26 March

- Time Paper**  
**1530 19062 Enhanced Complex Overburden Modelling and Imaging through Early Inclusion of Full-Waveform Inversion in the Model Building Process, North West Shelf, Australia**  
 \*AB  
 L. Zhang, H. Trihutomo, Y. Gong, B. Lim, and A. Karvelas, WesternGeco, Schlumberger  
*(Alternate paper in Session 3: Full Wavefield Inversion & Velocity Model Building)*

### Wednesday, 27 March

- Time Paper**  
**1030 19302 Identification and Analogy of Carbonate Geometries between Offshore Indus Basin in Pakistan and Proven Carbonate Play**  
 M.H. Khan, Independent; T. Maqsood, Tullow Pakistan; T.M. Jaswal, Pakistan Oilfields Ltd.; M. Mujahid, Spec energy DMCC; M.S. Malik, Qatar Petroleum; E.F. Jadoon, United Energy Pakistan; U.L. Hakeem, Qatar Petroleum  
*(Alternate paper in Session 20: Geological Challenges)*

- 1330 19527 Control of Pore Types and Fracture Intensity on the P-Wave Velocity of Carbonate Rocks**  
 A.J. AbdImutalib and O.M. Abdullatif, King Fahd U. of Petroleum and Minerals  
*(Alternate paper in Session 36: Integration Challenges)*

- 1530 19402 A New Way to Regularise Full Azimuth 3D Data while Preserving Its Azimuthal Attributes**  
 \*AB  
 R. Li, Schlumberger; M. Zheng, J. Qiu, P. Huang, and H. An, PetroChina Southwest Weiyuandong Shale Gas Operating Co.; X. Ji and R. Zeng, Schlumberger  
*(Alternate paper in Session 35: Advances in Seismic Acquisition & Processing)*

### Thursday, 28 March

- Time Paper**  
**1030 19560 Factors Influencing Elastic Properties on Carbonate Rocks, Lessons Learnt from Two Case Studies and from Simulation Results**  
 F. Hong, Total; F. Bastide, Modis; O. Zerhouni, Ecole Polytechnique; C. Planteblat, Modis  
*(Alternate paper in Session 51: Rock Physics)*

- 1330 19166 Automatic Statics and Residual Statics Correction with Low-Rank Approximation**  
 \*AB  
 A.M. Alfaraj, U. of British Columbia; R. Kumar, DownUnder Geosolutions; F.J. Herrmann, Georgia Inst. of Technology  
*(Alternate paper in Session 35: Advances in Seismic Acquisition & Processing)*

### RESERVOIR

#### STATION 23

Tuesday, 26 March

- Time Paper**  
**1530 19419 Complex Resistivity Responses Explained Using LWD Laterolog Curves and Images, LWD Propagation Resistivity and Wireline Dielectric Measurement**  
 L. Guan, X. Wang, and D. Xiao, CNOOC Ltd., Shenzhen Branch; Y.H. Shim, D.C. Maggs, C.J. Maeso, F. Legendre, R. Leech, and C.W. Qu, Schlumberger  
*(Alternate paper in Session 5: Reservoir Evaluation and Monitoring: Recent Advancement)*

### Wednesday, 27 March

- Time Paper**  
**1030 19472 Reservoir Fluid Geodynamics, a New Way to Evaluate the Reservoir Connectivity and Crude Oil Alteration with Late Gas Charge**  
 L. Chen, Schlumberger; Y. Gan, CNOOC; B. Gao, J. Chen, J.A. Canas, R.R. Jackson, J. El Khoury, and O.C. Mullins, Schlumberger  
*(Alternate paper in Session 5: Reservoir Evaluation and Monitoring: Recent Advancement)*

- 1330 19043 Advanced Vertical Interference Test Modelling by Considering Petrophysical and Image Based Rock Typing for a Better Kv Estimation in a Heterogeneous Reservoir: A New Workflow**  
 A. Kumar, S.S. Batshas, G. Nagaraj, S. Nahar, S. Singh, and C. Chatterjee, Schlumberger  
*(Alternate paper in Session 5: Reservoir Evaluation and Monitoring: Recent Advancement)*



**1530 19369 Innovative Mini-DST and Production Evaluation Approach at Challenging HPHT Condition for KeShen Tight Gas Reservoir, a Case Study at Tarim Basin**  
S. Shuai, X. Zhang, T. Ma, Y. Zhao, and Q. Guo, PetroChina Tarim Oilfield Co.; J. Chen, Z. Fan, B. Bi, and L. Yang, Schlumberger  
*(Alternate paper in Session 5: Reservoir Evaluation and Monitoring: Recent Advancement)*

#### Thursday, 28 March

**Time Paper**  
**1030 19131 Optimising Hardware & Workflow to Maximise Formation Fluid Scanning & Sampling While Drilling Success in Unconsolidated Formations**  
I. De Santo, M. Turner, Y. Blanco, S.H. Paul, S.A. Haq, and V. Agarwal, Schlumberger  
*(Alternate paper in Session 45: Formation Evaluation: Integrated Studies and Workflows)*

**1330 19442 Effective Igneous Reservoir Identification and Controlling Factor Analysis in Eastern Sag of Liaohe Depression, China**  
Z. Hu, PetroChina Liaohe Oilfield Co.; S. Zhang, PetroChina Qinghai Oilfield Co.; F. Wu, X. Liu, J. Wu, S. Li, Y. Wang, X. Zhao, and H. Zhao, Schlumberger  
*(Alternate paper in Session 53: Formation Evaluation: Field Case Studies)*

#### STATION 24

Tuesday, 26 March

**Time Paper**  
**1530 19063 Factors Affecting Water Alternating Hydrocarbon Gas Miscible Flooding in a Low Permeability Reservoir**  
J. Dong, S. Wu, G. Xing, T. Fan, H. Li, and B. Wang, RIPED, CNPC  
*(Alternate paper in Session 29: Advancement and Application of IOR/EOR)*

#### Wednesday, 27 March

**Time Paper**  
**1030 19133 Investigation of Anhydrite Dissolution as a Potential Low Salinity Waterflooding Mechanism Using Carbonate Reservoir Rocks**  
T. Uetani, H. Kaido, and H. Yonebayashi, INPEX Corp.  
*(Alternate paper in Session 29: Advancement and Application of IOR/EOR)*

