Managed Pressure Drilling – Collaboration Towards Excellent Applications and Solutions

13 – 14 JANUARY 2020 | PULLMAN KUALA LUMPUR CITY CENTRE HOTEL AND RESIDENCE, MALAYSIA

This workshop is an exclusive platform for industry practitioners to share their latest experiences in Managed Pressure Drilling (MPD) and to learn from each other on improving all aspects of MPD; from initial contracting, equipment standards, supply issues, technology developments, and operational and staffing challenges in a recovering oil market. The workshop aims not only to address the common issues affecting operators, drilling contractors, and service providers, but also to identify and discuss the differing challenges each group may be currently facing.

The workshop is aimed at operators who are drilling or planning to drill MPD wells, service companies who provide MPD service offerings, and drilling contractors whose rigs may be expected to be ‘MPD capable’ prior to or during contract initiation. At the same time, the workshop may enable host drilling authorities to gain a better understanding of the MPD challenges and opportunities provided by today’s technology offerings. In addition, for subsurface specialists, this workshop will provide an opportunity to discuss concerns and challenges in regards to data acquisition in narrow margin wells or wells suffering total losses, to gain better definition and understanding of such reservoirs.

The intention is to cover all types of MPD technologies during the course of the workshop, including Constant Bottom Hole Pressure (CBHP), Pressurised Mud Cap Drilling (PMCD), Under Balanced Drilling (UBD) and Continuous Circulation (CC).

**Session Highlights**

- Personnel Competence and Training in Regards to MPD
- New Development in MPD Technologies
- MPD Capable Rigs
- Deepwater Managed Pressure Drilling
  - Managing Process Safety with MPD
  - Multiphase Under Balanced Drilling (UBD) and Managed Pressure Drilling (MPD) Technologies
- Advancement in Techniques for Managing Bottom Hole Pressure

**Who Should Attend**

Professionals involved in:
- Deepwater Drilling
- Drilling and Completions
- Drilling Contractors
- Drilling Fluids and Cementing
- Drilling Optimisation
- Field Development
- High Pressure High Temperature Drilling
- Narrow Margin Drilling
- Petrophysics
- Reservoir Engineering
- Service Providers
- Subsurface

**Technical Programme Committee**

**CO-CHAIRS**

- Jumasri Terimo
  - Head of Wells - Malaysia
  - PETRONAS Carigali Sdn Bhd
- Mark Arathoon
  - MPD SME - Global Wells
  - PETRONAS Carigali Sdn Bhd
- Noor Azree Nordin
  - Wells Business Excellence Lead
  - Sarawak Shell Berhad

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- Boudewijn Daniel Zwager
  - Region Manager APAC
  - Air Drilling Associates (ADA)
- Rudy Schipper
  - Vice President International Business Development
  - Beyond Energy Services & Technology
- Rachel Johnson
  - Business Segment Manager - Southeast Asia
  - Halliburton
- James Parr
  - MPD Advisor
  - HESS
- Martin Cullen
  - Chief Commercial Officer
  - Kelda Drilling Controls
- Steve Nas
  - Well Engineering Consultant
  - Deepwater MPD Advisor
  - Olango Consulting Ltd
- Looi Lai Kheng
  - SME Rig
  - PETRONAS Carigali Sdn Bhd
- Yap Yun Thiam
  - Principal Well Engineering
  - PETRONAS Carigali Sdn Bhd
- Ahmad Hakam Abdul Razak
  - Senior Staff Drilling Engineer
  - PTTEP Sarawak Oil Limited
- Mak Oong Yan
  - Senior Manager - Asset
  - Velesto Energy
- Charles Bonaventure
  - Account Manager Lead / Director
  - Weatherford
- Scott Bremner
  - Technical Sales Manager – Asia
  - Weatherford
- Tom K. Askeland
  - Manager Sales & Business Development
  - Wellis MPCD

**WORKSHOP ADVISOR**

- Malik Faisal Abdullah
  - Head Well Engineering – Wells Department
  - Centre of Excellence
  - PETRONAS Carigali Sdn Bhd
  - Member, SPE Asia Pacific Regional Technical Advisory Committee
Workshop Objectives
The goal of this workshop is to gather end-users, together with regional and global industry experts to discuss and share knowledge, in order to enhance best practices for safer and more efficient MPD execution. This will help deliver cost-effective MPD wells, with enhanced planning and increasing levels of automation. Early identification and risk assessment of new applications in MPD technology will be key to integrating them safely throughout the well delivery process.

