

Program topics, speakers and schedules listed herein are confirmed as at printing time. Please refer to the event's Latest Schedule at <http://www.cmtevents.com/eventschedule.aspx?ev=091112&> for most up-to-date details.

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*2 day workshop on*

# CBM

## Production Techniques

**5-6 November 2009**  
**Le Meridian Jakarta | Indonesia**



Photo courtesy of US Geological Survey

*Limited Attendance, please register early...*

Dear Participants,

Find out how coalbed methane (CBM) expands and strengthens your unconventional and coalmine gas portfolios.

CBM prospecting methods begin with modeling properties of coal basins in comparison to productive fields in the United States (U.S.), which has produced CBM up to 8 percent of the Nation's gas production. These CBM properties are origin of CBM, coal rank and depths, coal gas content, permeability, gas and water production, and well completion and water extraction.

Initially, we assess CBM along with historical active coal mine and abandoned mine gas, and implement drilling, coring, testing for gas content and reservoir gas storage capacity, and coal/CBM reserves assessment methodologies. Next, we integrate these assessments to determine production forecasting and feasibility of development. To this end, we will consider CBM reservoir properties (e.g., permeability and porosity) along with ability of coal to flow gas by dewatering reservoirs from completed pilot CBM wells. Best management plans of CBM produced water are presented that are environmentally acceptable and economically feasible. The workshop concludes with optimal CBM development criteria and plausible economic scenarios. Attend and learn about a revolutionary unconventional energy source. We look forward to meeting you at the workshop.

Sincerely



## Day 1 - Thursday, 5 November

### Assessing CBM and Managing Co-Produced Water Resources

Conducted by **Dr Romeo Flores – CBM Expert**

- 9:00 **CBM Basics and U.S. Models**
- Overview types and origin of CBM
  - Impact of conflicting ownership of CBM between coal and gas industries in U.S.
  - Review U.S. CBM models producing from various coal rank and compare field properties
  - Geological and hydrological factors relevant to CBM assessment
- 10:30 Questions followed by Coffee
- 11:00 **Methodologies of CBM Assessment**
- Coring methods for assessing coal reservoir properties and gas volume
  - Gas content measurement using direct and indirect methods for assessing gas-in-place resources
  - High-pressure methane adsorption method for assessing gas holding capacity and saturation of coal reservoir
  - CBM resource assessment (estimation) methodology without and with CBM production wells (gas-in place versus estimate of ultimate recovery or EUR)
  - CBM reservoir properties
  - Two-phase gas and water flow with dewatering CBM wells
- 12:00 Discussions followed by Lunch
- 14:00 **B. Methods of Managing CBM Co-Produced Water**
- Assessing the significance of the volume of co-produced water from producing CBM wells

- Analyzing the quality and classification of co-produced water
- Impact of environmental regulations of co-produced water to CBM development and well spacing
- Methods of surface and subsurface disposal of co-produced water: pros and cons, as well as economically viable alternatives of disposal
- Concerns and issues relating to management of co-produced water

15:00 Discussion followed by Tea

16:00 **C. Summary: Why it is Necessary to Dewater (Co-Produced Water) to Produce Unconventional Gas Like CBM!**  
Project Sharing Experiences among delegates

17:00 End of Day 1

## Day 2 - Friday, 6 November

9:00am to 12:30pm

### Effective Methods Of CBM Drilling & Completion

Conducted by **Doug Henderson**

CBM Drilling and Completion methods of successful coal seam methane projects vary widely. It is important to understand the pros and cons of the different techniques in order to select the best procedures. This course discusses how to drill and complete CBM wells.

Specific topics to be covered

- **Basics of a Successful Gas Drainage or Production Drilling Program**

- Well Planning
- Suitable Rigs
- Drilling Practices
- Vertical Drilling
- Horizontal Directional Drilling
- Lateral and Multilateral Drilling
- Completion Types and Design
- Completion Treatments (Job Pumping)
- How to apply these Technologies Including Recent Case Studies on How Horizontal/Directional Drilling has Improved Production Potential

12:30 Discussion followed by Lunch

14:00 Close of Conference

#### **Who Should Attend**

Geologists (coal and petroleum), surveyors, petroleum engineers, hydrologists (surface and subsurface), coal miners and operators, drillers, planning & co-ordination managers, exploration managers, operations directors and country managers, consultants (minerals, hydrocarbons) government officials, academicians, environmentalists (surface and subsurface,) carbon traders, and general public who want to know about CBM.