**1330 19129 Disclose Hidden Hydrocarbon (HC) Reserves from Additional Zone of Interest (AZIs) Using dT LogR Method in Lunar Field, Gulf of Thailand**  
P. Kamkong, T. Karnjanamuntana, W. Prungkwanmuang, J. Yingyuen, D. Oatwaree, N. Amornpiyapong, P. Khositichaisri, V. Tivayanonda, D. Wongsuvapich, and S. Tongsuk, PTTEP  
*(Alternate paper in Session 53: Formation Evaluation: Field Case Studies)*

**1530 19097 Effect of Pore Pressure Depletion on Wellbore Stability and Hydraulic Fracturing in Sandstone Reservoir**  
M. Al-Dossary and O. Hamid, Saudi Aramco; S. Elkhatny, King Fahd U. of Petroleum & Minerals  
*(Alternate paper in Session 45: Formation Evaluation: Integrated Studies and Workflows)*

#### Thursday, 28 March

**Time Paper**  
**1030 19218 Reviving Idle Wells and Unlocking Potential Production Gain in Offshore Sarawak through Exposing BCO-LRLC Opportunities**  
M. C A Razak, M. Kamarul Zaman, A. Ali, J. M Shah, M. Sakdilah, and M. Md Zainuri, PETRONAS  
*(Alternate paper in Session 53: Formation Evaluation: Field Case Studies)*

**1330 19518 From Molecules to Barrels: A Case Study on Redefining Hydrocarbon Spectrum and DNA Tracing through Gas-Chromatograph Fingerprinting**  
S. Zulkipli and N.B. Harun, PETRONAS Carigali Sdn. Bhd.  
*(Alternate paper in Session 53: Formation Evaluation: Field Case Studies)*

#### STATION 25

Tuesday, 26 March

**Time Paper**  
**1530 19170 Development of a New Parallel Polymer Flooding Simulator for Conventional and Naturally Fractured Reservoirs**  
H. Liu, Z. Chen, L. Shen, and H. Zhong, U. of Calgary; H. Liu, AMSS, Chinese Academy of Sciences; B. Yang and D. Ji, U. of Calgary; Z. Zhu, China U. of Petroleum, Beijing; J. Zhan, Xi'an Shiyou U.  
*(Alternate paper in Session 13: Advances in Reservoir Simulation)*

#### Wednesday, 27 March

**Time Paper**  
**1030 19152 The Fracture Network Inversion Based on Gas Production Profile**  
L. Mi, China U. of Petroleum, Beijing; B. Yan, Texas A&M U.; Q. Liu, China U. of Petroleum, Beijing; Z. Ren, Xi'an Shiyou U.  
*(Alternate paper in Session 13: Advances in Reservoir Simulation)*

**1330 19048 An Experimental Study of the Dynamic Mass Transfer Process During Carbonated Water Injection**  
J. Zou, X. Liao, X. Zhao, Z. Chen, L. Mu, H. Chu, and J. Wu, China U. of Petroleum, Beijing; Z. Zhang, Shaanxi Yanchang Petroleum (Group) Co., Ltd.  
*(Alternate paper in Session 29: Advancement and Application of IOR/EOR)*

**1530 19140 Integrated Study of Shear Wave and Resistivity Anisotropy in an Inclined Well Providing Insight to the Geomechanical Model**  
S. Das, Baker Hughes, a GE company; T. Zhang and V. Vevakanandan, Sabah Shell Petroleum Co. Ltd.; M. Abd Rahim, Sarawak Shell Bhd.  
*(Alternate paper in Session 45: Formation Evaluation: Integrated Studies and Workflows)*

#### Thursday, 28 March

**Time Paper**  
**1030 19514 Capillary Pressure Corrections, Quality Control and Curve Fitting Workflow**  
N.I. Al-Bulushi, G. Kraishan, and G. Hursan, Saudi Aramco  
*(Alternate paper in Session 45: Formation Evaluation: Integrated Studies and Workflows)*





**1330 19297 Pressure Transient Behavior for Alternating Polymer Flooding in a Three-Zone Composite Reservoir**

X. Kang, Y. Zeng, J. Zhang, E. Tang, and Z. Wei, CNOOC; S. Cheng, China U. of Petroleum, Beijing  
(Alternate paper in Session 53: Formation Evaluation: Field Case Studies)

**INTEGRATED GEOSCIENCE/ENGINEERING**

**STATION 26**

Tuesday, 26 March

Time Paper

- 1530 19501 Refining History Matching Quality through Various Data Acquisition Campaign for a Major Waterflood Reservoir to Unleash Its Maximum Recovery Potential: A Case Study**  
I. Jamaludin, D. Mandal, D. Arsanti, I. Dzulkifli, N.A. Zakaria, S. Mohamad Salleh, S. Ahmad Hawari, and M. Mohd Azkah, PETRONAS Carigali Sdn. Bhd.  
(Alternate paper in Session 61: Reservoir Management: Uncertainty Assessment)

**Wednesday, 27 March**

Time Paper

- 1030 19142 Improved Estimation and Forecast through Model Error Estimation - Norne Field Example**  
M. Lu and Y. Chen, Total E&P UK Ltd.  
(Alternate paper in Session 61: Reservoir Management: Uncertainty Assessment)
- 1330 19314 A Hierarchical Multiscale Framework for History Matching and Optimal Well Placement for a HPHT Fractured Gas Reservoir, Tarim Basin, China**  
H. Chen, C. Yang, and A. Datta-Gupta, Texas A&M U.; J. Zhang, L. Chen, L. Liu, and B. Chen, PetroChina Tarim Oil Field Co.; X. Cui and F. Shi, Optimization Petroleum Technology, Inc.; A. Bahar, Kelkar and Associates, Inc.  
(Alternate paper in Session 37: Integrated Reservoir Management for Challenging Environments)

- 1530 19158 Integrating Effective Services into MRC Technology to Rejuvenate Mature Reservoir with Low Permeability and Low Resistivity**  
F. Li, Southwest Petroleum U.; X. Xie, L. Huang, and L. Zhou, CNOOC Ltd., Shenzhen Branch; B. Chang, C. Wang, F. Wang, and C. He, Schlumberger  
(Alternate paper in Session 37: Integrated Reservoir Management for Challenging Environments)

