

## Technical Papers

### Bridging & Lost Circulation

Session Chairs: [John Treney \(Chevron\)](#) and [Matt Offenbacher \(AES Fluids\)](#)

AADE-20-FTCE-046

#### Sub-Micron Deformable Polymer Imparts Stability Improvement in Offshore Shale Sections

Iain Maley and Hesham El Dakrouy, Baker Hughes

AADE-20-FTCE-062

#### A Pragmatic Approach to Lost Circulation Treatments: What Every Drilling Engineer Should Know

Paul Scott, Mike Redburn, and Gunvald Nesheim, ConocoPhillips

AADE-20-FTCE-116

#### Lost Circulation Planning: What to Do When Rock Properties Change

Matthew Kratzer and Scott Thomassen, Newpark; Mary Anne Ewanek

### Cement & Zonal Isolation

Session Chairs: [Cory Arceneaux \(Chevron\)](#) and [Paul Jones \(Halliburton\)](#)

AADE-20-FTCE-023

#### Evaluation of Cement-Conveyed Stimulation Technology in Horizontal Wellbores

Petr Kolchanov, Dominic V. Perroni, Anatoly Medvedev, Justin Roye, and Dirk Valstar, Schlumberger; Delvina Oelkers, Montage Resources

AADE-20-FTCE-072

#### Hybrid Foam Cementing: The Answer to Powder River Basin Cement Tops?

Matthew Hudson and Elizabeth Sones, EXERO Well Integrity

AADE-20-FTCE-077

#### A Novel Approach to Foam Cement

Allen Kelley, Cornell Stanciu, Kristina Fontenot, and Jorge Fernandez, Sasol

AADE-20-FTCE-091

#### Increasing Primary Cement Job Efficiencies

Amy Farrar and Juan Carlos Mondelli, Frank's International; Sam Bond-Zielinski and Kyle Bradford – Operators

### Completion & Drill-In Fluids

Session Chairs: [Leigh Gray \(Newpark\)](#) and [Balakrishnan Panamarathupalayam \(M-I SWACO\)](#)

AADE-20-FTCE-048

#### Novel Invert Emulsion Gravel-Pack Carrier Fluid for Open Hole Alternate Path Gravel Packs

Changping Sui, Hui (Joyce) Zhang, Chidi Nwafor, Bala Gadiyar, Nirupama Vaidya, Juan-Carlos Santamaria, and Valerie Lafitte, Schlumberger

AADE-20-FTCE-087

#### High Temperature Acid Precursor as Filter Cake Clean-up Fluid

Tint Htoo Aung, Clotaire-Marie Eyaa Allogo, Bala Gadiyar, Ray Ravitz, and Solomon King'ori, M-I SWACO

AADE-20-FTCE-099

#### Optimized Reservoir Drill-In Fluid and Breaker System Design focused on Maximizing Productivity in Open-Hole Completions

Leigh Gray, Lucio Bussaglia, Chris Detiveaux, Ryan Riker, and Andrew DeFrees, Newpark ; Ralph Harris and Ian McKay, Cleansorb

AADE-20-FTCE-100

**Field Implementation and Lessons Learned Regarding Novel Biopolymer-Free Water-Based Reservoir Drilling Fluid in the Gulf of Mexico**

Albert Okhrimenko, Edward Derkach, Caitlin Reilly, Matthew Thierens, Cedric Manzoleloua, and Josemaurys Mendoza, M-I SWACO

**Completion Fluids & Spacers**

Session Chairs: [Tatiana Conn and Chau Nguyen \(M-I SWACO\)](#)

AADE-20-FTCE-026

**Engineered Offshore Displacements: Description, Tools, and Field Results**

John McCormick and Shuai Wang, Pegasus Vertex; Ryan Riker, Gene Chabaud, Chris Detiveaux, Leigh Gray, and Andrew DeFrees, Newpark

AADE-20-FTCE-030

**Novel Free-Flowing Powdered Surfactant Composites Designed for Cement Spacer Applications**

Ahmed Shahin, Jeff McKellar, and Craig Convey, Di-Corp

AADE-20-FTCE-039

**Predicting Downhole Filter Cake Breaker Delay Time in Open Hole Completions**

Vítor Lopes Pereira and Larry Deen, Halliburton; Robert Shirley, Texas A&M University

AADE-20-FTCE-098

**Excellence Demonstrated on a Collaborative Team Approach to Deepwater GOM Completion Fluid Operations**

Chris Detiveaux, Leigh Gray, Matt Kratzer, Gene Chabaud, Sam Smith, Ryan Riker, and Andrew DeFrees, Newpark