### **Key Benefits of attending**

- Weigh potential for and problems of developing CBM as part of the national energy mix
- Improve assessment techniques for CBM resources and integrate these assessments to determine production forecasting and feasibility of development
- Evaluate the geological, geochemical composition of the coal and how these factors relate to gas content, composition, distribution, recoverability
- Assess the environmental implications of developing this resource and help plan for disposal of co-produced water
- Learn about the pros & cons of each different drilling technique and select the best drilling, completion and stimulation method for coalbed methane reservoirs procedure



**ROMEO M. FLORES** works with the US Geological Survey and has over 35 years of experience in coalbed methane (CBM), coal geology, and reservoir/resource assessments in the USA from Rocky Mountains, Great Plains, and Alaska with emphasis on origin of CBM in the Powder River Basin, home to one of the world's largest sources of CBM. He received his BS at University of the Philippines, MSc at University of Tulsa, and PhD at Louisiana State University. He authored 250 abstracts, 315 articles/reports and edited 15 special publications/books.

Dr. Flores conducted CBM lectures and workshops in Australia, Canada, Chile, Colombia, Indonesia, New Zealand, Norway, Philippines, and United States. Dr. Flores provides official intergovernmental consultation and technology transfer to assess CBM in Colombia and the Philippines.



#### **DOUG HENDERSON**

Manager Engineering Services  
Lucas Drilling Services

Doug has extensive experience in directional drilling guidance techniques and systems, electronic systems, design installation, fault diagnosis and repair, marketing and sales, operations and R&D. His knowledge spans drilling operational systems, satellite systems, telecommunications, electrical, industrial products, and computer services.

Doug has been responsible for the Engineering Services department of Lucas Drilling Services since 2005, supervising the engineering team who design, survey and steer directional drilling project boreholes for Lucas operations. He has overseen significant upgrades to engineering capability and operational support mechanisms for the division's continuing growth.

# CBM

## Production Techniques

5-6 Nov 09 | Jakarta, Indonesia



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A Certificate of Completion will be awarded upon successful completion of each course. This serves as evidence of your personal and professional commitment to your career.

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CMT'S UPCOMING EVENTS

## 12<sup>th</sup> VOGP 2009

HO CHI MINH CITY | 28-29 OCTOBER

*"Increased Opportunities with Shift in Policies & Production for Energy Security"*

#### Focus on:

- Strategic planning beyond 2015 for the O&G sectors
- Analysis of the revised Petroleum Law & impact on PSC
- Prospects in CBM to meet Vietnam's energy mix
- Structure of gas market, price & distribution network
- Viability of petrochemical investments in Vietnam
- Plans to develop a competitive power retail market

## 4<sup>th</sup> LPGtrade Summit

DOHA, QATAR | 9-11 NOVEMBER 2009

*Held under the patronage and to be officially opened by*

**HE Abdullah Bin Hamad Al-Attiyah**

Deputy Premier & Minister of Energy & Industry

4th LPGtrade Summit will take you through discussions in:

- Challenging global economic climate and its impacts on LPG in production and imports
- Outlook on LPG export capacity arising from Middle East and Africa
- Perspective on demand from traditional and emerging import markets
- Trade flow, freight rates and market situation of LPG shipping
- Contemporary challenges of LPG marketing, trading and logistics

**CUSTOMISED SPONSORSHIP PACKAGES AVAILABLE** - This event is an excellent platform to promote your organisation to influential players and investors in the industry. Sponsorship opportunities available include Corporate, Exclusive Luncheon, Cocktail & Documentation sponsor. Exhibition / catalogue display can be arranged upon request. Contact [cynthia@cmtp.com.sg](mailto:cynthia@cmtp.com.sg) or (65) 6346 9132.

### HOW TO REGISTER

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**BBy Email:** [sasha@cmtp.com.sg](mailto:sasha@cmtp.com.sg)  
**By Fax:** 65-6345 5928  
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### FEES

The full Registration Fee includes cost of all sessions, luncheon, coffee/tea & documentation.

Conference Fee for 1 Person	Conference Fee for 3 or more* (from the same company)
<b>USD1,695</b>	<b>USD1,295 (MIN SAVINGS OF USD1200)</b>

\* Terms and conditions apply.

**Cancellations, Refunds & Transfers:** A full refund will be promptly made for all written cancellations 3 weeks before the meeting. Thereafter, cancellations are not refundable. A substitute may be made at any time.

### PAYMENT

**By Credit Card** (Visa/Mastercard only) - please request for credit card form

### By Telegraphic Transfer

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TT must include additional USD21 for Beneficiary's Bank charges. Delegates must bear all bank charges and local taxes (if applicable). Fees must be NETT of ALL charges.

### CONFERENCE VENUE

CMT has arranged special discounted room rate at USD 85++ (Superior Single) per room per night including daily buffet breakfast (subject to room and rate availability) for delegates at **Le Meridien Jakarta**. Please reserve your room with the hotel directly, quoting the name "CMT" and providing full credit card number and expiry date to:

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**Le Meridien Jakarta**

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Cut-off date: 4 October 2009