**Thursday, 28 March**

Time Paper

- 1030 19507 Heterogeneity and Relative Permeability Role in Primary Drainage: From Lateral to Vertical Perching**  
I. Hulea and I. Kim, Shell Global Solutions Intl.  
(Alternate paper in Session 61: Reservoir Management: Uncertainty Assessment)
- 1330 19167 Study on the Phase Equilibrium of Gas Hydrate Based on Main-Branch Pipe Confluence Model**  
S. Deng and Y. Liu, Changzhou U.; X. Wei, PetroChina Changqing Oilfield Co.; L. Tao and Y. He, Changzhou U.  
(Alternate paper in Session 65: Gas Hydrate)

**STATION 27**

Tuesday, 26 March

Time Paper

- 1530 \*\*\*\*\* Integrated Reservoir Characterisation of the Wattenberg Field, Colorado, USA**  
J. Daves and N. Daisy Yanrui, Colorado School of Mines; A. Alfataierge, Saudi Aramco; S. Harryandi, M. Copley, J. Simmons, and A. Tura, Colorado School of Mines  
(Top Rated Paper from IPTC Sponsoring Societies)

**Wednesday, 27 March**

Time Paper

- 1030 19422 Determining Critical Flowrate in High CO<sub>2</sub> Content Carbonate Field, Sarawak Basin, Offshore East Malaysia**  
M.Z. Kashim, PETRONAS; A. Giwelli, M.B. Clennell, L. Esteban, and R. Noble, CSIRO; S. Vialle, M. Ghasemzian, and A. Saeedi, Curtin U.; S. Md Shah and J. M Ibrahim, PETRONAS  
(Alternate paper in Session 68: Integrated Reservoir Development and Management - Case Studies)
- 1330 19480 Numerical and Analytical Waterflood Evaluation of North Kuwait Giant Carbonate Reservoir**  
B.Z. Al-Otaibi, Kuwait Oil Co.; M. Lamine, Shell Intl. E&P  
(Alternate paper in Session 68: Integrated Reservoir Development and Management - Case Studies)
- 1530 19182 An Innovative Reservoir Engineering Method to Identify Bypassed Oil and Derisk the Further Development of a Complex Mature Field in Offshore, Malaysia**  
D. Mandal, N.T. Musani, and N. Mohmad, PETRONAS Carigali Sdn. Bhd.  
(Alternate paper in Session 68: Integrated Reservoir Development and Management - Case Studies)

**Thursday, 28 March**

Time Paper

- 1030 19494 Unlocking and Materialising Development Opportunities with an Optimised Subsurface Study Approach and Adaptive Execution in a Brownfield**  
Y.V. Tan, N.A. Amiruddin, H.M. Li, C.H. Sim, S. Abdul Aziz, N. Adnan, and M.N. Mansor, Dialog Energy Sdn. Bhd.; M. Anuar and S.T. Jacobs, Halliburton; A. Khalid and A. Kumar, PETRONAS Carigali Sdn. Bhd.  
(Alternate paper in Session 68: Integrated Reservoir Development and Management - Case Studies)
- 1330 19479 The Greater Enfield Project: Well Placement and Completion Strategy**  
\*AB  
S. Walsh and D.G. Crosby, Woodside Energy Ltd.  
(Alternate paper in Session 68: Integrated Reservoir Development and Management - Case Studies)



**DRILLING AND COMPLETIONS****STATION 28**

Tuesday, 26 March

**Time Paper**

- 1530 19233 **ROP Enhancement of Hydro-Efflux Hammer in Hard and Abrasive Formations**  
B. Li, Saudi Aramco PE&D; G. Zhan, Saudi Aramco; Z. Suo and M. Sun, Sinopec Research Inst. of Petroleum Engineering  
*(Alternate paper in Session 6: Drilling Technology: Success Cases)*

**Wednesday, 27 March****Time Paper**

- 1030 19499 **Current Methods and Novel Solutions for Mitigating Lost Circulation**  
J. Ramasamy, C.P. Gooneratne, and M. Amanullah, Saudi Aramco PE&D  
*(Alternate paper in Session 38: Innovative Drilling Fluids)*
- 1330 19305 **Novel Plant-Based Particulate and Fibrous LCM Products for Loss Control while Drilling**  
M. Amanullah, M.K. Al-Arfaj, and R.A. Alouhali, Saudi Aramco PE&D  
*(Alternate paper in Session 38: Innovative Drilling Fluids)*
- 1530 19428 **Novel Methods and Test Fixtures for Comprehensive Evaluation and Characterisation of LCM Products**  
M. Amanullah, R.A. Alouhali, and M.K. Al-Arfaj, Saudi Aramco PE&D  
*(Alternate paper in Session 62: Drilling Fluids Modelling)*

**Thursday, 28 March****Time Paper**

- 1030 19204 **Real-Time Automated Drilling Optimisation and Operations Benchmarking Services Deliver a Step Change in Khalda Western Desert Operations**  
M. Abdel Mageed, M. Awad Elsayed, and A. Hussein, Khalda Petroleum Co.; A.M. Osman, M.M. Siam, M.A. Al-Kaabi, and A.R. Moussa, Schlumberger  
*(Alternate paper in Session 69: Drilling Optimisation)*
- 1330 19441 **The Successful Selection, Optimisation and Implementation of Adjust While Drilling (AWD) Flowchart in Offshore Oil Field of Bohai Bay, China**  
Y. He, Y. Hu, H. Shi, J. Zhou, and X. Shu, CNOOC  
*(Alternate paper in Session 69: Drilling Optimisation)*

**STATION 29**

Tuesday, 26 March

**Time Paper**

- 1530 19251 **Enriching the Underbalanced Coiled Tubing Drilling Technology to Maximise Reservoir Contact by Combining Resistivity, Biosteering and Productivity Index**  
P.H. Guizada and R. Alidi, Saudi Aramco  
*(Alternate paper in Session 6: Drilling Technology: Success Cases)*

**Wednesday, 27 March****Time Paper**

- 1030 19223 **The Application of Cyclone Desorption Technology for OBM Drill Cuttings Disposal**  
J. Wu, J. Pan, and H. Wang, China U. of Science and Technology, East China; L. Wang, X. Lan, and L. Yang, PetroChina Southwest Oil & Gas Field Co. Chengdu Natural Gas Chemical General Plant; W. Liu, SJ Petroleum Machinery Co., Sinopec  
*(Alternate paper in Session 38: Innovative Drilling Fluids)*
- 1330 19319 **The Evolution of Completions Benchmarking in Malaysia: A New Way of Working**  
\*AB  
S.R. Mohd Mokhtar, N. Omar, S.R. Fazilah, M.F. Bakar, M.Z. Khalid, and M.Z. M Zakaria, PETRONAS  
*(Alternate paper in Session 30: Coiled Tubing Operations)*
- 1530 19510 **Research of Formation Protection Technology in Complex Fault Block Oilfield**  
S. Fan, X. Wang, J. Dong, Q. You, X. Yang, and J. Zhao, PetroChina Dagang Oilfield Co. Ltd.  
*(Alternate paper in Session 56: Risk Management)*