**Data & Analytics**

Session Chairs: [Giewee Hammond \(Aramco\)](#) and [Mario Bouguetta \(M-I SWACO\)](#)

AADE-20-FTCE-014

**Drilling Fluid Reporting: From Data to Insight**

Yuan Yao and Zhibin Sun, Pegasus Vertex; Chuck Light, Valence Drilling Fluids

AADE-20-FTCE-032

**A Data Analytics Platform Dedicated to Drilling Fluids**

Charles Welker, Matt Offenbacher, Michael Snell, and Mike Provada, AES Drilling Fluids

AADE-20-FTCE-083

**Monitoring and Management of Corrosion Rates in Water-Based Drilling Fluid Systems**

Garett Heath, Travis Vordick, Temi Okesanya, Steph Kunneke, and Jesse Hubbard, Newpark

AADE-20-FTCE-086

**Digital Drilling Fluids and Lab Automation Lead to Optimal Deepwater Drilling Solutions**

Dimitri Khramov, Daria Khvostichenko, Ken Slater, John Troncoso, and Damian Vickers, M-I SWACO

**Density Management**

Session Chairs: [Paul Scott \(ConocoPhillips\)](#) and [Jim Friedheim \(M-I SWACO\)](#)

AADE-20-FTCE-041

**An Experimental Investigation of Kicks When Gases Are in Solution: The Dormant Kick Story**

C. Teodoriu, O. Bello, S. Infanti, M. Bull, H. Hernandez, E. Solimano, N. Kreimeier, University of Oklahoma

AADE-20-FTCE-078

**Arrested Phase Separation and Gel Collapse in Oil-Continuous Drilling Fluids: A Route to Barite Sag**

Andrew Clarke, Louise Bailey, and Elizabeth Jamie, Schlumberger Cambridge Research

AADE-20-FTCE-110

**A Next-Generation Low-ECD Nonaqueous Fluid System: Helping Deliver Sakhalin Energy's First Extended Reach Drilling Campaign**

Daniel Appelt, Manish Kumar, Andrey Matveev, and Malcolm Burns, Sakhalin Energy; Ramy Mahrous, Rustem Sagiroy, and Anton Kurbatov, Halliburton

**Drilling Fluids**

Session Chairs: [Abdulaiziz A Ba Hamdan \(Aramco\)](#) and [Jim Friedheim \(M-I SWACO\)](#)

AADE-20-FTCE-025

**Zinc Ammonium Carbonate for Controlling Hydrogen Sulfide Gas During Drilling**

Christopher Cornetto and Richard Bennett, BYK USA

AADE-20-FTCE-031

**Absorption Kinetics of Gas Influxes into Nonaqueous Fluids During Riser Gas Handling Events**

Scott Perry, Chen Wei, and Yuanhang Chen, Louisiana State University

AADE-20-FTCE-070

**Prediction of the Rate of Penetration (ROP): Comparison Between Nineteen Machine Learning Algorithms**

Husam Alkinani, Abo Al-Hameedi, and Shari Dunn-Norman, Missouri University of Science and Technology

AADE-20-FTCE-097

**Dynamic Settling - A New Technology of Mechanical Solids Separation for Enhanced ECD Control**

Bas van Oudorp, Martijn van den Berg, and Peter Boerma, Evodos

**Emerging Technologies**

Session Chairs: [Saad Maraqa \(Omnova\)](#) and [Saleh Alhaidari \(Colorado School of Mines\)](#)

AADE-20-FTCE-012

**Robust Invert Emulsifier and Fluid Loss Performance from a Novel Spray-Dried Additive**

Jennifer Henry, Shadaab Maghrabi, Aaron Engel, and Thomas Sisson, Ingevity

AADE-20-FTCE-021

**New Treatment Reduces Direct Emulsion Drilling Fluid Cost by Recycling System Components, Minimizing Dilution**

Andrew Hewett, Matt Offenbacher, Mike Heverly, and DeAndre Palmer, AES Drilling Fluids

AADE-20-FTCE-027

**Controlling Flow After Cementing**

David Kulakofsky and Francisco Bermudez, Impact Fluid Solutions; Giddo A. Ocaña Gómez, Superior Energy Services

AADE-20-FTCE-028

**New Polymer Chemistry Water-Based Drilling Fluid Performance Exceeds Baseline Drilling Metrics in the Delaware Basin**

Curt Jones, Kaiser Francis Oil; Michael S. Davis and Ryan Shursen, Newpark

**Focus on Emulsifiers**

Session Chairs: [Greg Perez \(Newpark\)](#) and [Jay Deville \(Halliburton\)](#)