WORKSHOP STATISTICS

10+ hours of peer-to-peer networking opportunities
30+ hours of knowledge sharing and technical discussion
30 expert-led technical discussion topics

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Technical Programme Preview

MONDAY, 13 JANUARY 2020
0800 – 0850 Arrival of Delegates and Registration
0850 – 0900 Safety Announcement by Hotel
0900 – 1000 Session 1: Welcome and Introduction
Co-Chairs: Jumasri Terimo, PETRONAS Carigali Sdn Bhd; Mark Arathoon, PETRONAS Carigali Sdn Bhd; Noor Azree Nordin, Sarawak Shell Berhad
1000 – 1030 Group Photo / Coffee and Tea Break
1030 – 1230 Session 2: Panel Session - Personnel Competence and Training
Session Managers: Mark Arathoon, PETRONAS Carigali Sdn Bhd; James Parr, HESS
Session Moderator: Mark Arathoon, PETRONAS Carigali Sdn Bhd
This session will focus on the capability and competency of MPD personnel, and the effect this has on the safety and efficiency of MPD operations and ultimately on the overall outcome of the wells being delivered. Looking at the challenges of a recovering oil and gas market, the panel will seek insights on how organisations are managing their talent pools, especially with the introduction of new technology to the field. Another key area for discussion will be advancements in specialist training methods and systems, to ensure field personnel are knowledgeable, skilled and ready to deliver the promise of efficient and safe MPD operations.
1230 – 1330 Networking Luncheon
1330 – 1530 Session 3: New Development in MPD Technologies
Session Managers: Tom K. Askeland, Wellis MPCD; Rudy Schipper, Beyond Energy
Services & Technology
Over recent years, the MPD sector has been through a period of continuous development with respect to the Rotating Control Device (RCD), Continuous Circulation Systems (CCS), Automated Back Pressure Management (ABPM), and Hydraulics Modelling Software (HMS). This session will present some of the latest improvements in these technologies, including case histories of successful implementation. It will also highlight new innovations in RCD technology that have challenged the traditional designs, resulting in step-changes in safety and operational performance. The latest developments in CCS and HMS will also be showcased and discussed.
Key areas that will be discussed during this session:
• Improvement in seal technology and bearing design - challenging the industry “normal” to deliver breakthrough performance
• Non rotating RCD options and simplification of RCD components
• Seal performance monitoring - ensuring barrier integrity
• RCD systems for dry (above tension ring) and wet (below tension ring) risers
• Latest developments and experiences in CCS
• Fit-for-purpose HMS
1530 – 1545 Coffee and Tea Break
1545 – 1745 Session 4: MPD Capable Rigs
Session Managers: Looi Lai Kheng, PETRONAS Carigali Sdn Bhd; Mak Oong Yan, Velesto Energy
The technological advancements in MPD enable us to drill and explore more complex subsurface objectives; however, the inevitable shift in investing in more MPD capable rigs is a challenge to the industry. This bears the question: What does a MPD “capable” rig mean to operators as well as the drilling contractors? This session will cover fit-for-purpose MPD capable rigs, as well as issues faced by operators.

POSTER SOLICITATION & INFORMATION

All participants are encouraged to prepare a poster for the Workshop. Presentations on both research and field experience are welcomed. Posters, including unconfirmed / partial results, are to be presented at an assigned time and are open for discussion. Posters will be on display for the entire Workshop period.

When preparing your poster:
• Avoid commercialism. No mention of trademarks / product name
• Poster size should be approximately 0.8m x 1.2m (W x H) or size A0 in portrait layout
• Identify topic by title, affiliation, address, and phone number
• Include a brief abstract that summarises the technology to be addressed
• Make the display as self-explanatory as possible
• Place the information in sequence: beginning with the main idea or problem, method used, results, etc. (Draw a plan keeping the size and number of illustrations in mind)
• Keep illustrations simple by using charts, graphs, drawings, and pictures to create interest and visually explain a point
• Use contrasting colours
• Use large print for narrative materials. (We suggest a minimum of 24 points or 3“ high letters for the title)

*Note that the Workshop Programme Committee will review all poster abstracts / materials prior to display, and reserves the right to refuse permission to display any poster considered to be commercial in nature. If you are interested to participate, please email your proposed topic with a short abstract (between 200-300 words) to Gregg Parker at gparkar@spe.org by 18 October 2019.