**Thursday, 28 March****Time Paper**

- 1030 19425 **Non-Toxic High Temperature Polymer Drilling Fluid Significantly Improving Marine Environmental Acceptability and Reducing Cost for Offshore Drilling**  
X. Liu, Y. Gao, W. Hou, Y. Ma, and Y. Zhang, Drilling Engineering Technology Research Inst. of CNPC Offshore Engineering Co., Ltd.  
*(Alternate paper in Session 62: Drilling Fluids Modelling)*
- 1330 19528 **Optimisation of Suitable Measurement Position through Fluid Dynamics in Early Kick Detection**  
H. Sun, BHDC, CNPC; L. Lao, Cranfield U.; D. Li, Q. Tao, H. Ma, H. Li, and C. Song, BHDC, CNPC  
*(Alternate paper in Session 70: Well Control)*

**STATION 30**

Tuesday, 26 March

**Time Paper**

- 1530 19449 **Geomechanical Approach Lead to Successful Implementation of the First Highly Deviated Well at Kuqa Depression in Tarim Basin**  
T. Jiang, H. Zhang, H. Wang, G. Yin, F. Yuan, and Z. Wang, PetroChina Tarim Oilfield Co.  
*(Alternate paper in Session 6: Drilling Technology: Success Cases)*

**Wednesday, 27 March****Time Paper**

- 1030 19498 **Drilling Dynamics Measurements on Positive Displacement Motors (PDM) Enhance Performances and Reliability**  
F. Li, R.V. Neelgund, D.L. Smith, and W. Blackman, Schlumberger  
*(Alternate paper in Session 21: Drilling Technology for Difficult Environments)*



**1330 19478 Design for Well Longevity: Optimising Cement Barrier Quality in UGS Wells**  
F. Gao, CNPC Xinjiang Oilfield Co.; R. Wang, Schlumberger; H. Su, CNPC Xibu Drilling Cementing Co.; S. Zhong, CNPC Xinjiang Oilfield Co. Research Inst. of Engineering and Technology; Y. Guo and S. Taoutaou, Schlumberger  
*(Alternate paper in Session 46: Well Integrity)*

**1530 19252 Geomechanical Consideration of Drilling through Heavily Faulted Formation**  
M. Abd Rahim, Sarawak Shell Bhd.; M.F. Khodaverdian, Shell Intl. E&P Co.; L. Tang, A.Q. Tan, and K. Paranthaman, Sabah Shell Petroleum Co. Ltd.; P.A. Seli, A. Brem, and A.W. Chan, Sarawak Shell Bhd.; P.H. Morphy, Sabah Shell Petroleum Co. Ltd.  
*(Alternate paper in Session 56: Risk Management)*

#### Thursday, 28 March

##### Time Paper

**1030 19543 Treatment Technology of Brine Contamination and Barite Settlement for the High Temperature and High Density OBM for Ultra-Deep Well Drilling in Western China**  
J. Wang and L. Yan, CNPC Engineering Technology R&D Co. Ltd.; F. Liu, PetroChina Tarim Oilfield Co.; H. Yang, CNPC Engineering Technology R&D Co. Ltd.; D. Yin, PetroChina Tarim Oilfield Co.; X. Xu, CNPC Engineering Technology R&D Co. Ltd.  
*(Alternate paper in Session 62: Drilling Fluids Modelling)*

#### STATION 31

Tuesday, 26 March

##### Time Paper

**1530 19395 First Onsite Automatic Geomagnetic Observatory Improves Well-Bore Positioning**  
F. Momot, PathControl; F. Humbled, RMI; M. Garbers and S. Shabanov, Total SA; A. Gonsette, RMI; A. Sikal, PathControl; O. Couso, Total SA; D. Reynaud, PathControl  
*(Alternate paper in Session 6: Drilling Technology: Success Cases)*

#### Wednesday, 27 March

##### Time Paper

**1030 19412 Field Testing of High-Strength Rotary Shouldered Connections in Difficult Drilling Conditions**  
K.K. Li, M.H. Du, F. Song, D.L. Smith, and W. Blackman, Schlumberger  
*(Alternate paper in Session 21: Drilling Technology for Difficult Environments)*

**1330 19254 Investigation of Multi-Scale Approach for Damage Control in Ultra-Deep Tight Sandstone Gas Reservoirs Based on the Multi-Scale Formation Damage Mechanisms**  
D. Zhang, Y. Kang, L. You, and X. Li, Southwest Petroleum U.; J. Li, PetroChina Tarim Oilfield Co.; Y. Chen, Missouri U. of Science and Technology  
*(Alternate paper in Session 38: Innovative Drilling Fluids)*

**1530 19376 New Low-Shock Low-Debris Gun Technology with Reliable Gunshock Simulation and Optimisation**  
C.E. Baumann, D. Damm, J. Escudero, and M.E. Smart, Schlumberger; X. Yang, J. Liu, and Z. Wei, PetroChina Tarim Oilfield Co.  
*(Alternate paper in Session 54: Completion Technology)*

#### Thursday, 28 March

##### Time Paper

**1030 19109 Anti-Gas Channelling Cementing Technology for Ultra-Deep High Temperature and High Pressure Gas Wells**  
Y. Zeng, Y. Gao, S. Zhou, Q. Tao, L. Sang, G. Yang, and P. Lu, Sinopec Research Inst. of Petroleum Engineering  
*(Alternate paper in Session 64: Deep Water and HP/HT)*

**1330 19371 Shale Gas Drilling Performance Breakthrough in Wei Yuan - Relentless Scientific and Engineering Approaches for the Unconventional Resources in Central China**  
X. Zheng, PetroChina; T.C. Moh, N. Huang, N. Ke, G. Geng, J. Chin, C. Zhang, X. Wang, D. Liu, and L. Yang, Schlumberger  
*(Alternate paper in Session 69: Drilling Optimisation)*