AADE-20-FTCE-036

**Low ECD, Sag-Resistant, Non-Damaging, Barite-Free Invert Emulsion Reservoir Drill-In Fluid Comprising Novel Weighting, Emulsifier and Filtration Control Additives**

Shadaab Maghrabi, Paige Waggy, Aaron S. Engel, and Thomas Sisson, Ingevity

AADE-20-FTCE-074

**Dynamic Imaging Analysis for Drilling Mud Profiling**

Tod Canty, Ciarán Dunne, and Colin Dalton, JM Canty

AADE-20-FTCE-076

**Organo-Clay-Free Non-Aqueous Fluid Provided Better Solution Creation and Problem Resolution**

Tulio Olivares and Hugo Osorio, Saudi Aramco; Marwan Moneam, Mohamed Nagaty, and Ahmed Fares, Halliburton

AADE-20-FTCE-085

**Designing Advanced Emulsifiers for High-Performance Synthetic Fluids: From Drawing Board to the Challenging Wells**

Dimitri Khramov, Daria Khvostichenko, Albert Okhrimenko, and Damian Vickers, M-I SWACO; Evgeny Barmatov, Schlumberger Cambridge Research

**Focus on Lubricity**

Session Chairs: [Mike Redburn \(ConocoPhillips\)](#) and [David Breeden \(Breeden Mud Consulting\)](#)

AADE-20-FTCE-005

**Enhanced Dynamic Lubricity Testing and Drilling Simulation Under Downhole Conditions to Characterize and Differentiate Drilling ROP Enhancers and Lubricants**

Burhan Hoxha, Janine Shipman, Meng Lu, and Fuchen Liu, CNPC-USA; Yonggui Liu, Tao Song, and Jie Hou, Daqing Drilling Company; Frank Bi, Grace Instruments

AADE-20-FTCE-013

**Leveraging the Continuous Improvement Cycle to Deliver Improved Drilling Performance in Tertiary and Cretaceous Lithology**

Jibreel Hussain & Franklin Valbuena, Baker Hughes

AADE-20-FTCE-029

**The Effect of Contact Surfaces on the Lubricity of Brine and Water-Based Drilling Fluid**

Junhao Zhou and Shawn Lu, QMax; Christof D'Hont and Michel Janssen, Oleon

AADE-20-FTCE-101

**Laboratory and Field Study of a Nanoparticle Lubricant in Aqueous Drilling Fluids in the Bakken formation of North Dakota**

Jeffrey Forsyth, Alex Borisov, and Hai Wang, nFluids; Carl Lacombe, Oren Haydel, and Sloan Spears, NOV

**Fracturing Fluids**

Session Chairs: [Paul Carman \(ConocoPhillips\)](#) and [Kimberly Lant \(Baker Hughes\)](#)

AADE-20-FTCE-020

**Horizontal Openhole Completion Techniques Revitalize Fields on the Texas Gulf Coast**

Richard Toomes, Andrew Hewett, and Matthew Offenbacher, AES Drilling Fluids

AADE-20-FTCE-114

**Laboratory Evaluation of Peroxides for Degrading Polyacrylamide as Used in Fracturing Suspensions and Solids-Free Systems**

Edward Derkach, M-I SWACO; Shauna Hayden, Kim Tresco, Leslie Escobar, and Mark Luyster, TBC-Brinadd

**Hydraulics & Rheology**

Session Chairs: [Neil Trotter \(Chevron\)](#) and [Michael Otto \(Baker Hughes\)](#)

AADE-20-FTCE-106

**Enhanced Hole Cleaning and Suspension with Reduced Rheology**

Damian Vickers, Mike Williford, Weiqing Huang, Steve Cliffe, Juan Pablo Jaimes and Wenqiang Zeng, M-I SWACO

AADE-20-FTCE-107

**Next Generation Flat Rheology Fluid Unlocks a New Dimension in Drilling Operations**

Damian Vickers, Mike Williford, Weiqing Huang, Steve Cliffe, Juan Pablo Jaimes and Wenqiang Zeng, M-I SWACO

AADE-20-FTCE-109

**Transient Pressure Behavior in Wellbores due to Fluid Gelation**

Osman K. Gunes and Evren Ozbayoglu, University of Tulsa

## Produced Water / Brine

Session Chairs: Dean Fanguy (Tetra) and Nils Kageson-Loe (SPE)