The Society of Petroleum Engineers (SPE) is a not-for-profit organisation. Income from this event will be invested back into SPE to support many other Society programmes. When you attend an SPE event, you help provide even more opportunities for industry professionals to enhance their technical and professional competence. Scholarships, certification, the Distinguished Lecturer programmes, and SPE’s energy education programmes Energy4me are just a few examples of programmes that are supported by SPE.
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Session 5: Deepwater Managed Pressure Drilling

Session Manager: Steve Nas, Olando Consulting Ltd; Charles Bonaventure, Weatherford; Scott Bremner, Weatherford.

This session will focus on how IME and related approaches are being used on current MPD projects, and the session will discuss: An overview of the IME approach; The thin line between yellow and red: Understanding personnel interfaces when an influx is determined too large to be handled by the primary barrier equipment; Influx management training; Case histories from projects across the globe on the use of tools like the Influx Management Envelope (IME). The IME is a detailed graphical representation of post-influx suppression, influx volume and influx intensity; an approach which is being widely adopted by the drilling industry.

Session 6: Panel Session - Managing Process Safety with MPD

Session Managers: Steve Nas, Olando Consulting Ltd; Martin Culen, Kelda Drilling Controls.

MPD systems enhance a rig’s primary barrier envelope and consequently improve drilling safety. Influx detection and control algorithms have recently been augmented with the primary barrier influx circulation methodology through the use of tools like the Influx Management Envelope (IME). The IME is a detailed graphical representation of post-influx suppression, influx volume and influx intensity; an approach which is being widely adopted by the drilling industry.

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Session 7: Multiphase Under Balanced Drilling (UBD) and Managed Pressure Drilling (MPD) Technologies

Session Manager: Boudewijn Daniel Zwager, Air Drilling Associates (ADA); Rachel Johnson, Halliburton.

This session will focus on the latest developments, applications and case studies of drilling technologies in the 2-phase MPD market in Asia Pacific. These are:

- Under Balanced Drilling (UBD)
  - New advances/developments in 2-phase UBD procedures
  - Technical and equipment design and implementation
  - Cost-effectiveness of UBD application in the bearish oil market
  - Recent UBD operations/case studies for both onshore and offshore

- Managed Pressure Drilling (MPD)
  - Automated bottom hole pressure control and hydraulic modelling in 2-phase MPD drilling
  - Low head pressure drilling developments
  - Recent 2-phase MPD operations/case studies, for both onshore and offshore

1100 – 1115 Coffee and Tea Break

An update on IADC and API adoption of the methodology

Session 8: Advancement in Techniques for Managing Bottom Hole Pressure

Session Manager: Yap Yun Thiam, PETRONAS Carigali Sdn Bhd; Ahmad Hakam Abdul Razak, PTTPE Sarawak Oil Limited

This session will focus on how the MPD/Pressurised Mud Cap Drilling (PMCD) technology has expanded and advanced into various applications beyond the application of managing bottom hole pressure in the old days. The experiences and lessons learnt from previous MPD/PMCD methods, gained over the past few decades, have now increased the level of confidence in our industry.

MPD has now evolved into a new era that was previously not possible in the past, thanks to new technologies. Some of the most recent technology advancements in MPD techniques for managing challenging bottom hole pressures include static underbalanced mud weight applications, circulating out-kick with the MPD system, managed pressure cementing, dual gradient drilling, MPD for wellbore instability/stuck pipe prevention scenarios and drilling severely depleted reservoirs.

PMCD is another variation of MPD which involves drilling with no return to surface using a sacrificial drilling fluid (normally seawater) and a light annular mud with surface pressure above, for drilling formations suffering total losses, and therefore capable of accepting fluids and cuttings. Various applications of PMCD and its advancement in this region, especially in carbonate and basement drilling, will be discussed in this session.

1115 – 1315 Session: 8: Advancement in Techniques for Managing Bottom Hole Pressure

1315 – 1415 Networking Luncheon

1415 – 1615 Session: 7: Multiphase Under Balanced Drilling (UBD) and Managed Pressure Drilling (MPD) Technologies

1615 – 1630 Coffee Break

1630 – 1700 Session: 9: Workshop Summary and Closing Remarks

SPE and the participants are advised to book their airline tickets early. All attendees must be in possession of passports valid for at least six (6) months with proof of onward passage. Contact your local travel agent for information on visa requirements.

DRESS CODE

Business casual clothing is recommended. The Workshop atmosphere is informal.

REGISTRATION FEES

- Registration fee ONLY includes all workshop sessions, coffee breaks and luncheons for the registrant.
- Accommodation is NOT included. Full fixed fee is charged regardless of the length of time the registrant attends the Workshop, and cannot be prorated or reduced for anyone.

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