#### STATION 32

Tuesday, 26 March

##### Time Paper

**1530 19117 Weight-on-Bit Self-Adjusting Dual-Diameter Bit Leads a Step Change in Drilling Bit Technology**  
H. Hu, Z. Guan, B. Wang, and D. Liang, China U. of Petroleum (East China); M. Sun, Qingdao Shidahuatong Technology Co. Ltd.; X. Wang, China U. of Petroleum (East China); W. Chen, King Fahd U. of Petroleum and Minerals  
*(Alternate paper in Session 6: Drilling Technology: Success Cases)*

#### Wednesday, 27 March

##### Time Paper

**1030 19539 Intelligent Under Reamer a Solution for Lean Casing Profile**  
A.L. Khaw, Baker Hughes, a GE company; P.N. Nguyen and Q.A. Vu, PVD Baker Hughes; D. Miguel, Baker Hughes, a GE company  
*(Alternate paper in Session 21: Drilling Technology for Difficult Environments)*

**1330 19571 Investigation on the Transport and Capture Behaviours of Lost Circulation Material in Fracture with Rough Surface**  
C. Xu, J. Zhang, Y. Kang, L. You, X. Yan, K. Cui, and C. Lin, Southwest Petroleum U.  
*(Alternate paper in Session 38: Innovative Drilling Fluids)*



- 1530 19368 Application of Anisotropic Wellbore Stability Model and Unconventional Fracture Model for Lateral Landing and Wellbore Trajectory Optimisation: A Case Study of Shale Gas in Jingmen Area, China**  
W. Wang, PetroChina Zhejiang Oilfield Co.; H. Wen, Schlumberger; P. Jiang, PetroChina Zhejiang Oilfield Co.; P. Zhang, Schlumberger; L. Zhang, PetroChina Zhejiang Oilfield Co.; C. Xian, Schlumberger; J. Li, PetroChina Zhejiang Oilfield Co.; C. Zhao, Q. Li, and Q. Xie, Schlumberger  
(Alternate paper in Session 56: Risk Management)

#### Thursday, 28 March

##### Time Paper

- 1030 19509 Practices and Understanding on the Anti-Sloughing Drilling Fluid Technology of S Oilfield**  
W. Tang, C. Xiao, Y. Xue, H. Zhang, L. Tian, C. Niu, R. Wang, Q. He, L. Kong, Z. Wang, H. Liu, and Y. Li, Sinopec Research Inst. of Petroleum Engineering  
(Alternate paper in Session 62: Drilling Fluids Modelling)
- 1330 19144 Experimental Investigation on Wellbore Strengthening Mechanism and Tight Fracture Plugging Drilling Fluid Based on Granular Matter Mechanics**  
J. Liu and G. Guo, Shengli Petroleum Engineering Corp. Ltd., Sinopec; Z. Qiu, China U. of Petroleum, Beijing  
(Alternate paper in Session 70: Well Control)

#### STATION 33

Tuesday, 26 March

##### Time Paper

- 1530 19456 Experimental Investigation of the Impact of Modified Nano Clay on the Rheology of Oil Well Cement Slurry**  
M. Murtaza, M.A. Mahmoud, S.M. Elkhatry, A. Al-Majed, W. Chen, and A. Jamaluddin, King Fahd U. of Petroleum & Minerals  
(Alternate paper in Session 14: Cementing Technology Advancements)

#### Wednesday, 27 March

##### Time Paper

- 1030 19290 Economic Analysis of Lost Circulation Events to Optimise the Drilling Process in Basra Oil Fields, Iraq**  
H.H. Alkinani, A.T. Al-Hameedi, S. Dunn-Norman, and R.E. Flori, Missouri U. of Science and Technology; M.T. Alsaba, Australian College of Kuwait; A.S. Amer, Newpark Technology Center/ Newpark Drilling Fluids; W.H. Al-Bazzaz, Kuwait Inst. for Scientific Research  
(Alternate paper in Session 22: Drilling Efficiency)
- 1330 19375 Successful Execution of a Challenging Well Intervention on First of Its Kind Unconventional Dual Completion Well in South East Kuwait Field: A Case Study**  
A.H. Saffar, H. Haddad, S. Sindhu, P.K. Gupta, and F. Al-Munayes, Kuwait Oil Co.  
(Alternate paper in Session 46: Well Integrity)

- 1530 19570 4D Geomechanics Simulation in Fractured Carbonate Reservoir for Optimum Well Construction and Reservoir Management, Case Study in Offshore East Java Area**  
A.S. Anis, Schlumberger; Z. Syarif, Saka Indonesia Pangkah Ltd.; A.S. Setiawan, Schlumberger; A. Hidayat and A.S. Murtani, Saka Indonesia Pangkah Ltd.  
(Alternate paper in Session 56: Risk Management)

#### Thursday, 28 March

##### Time Paper

- 1030 19357 Evaluating Cement Integrity through Industry's First LWD Full Range Quantitative Cement Bond Index: A Game Changer in Deepwater Wells**  
S. Saumya, J. Singh, J. Vij, S. Sarkar, B. Das, and P. Shedde, Schlumberger  
(Alternate paper in Session 64: Deep Water and HP/HT)
- 1330 19274 Full Scale Geomechanics Review Assisting Drilling Risk Mitigation in Wushi Sag, Beibu Gulf, China**  
S. Guo and Y. Gao, CNOOC Ltd., Zhanjiang; F. Gui, S. Wang, S. Bordoloi, and S. Ong, Baker Hughes, a GE company; C. Du and S. Wang, CNOOC Ltd., Zhanjiang  
(Alternate paper in Session 64: Deep Water and HP/HT)

#### STATION 34

Tuesday, 26 March

##### Time Paper

- 1530 19224 Enhancing the Gel Transition Time and Right-Angle-Set Property of Oil Well Cement Slurries by Incorporating CSA Cement and Gypsum**  
A. Prabhakar, National U. of Singapore; N. Lee, Korea Inst. of Civil Engineering and Building Technology; K. Ong and M. Zhang, National U. of Singapore; J. Moon, Seoul National U.; A. Cheng and K. Kong, National U. of Singapore  
(Alternate paper in Session 14: Cementing Technology Advancements)