AADE-20-FTCE-011

### Optimizing Fluid Compatibility in Produced Waters

Tanhee Galindo, GeoKimika Oil & Gas

AADE-20-FTCE-024

### A Comprehensive Fluids Engineering Approach to Deep Devonian SWDs Reduces Cost

Montana Farnum, Kevin Reed, and Matt Offenbacher, AES Drilling Fluids; Trevor Smith and Hannah Golike, Integrated Petroleum Technologies; Alexandra Price, University of Texas Permian Basin

AADE-20-FTCE-035

### A Technical Review of Solids Free Brine-Based Drilling Fluids

Stuart Dubberley and Steve Magill, Secure Energy Services

## Testing & Test Equipment

Session Chairs: Brent Estes (Chevron) and Kim Burrows (Halliburton)

AADE-20-FTCE-063

### Laboratory Study of Using Temperature Activated Epoxy Resin Sealant for Wellbore Integrity Applications: Rheology and Plugging Performance

Mohammed Alkhamis and Abdulmohsin Imqam, Missouri University of Science and Technology

AADE-20-FTCE-104

### Top 5 Recent Learnings in Drilling Fluids Laboratory Testing – Building Upon the Guidelines of API RP 13 and Other Industry Recognized Procedures

Mario Bouguetta, Esmeraldo Jimbi, Juan Pablo Jaimes, Seth Croy, and Andrew Beggs, M-I SWACO

AADE-20-FTCE-111

### Field Operations Results and Experience with Inline Drilling Fluid Property Measurement

Zafar Kamal, Richard Frazier, Doanh Ho, and Lauren Miller, OFI Testing Equipment; Paul Scott, ConocoPhillips; Pradipto Bhattacharya, Rheology Solutions

## ALTERNATES

Session Chairs: Lindsay Fraser (retired) and John Estrada (Enovate Corp)

AADE-20-FTCE-003

### Overview of US Environmental Regulations pertaining to air quality; Implementation and Impact on the Environment and Industry

Janine Shipman and Fuchen Liu, CNPC-USA; Andra Wilcox, HARC; Richard Haut, RPSEA; Bo Yuan and Anqi Liu, RISE

AADE-20-FTCE-016

### Foam Stability in Inclined Wells

Abhishek Govindu, Ramadan Ahmed, and Subhash Shah, University of Oklahoma; Mahmood Amani, Texas A&M University at Qatar

AADE-20-FTCE-049

### Various Case Histories to Assess the Effects of Clotting and Hydrolysis on the Drilling Operations

Abo Al-Hameedi, Husam Alkinani, and Shari Dunn-Norman, Missouri University of Science and Technology

AADE-20-FTCE-057

### Reducing the Bentonite Consumption in the Surface Hole Using Food Waste Products

Abo Al-Hameedi, Husam Alkinani, and Shari Dunn-Norman, Missouri University of Science and Technology

AADE-20-FTCE-095

### Can Efficient Wellbore Hydraulics Optimization Help Reduce CO2 Emissions?

Mark S. Ramsey, Ramsey Oil and Gas

AADE-20-FTCE-118

**Application of Precipitating Aluminum Complex Drilling Fluids in Problematic Geological Formations**

Bez Hoxha, Stephen Bruce, Mike Otto, Aaron Gobe, and Dennis Clapper; Baker Hughes

**Student Poster Papers**

Student Organizers: [Jessica Ramirez \(Tetra\)](#) and [John Estrada \(Enovate Corp\)](#)

AADE-20-FTCE-SPP-02

**The Feasibility of Using Green Olive Pits' Powder (GOPP) as a Bio-Enhancing Additive in Water-Based Drilling Fluids**

Abo Al-Hameedi, Husam Alkinani, and [Zahra Hamoud](#), Missouri University of Science and Technology

AADE-20-FTCE-SPP-08

**CFD Approach to Investigate the Effect of Mud Rheology on Cuttings Removal in Horizontal Wells**

[Mohamed Khaled](#) and Rashid Hasan, Texas A&M University; Mohammad Rahman and Ibrahim Hassan, Texas A&M University at Qatar; Priyank Maheshwari, Total Research Center – Qatar

AADE-20-FTCE-SPP-09

**Improving Cement Wellbore Integrity with Fiber Hybridization: Based on Response Surface Methodology**

[Phillip McElroy](#), Hossein Emadi, Marshall Watson, and Habib Menouar; Texas Tech University

AADE-20-FTCE-SPP-10

**Controlling Water Blockage Using Surfactant Into Fracturing Fluid: Optimum Interfacial Tension and Wettability Criteria**

[Nur Wijaya](#) and James J. Sheng, Texas Tech University