#### Wednesday, 27 March

##### Time Paper

- 1030 19380 Behavior and Properties of Cement-Embedded Fiber Optic Sensors for Zonal Isolation Monitoring**  
Q. Wu, S.D. Nair, and E. van Oort, The U. of Texas at Austin; A. Guzik and K. Kishida, Neubrex Co., Ltd.  
(Alternate paper in Session 30: Coiled Tubing Operations)
- 1330 19453 \*AB Fault Slippage Identification and Influence on Casing Deformation for Horizontal Shale Gas Wells Based on Focal Mechanism**  
X. Guo and J. Li, China U. of Petroleum, Beijing; G. Liu, Beijing U. of Technology  
(Alternate paper in Session 46: Well Integrity)
- 1530 19160 Shaped Memory Polymer: An Innovative Approach to Sand Control Open Hole Completion in Thin, Multilayered, Depleted Low Permeability Gas Reservoirs**  
J. Fuxa and P. Di Giampaolo, Baker Hughes, a GE company; G. Ferrara, ENI; M. Di Pietro, Baker Hughes, a GE company; M. Sportelli and G. Ripa, ENI; A. Di Campli, Baker Hughes, a GE company



### Thursday, 28 March

- Time Paper**  
**1030 19450 Innovative Downhole Flow Control Solution and Challenges in a Carbonate Field Offshore Indonesia**  
 W. Agung Rahmanto, A. Lukman Setiawan, T. Triyono, Z. Zulfikar, I. Handono, and S. Suryadana, Saka Indonesia Pangkah Ltd.; W. Thopyen, G.K. Goh, and S. Galih Wismawan, Schlumberger
- 1330 19222 A Novel Workflow for Far-Field Stress Characterisation Using Stress-Sensitivity of Anisotropic Formations to Acoustic Waves \*AB**  
 R. Patro, C. Chatterjee, A. Kumar, and B. Das, Schlumberger  
*(Alternate paper in Session 70: Well Control)*

### STATION 35

Tuesday, 26 March

- Time Paper**  
**1030 19467 Designing Cement Jobs for Success - Get It Right the First Time!**  
 L. Tang, C. Combe, and A. Wee, Sabah Shell Petroleum Co. Ltd.; R. Mohd-Radzi and T. Heu, Sarawak Shell Bhd.; C. Ho and K. Tan, Sabah Shell Petroleum Co. Ltd.  
*(Alternate paper in Session 14: Cementing Technology Advancements)*

### Wednesday, 27 March

- Time Paper**  
**1030 19227 General Guidelines for Batch Treatments of Polylactic Acid for Diversion in Multistage Matrix Acidising Treatments**  
 R.M. Shirley and A.D. Hill, Texas A&M U.  
*(Alternate paper in Session 30: Coiled Tubing Operations)*
- 1330 19393 New Formulation of Fly Ash Class C Based Geopolymer for Oil Well Cementing**  
 M. Ahdaya, A.H. Imqam, P. Jani, S. Fakher, and M. ElGawady, Missouri U. of Science and Technology  
*(Alternate paper in Session 46: Well Integrity)*
- 1530 19126 Wellbore Failure Modelling Using a Modified Drucker-Prager Criterion**  
 A. Younessi, Baker Hughes, a GE company  
*(Alternate paper in Session 56: Risk Management)*

### Thursday, 28 March

- Time Paper**  
**1030 19326 Higher Precision Automated Managed Pressure Drilling Control Achieved through the Addition of a Thermal Model**  
 Q. Gu and A. Fallah, The U. of Texas at Austin; A. Ambrus, Norwegian Research Centre; D. Chen, P. Ashok, and E. van Oort, The U. of Texas at Austin  
*(Alternate paper in Session 70: Well Control)*
- 1330 19565 High Pressure Sealing Lost Circulation Pill to Cure Severe Losses \*AB**  
 Q. Li and Z. He, Xinjiang Grand Oilfield Technology Inc.  
*(Alternate paper in Session 62: Drilling Fluids Modelling)*

### DEVELOPMENT AND PRODUCTION

#### STATION 36

Tuesday, 26 March

- Time Paper**  
**1530 19264 Experimental Study of Sand Erosion in Multistage Electrical Submersible Pump (ESP): Performance Degradation, Wear and Vibration**  
 H. Zhu, J. Zhu, and Z. Zhou, The U. of Tulsa; R. Rutter, M. Forsberg, and S. Gunter, Baker Hughes, a GE company; H. Zhang, The U. of Tulsa  
*(Alternate paper in Session 7: Artificial Lift: Performance Monitoring and New Advancements)*

### Wednesday, 27 March

- Time Paper**  
**1030 19190 Modelling Study of Wellbore Vortex Flow and Helical Angle Design of Downhole Vortex Tool**  
 C. Zhou, Sinopec Research Inst. of Petroleum Engineering and China U. of Petroleum, Beijing; T. Zhang, Sinopec Research Inst. of Petroleum Engineering; X. Wu, China U. of Petroleum, Beijing; F. Zhao, Engineering Technology Research Inst. of Huabei Oilfield Co.; X. Xiong, China U. of Petroleum, Beijing  
*(Alternate paper in Session 15: Well and Asset Management for Improved Reservoir Performance)*
- 1330 19413 Structure and Inhibition of the Indolizine Derivative: New Concept of High-Efficient Corrosion Inhibitors for Acidising**  
 R. Wang, Z. Yang, W. Chen, Y. Wang, M. Ding, and F. Zhan, China U. of Petroleum (East China)  
*(Alternate paper in Session 23: Corrosion and Sand Management: Monitoring and Treatments)*
- 1530 19137 3D Acid Fracturing Simulation and Application in the Upper Sinian Dengying Fm Gas Reservoirs in China**  
 H. Xue and Z. Huang, China ZhenHua Oil Co., Ltd.; F. Liu, Engineering Technology Research Inst., PetroChina Southwest Oil & Gas Field Co.; P. Liu, Southwest Petroleum U.; H. Wang, B. Zhang, F. Liu, Y. Cheng, and B. He, China ZhenHua Oil Co., Ltd.; X. Chen, Southwest Petroleum U.  
*(Alternate paper in Session 31: Productivity Enhancement through Stimulation: New Advancements)*

### Thursday, 28 March

- Time Paper**  
**1030 19506 Total Well Management: Maximising Well Lifecycle Value - A Regulator Perspective**  
 R. Guillory, W. W. Razali, R. Masoudi, R. Singh, and N.A. Ahmad, PETRONAS  
*(Alternate paper in Session 15: Well and Asset Management for Improved Reservoir Performance)*





**1330 19404 Research and Application of Retreatment Technology to Tap Remaining Oil in Chang Qing Low Permeability Oilfield**  
Z. Wu, H. Zou, Y. Wang, L. Wu, Y. Li, Y. Xu, R. Wang, Q. Meng, W. Jiang, S. Wang, S. Li, and D. Li, CNPC Chuanqing Drilling Engineering Co. Ltd., Drilling & Production Engineering Technology Research  
*(Alternate paper in Session 31: Productivity Enhancement through Stimulation: New Advancements)*

**STATION 37**

Tuesday, 26 March

**Time Paper**

**1530 19463 Experiments and Emulsion Rheology Modelling in an Electric Submersible Pump**  
H.M. Banjar, Saudi Aramco; H. Zhang, The U. of Tulsa  
*(Alternate paper in Session 7: Artificial Lift: Performance Monitoring and New Advancements)*

**Wednesday, 27 March****Time Paper**

**1030 19566 Multiwell Deconvolution as Important Guideline to Production Optimisation: Western Siberia Case Study**  
A. Aslanyan, Nafta College; R. Asmandiyarov, I.S. Kaeshkov, and M. Bikkulov, Gazpromneft STC; R. Farakhova, V.M. Krichevsky, and D.N. Gulyaev, Sofoil; K. Musaleev, Polykod  
*(Alternate paper in Session 15: Well and Asset Management for Improved Reservoir Performance)*

**1330 19324 A New Multiple Chelating Acid System with Low Damage and Weak Dissolution**  
N. Li and M. Yang, Southwest Petroleum U.; Q. Zhang, Southwest Petroleum U. and Southwest Oil & Gas Co., PetroChina; H. Zhou, CNOOC Ltd., Zhanjiang Branch; C. Zhai, CNOOC EnerTech-Drilling & Production Co.; L. Feng, Southwest Petroleum U.  
*(Alternate paper in Session 31: Productivity Enhancement through Stimulation: New Advancements)*

**1530 19304 Mathematical Model of Acid Wormhole Expansion When Combining Diverting Acid with Solid Diverting Agent**  
N. Li and J. Kang, Southwest Petroleum U.; Q. Zhang, Southwest Petroleum U. and Southwest Oil & Gas Co., PetroChina; Y. Wu and H. Zhang, Southwest Petroleum U.  
*(Alternate paper in Session 31: Productivity Enhancement through Stimulation: New Advancements)*

**Thursday, 28 March****Time Paper**

**1030 19333 Integrated Detection of Water Production in a Highly Heterogeneous and Tight Formation Using CRM Model: A Case Study on Water Flooding Gaither Draw Unit, Wyoming, USA**  
K. Liu, China U. of Geosciences; X. Wu, U. of Oklahoma; K. Ling, U. of North Dakota  
*(Alternate paper in Session 39: Production Surveillance & Monitoring)*

**1330 19235 Study and Analysis of Engineering Factors for Prolonged Gas Production in Xujiahe Tight Sandstones**  
Y. Yao, Q. Yuan, and J. Cai, Southwest Oil & Gas Ltd., PetroChina; J. Zhu, CNOOC; X. Gan, J. Ruan, G. Hu, and X. Zhao, Southwest Oil & Gas Ltd., PetroChina  
*(Alternate paper in Session 47: Gas Production Performance)*

**STATION 38**

Tuesday, 26 March

**Time Paper**

**1530 19465 Pilot Test and Effect Evaluation for the Water Shutoff Technology with Concentric Tube in Horizontal Well of Bohai Oilfield**  
G. Zhang, Z. Liu, Y. Li, X. Jia, Z. Sun, and Z. Lv, CNOOC Ltd., Tianjin Branch  
*(Alternate paper in Session 7: Artificial Lift: Performance Monitoring and New Advancements)*

**Wednesday, 27 March****Time Paper**

**1030 19195 A Holistic Approach to Life Extension of Fixed Offshore Platforms in Malaysian Waters**  
S. Ng, R. Khan, B. Isnadi, L. Lee, and S. Saminal, PETRONAS Carigali Sdn. Bhd.  
*(Alternate paper in Session 15: Well and Asset Management for Improved Reservoir Performance)*

**1330 19240 Extended Acoustic Sand Monitoring Helps to Understand Ceramic Sand Screen Failure: A Case Study**  
L. Riyanto, S. Sidek, V. Hugonet, H. Yusuf, and N.I. Salleh, PETRONAS Carigali Sdn. Bhd.; J. Ambrose, SMS Oilfield  
*(Alternate paper in Session 23: Corrosion and Sand Management: Monitoring and Treatments)*

**1530 19434 Assessment of Multi-Stage Fractured Wells Using Pressure Transient Analysis: Theory and Practice**  
A.H. Kabir and P.H. Guizada, Saudi Aramco  
*(Alternate paper in Session 31: Productivity Enhancement through Stimulation: New Advancements)*

**Thursday, 28 March****Time Paper**

**1030 19488 Improved Gas Recovery for Bottom-Water-Drive Gas Reservoir Using Downhole Water Drain Technique: A Success Story from Arthit Field, Thailand**  
S. Phummanee, A. Rittirong, W. Pongsripien, and N. Phongchawalit, PTTEP  
*(Alternate paper in Session 47: Gas Production Performance)*

**1330 19496 Minimise System Upsets in High Oil Production Facility throughout Demulsifier Chemical Trial**  
J. Scarborough, L. Mega-Franca, and M. Ibrahim, Baker Hughes, a GE company  
*(Alternate paper in Session 63: Flow Assurance: Advancements and Best Practices)*



## LNG & GTL

### STATION 39

Tuesday, 26 March

- | Time | Paper |  |
|------|-------|--|
| 1530 | 19154 | <b>Stress and Structural Analysis of Inner Pipe of Cryogenic Flexible Hose</b><br>L. Yang, M. Liu, and J. Fan, CNOOC Gas & Power Group Co., Ltd.<br>(Alternate paper in Session 24: LNG & GTL) |
|      | *AB   |  |

### Wednesday, 27 March

- | Time | Paper |   |
|------|-------|---|
| 1030 | 19347 | <b>Dynamic Simulation of Floating Natural Gas Liquefaction Process via K-Spice</b><br>C. Song, J. Zhu, and Y. Li, China U. of Petroleum (East China)<br>(Alternate paper in Session 24: LNG & GTL)  |
|      | *AB   |   |
| 1330 | 19396 | <b>Separator Pressure Optimisation and Cost Evaluation of a Multistage Production Unit Using Genetic Algorithm</b><br>M. Motie and P. Moein, Tarh-O-Palayesh Engineering Co.; R. Moghadasi, Uppsala U.; A. Hadipour, Tarh-O-Palayesh Engineering Co.<br>(Alternate paper in Session 32: Gas Processing) |
| 1530 | 19294 | <b>Exploring Opportunities for Capacity Enhancement in Sour Gas Treatment Unit</b><br>S.B. Deshpande, J. Sukanandan, and P. Sengupta, ONGC Ltd.<br>(Alternate paper in Session 32: Gas Processing)  |

### Thursday, 28 March

- | Time | Paper |  |
|------|-------|--|
| 1030 | 19491 | <b>4-D Geomechanics Modelling for Potential CO<sub>2</sub> Storage Site in Malaysia - Fault Reactivation and Maximum Pressure Injection Limit</b><br>N. Nik Kamaruddin, K. Teng, I.H. Musa, and C. Tan, PETRONAS<br>(Alternate paper in Session 40: CO <sub>2</sub> )  |
| 1330 | 19384 | <b>Measurement of CO<sub>2</sub> Solubility in Pure Water for Temperatures between 313.15 to 473.15 K and Pressure between 0.5 to 200 MPa</b><br>L. Pan and L. Li, China U. of Geosciences; K. Wu, CNOOC Research Inst. Co., Ltd.; X. Wang, China U. of Geosciences; H.C. Lau, National U. of Singapore<br>(Alternate paper in Session 40: CO <sub>2</sub> ) |
|      | *AB   |  |

## PROJECT MANAGEMENT AND FACILITIES

### STATION 40

Tuesday, 26 March

- | Time | Paper |  |
|------|-------|--|
| 1530 | 19083 | <b>Potential and Risk Analysis of Offshore Fractured Light Reservoir</b><br>H. Shi, B. Yue, X. Luo, F. Shi, and B. Xiao, CNOOC<br>(Alternate paper in Session 48: Concept Engineering, Construction, and Commissioning (The 3 Cs)) |

### Wednesday, 27 March

- | Time | Paper |  |
|------|-------|--|
| 1030 | 19189 | <b>Development of Scientific Fundamentals of Control for Physical and Mechanical Soil Properties in the Extreme North Conditions</b><br>V. Burkov and P. Burkov, Tomsk Polytechnic U.; L.K. Altunina, Inst. of Petroleum Chemistry RAS<br>(Alternate paper in Session 48: Concept Engineering, Construction, and Commissioning (The 3 Cs)) |
|      | *AB   |  |
| 1330 | 19153 | <b>Monte Carlo Optimisation for Site Selection of Process Facilities in Oilfields Considering Environment</b><br>B. Wang, Q. Liao, J. Zheng, M. Yuan, H. Zhang, and Y. Liang, China U. of Petroleum, Beijing<br>(Alternate paper in Session 48: Concept Engineering, Construction, and Commissioning (The 3 Cs))                           |
| 1530 | 19246 | <b>A Risk-Effectiveness Design Method for Flare Height of Natural Gas Pipeline System</b><br>X. Wu, C. Li, and W. Jia, Southwest Petroleum U.; J. Mu, Kongsberg Digital AS<br>(Alternate paper in Session 48: Concept Engineering, Construction, and Commissioning (The 3 Cs))   |

### Thursday, 28 March

- | Time | Paper |   |
|------|-------|---|
| 1030 | 19239 | <b>Research on Natural Gas Separation Flow Laws in a New Type of Supersonic Cyclone Separator</b><br>H. Liang, U. of North Dakota and Xi'an Shiyou U.; S. Zhang and Y. Kang, Xi'an Shiyou U.; K. Ling, U. of North Dakota<br>(Alternate paper in Session 24: LNG & GTL)       |
| 1330 | 19335 | <b>Innovative Permanent Down-Hole Scale and Corrosion Monitoring System Using Ultrasound Guided Waves Technology</b><br>A. Saeed, Saudi Aramco; A. Volker, Q. Martina, and E. Giling, TNO<br>(Alternate paper in Session 63: Flow Assurance: Advancements and Best Practices) |
|      | *AB   |   |

## TECHNOLOGIES IN SUSTAINABILITY

### STATION 41

Wednesday, 27 March

- | Time | Paper |   |
|------|-------|---|
| 1030 | 19407 | <b>Is Surfactant Environmentally Safe for Offshore Use and Discharge? An Evaluation Strategy for Chemical EOR Application in Malaysia</b><br>I. Chai and M. M Yusof, PETRONAS Research Sdn. Bhd.; N.B. Hanafiah, PETRONAS Carigali Sdn. Bhd.<br>(Alternate paper in Session 8: Environment & Technologies for Sustainability) |
| 1330 | 19367 | <b>The Potential of Greenhouse Gas Emission During Flowback Process in Weiyuan Shale Production Site, China</b><br>M. Xue, J. Fan, Y. Weng, X. Cui, and X. Li, CNPC Research Inst. of Safety & Environment Technology<br>(Alternate paper in Session 8: Environment & Technologies for Sustainability)                        |



**1530 19559 A Case Study for the First Successful Refracturing on Horizontal Well in Tight Volcanic Gas Reservoir in China**  
W. Wang and H. Guo, PetroChina Co. Ltd.; Y. Huang, Y. Yu, D. Li, Q. Li, and H. Sui, PetroChina Daqing Oilfield Co. Ltd.  
*(Alternate paper in Session 55: Productivity Enhancement through Stimulation: Case Studies)*

**1330 19390 A Multiphase Choke Temperature Model for High-Pressure Gas/Water/Glycol Mixtures**  
W. Jia and F. Yang, Southwest Petroleum U.; J. Mu, Kongsberg Digital AS; T. Cheng and C. Li, Southwest Petroleum U.; Q. Zhang, CNOOC Ltd., Shenzhen Branch  
*(Alternate paper in Session 47: Gas Production Performance)*

**Thursday, 28 March**

**Time Paper**  
**1030 19563 Application of Group Fracturing Technology in the Old Area of Low Permeable Oilfield: A Case from Jilin Oilfield, Songliao Basin**  
J. Xu and C. Zhao, PetroChina Jilin Oilfield Co.; J. Zheng, PetroChina Changqing Oilfield Co.; G. Xuan, PetroChina Jilin Oilfield Co.; R. Zhang and C. Peng, PetroChina Changqing Oilfield Co.; H. Liu, PetroChina Jilin Oilfield Co.  
*(Alternate paper in Session 55: Productivity Enhancement through Stimulation: Case Studies)*

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