Deepwater Managed Pressure Drilling & Casing While Drilling

Technology Innovations, Cost & Risk Management and Successful Implementation

Masterclass 1: Deepwater Managed Pressure Drilling
Date: 31st October – 2nd November 2011

Masterclass 2: Casing While Drilling
Date: 3rd – 4th November 2011
Location: Crowne Plaza Hotel, Kuala Lumpur Malaysia

Specially Designed for
Drilling Superintendents
Drilling Engineers
Drilling Managers
Production Geologists
Drilling Foreman
Geology Managers

This workshop is for drilling professionals with a need for or an interest in a thorough understanding of deepwater managed pressure drilling & casing while drilling.

Distinguished Course Instructor
Fred Wiegand
President
Wiegand Engineering Inc.

- 40 years of international drilling experience
- Designed, managed drilling & well-completion projects in some of the most challenging areas around the world
- Under review by the US Government for membership and participation on the US Department of Energy DEO’s ‘Ultradeepwater Drilling Committee’ in Washington, DC

Testimonials
‘Fred has presented new concepts’ – Petronas
‘In-depth coverage of the topics’ – Egyptian oil company manager
‘A good instructor!’ – Libyan National Oil Corporation

Capitalize on Fred’s expertise to:
- GAIN deep understanding about deepwater MPD and CwD
- LEARN the latest technology innovations and successful applications
- UNDERSTAND how to drill through trouble zones with MPD and CwD to enjoy greater ROI
- CONTROL wellbore using various combinations of special tools and methodologies to achieve safer and more efficient operations
- IDENTIFY candidates for MPD and CwD applications
- MANAGE potential operational, economic and technical risks involved of the project
- JUSTIFY economic and operational values of MPD and CwD to management and staff

Supported by:
Worldoils

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FAX: +65 6826 4322
Email: marketing1@petrosync.com
www.petrosync.com
Masterclass 1 Description: Deepwater Managed Pressure Drilling

MPD's advance into deepwater applications has provided a way to minimize NPT and achieve planned drilling objectives. But obtaining the preferred outcome in this environment poses more challenges than in any other previous MPD applications. Together with Fred, you will learn to control wellbore pressures using various combinations of tools and methods; in order to drill faster, cheaper and safer, both in exploration wells, appraisal and production wells. Fred will also share with you how to manage risks and compare costs to prepare your projects for the management. Risk analysis software will also be presented to you for predicting possible outcomes of using MPD in deepwater environments.

Day 1 - 31st October 2011
- Applications and methods of MPD
- Mathematical ideas behind MPD
- Fundamentals of well control
- Geopressure and rock mechanics
- MPD operations - Understand operationally difficult aspects while drilling
- Situational problems in deepwater marine drilling
- Real-time data acquisition and control
- What equipment is required? – Design and successful integration into current system
- Comparisons of different equipment solutions
- Rotating control devices and rotating annular preventers
- Chokes, drill-pipe non-return valves, down-hole control valves, ECD reduction methods
- Name the players – Evaluate and select the best solutions providers for your project
- What does the customer want?
- Case study # 1
- Workshop exercise

Day 2 - 1st November 2011
- MPD methods on land as compared to deepwater
- Particularities of drilling in deepwaters
- Overview of deepwater operations
- Identify deepwater MPD candidates
- Candidate selection and feasibility study
- Technical aspects, economical aspects, HAZOPS
- Geological considerations
- Mud cap drilling
- Dual gradient drilling
- Sea floor pumps
- Continuous circulation systems
- Challenges of deepwater MPD,
- Well control issues with MPD in deepwater
- Case study
- Workshop exercise

Day 3 - 2nd November 2011
- Cost comparisons
- Technical, operational and economic considerations and analysis
- Explaining benefits of MPD to management

Day 4 - 3rd November 2011
- Introduction - General view, advantages and disadvantages, types of CwD, scenarios for CwD applications
- Operational aspects of CwD – Rig and downhole tool equipment design and applications, hydraulics, drilling fluids for CwD, well control while drilling with casing, surface-hole Casing While Drilling, drilling efficiency optimization
- New technology development and application
- Successful implementation of the technology around the world

Day 5 - 4th November 2011
- Drilling feasibility analysis –HPHT, deepwater, review of benefits, challenges and limitations
- Cost comparisons and risk management: Predict economic impact of trouble events such as well control, loss of circulation and sticking of the drilling string or casing string, how to manage the risk involved and integrate it with other drilling technologies to maximize return?
- Software presentation
- Case studies
- Workshop exercises
- Executive summary

Effective Inhouse Solution
SAVE COST • IMPROVE PERFORMANCE • REDUCE RISK

PetroSync understands that in current economic climate, getting an excellent return on your training investment is critical for all our clients. This excellent training can be conducted exclusively for your organization. The training can be tailored to meet your specific needs at your preferred location and time. We will meet you anywhere around the globe.

If you like to know more about this excellent program, please contact Jerry Tay (Senior Operations Manager) at +65 6415 4502 or email jerry.t@petrosync.com

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Fred Wiegand  
President  
Wiegand Engineering Inc.  
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participation on the US Department of Energy DEO’s  
‘Ultradeepwater Drilling Committee’ in Washington, DC.

Mr Fred Wiegand is a senior petroleum and drilling engineer with over  
40 years of international experience in petroleum engineering, drilling &  
reservoir engineering, IWCF surface subsea drilling, work-over rigs & well  
completion, design of offshore & onshore production facilities, design &  
maintenance of many drilling rigs including drillships, semis & jackups,  
coring, stuck pipe, fishing, hole cleaning, directional drilling, deep  
drilling and well control. He is well-versed in Monte Carlo Simulation  
software and developed computerized methods for advanced  
technology in petroleum engineering. He is currently the President of  
Wiegand Engineering Inc., a company which provides petroleum and  
drilling related technical and consultancy services to many leading oil &  
gas companies all over the world.

With Fred’s wealth and skills, he has designed drilling & well-completion  
projects, written programs, supervised operations on many types of land  
rigs and deepwater floaters.

Some of the recent projects that Fred has actively involved:
- InterAct PMTI seconded to Sea Dragon – Egypt as Senior Offshore  
  Drilling Superintendent, exploration directional well from TransOcean  
  jackup rig # 103, Gulf of Suez near Zafarana  
- EPI seconded to ConocoPhillips, as drilling supervisor on Precision land  
  rig #403, Wyoming, USA  
- Repsol Argentina Project, as Staff Drilling Engineer and Petroleum  
  Geologist. Managed new drilling and production technologies,  
  including casing drilling, DynaPumps, and fiberglass sucker rods.  
- EPI seconded to TXM – Hungary as Sr. Drilling Engineer and Supervisor.  
  Designed Mako #6 to 6000 m as the “deepest” 2005 exploration gas well  
in Hungary  
- As Shell SEPCO drilling foreman on Cognac Deepwater Platform, US  
  GOM OCSG offshore Louisiana, simultaneous workovers on deepwater  
  fixed production platform

Fred is also a licensed Professional Engineer and is granted certification  
from the International Well Control Forum and IACD System. He is  
currently under review by the US Government for membership and  
participation on the US Department of Energy’s ‘Ultradeepwater Drilling  
Committee’in Washington, DC. He is an active member of the Society of  
Petroleum Engineers and the American Association of Drilling Engineers.

### Program Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 – 09:00</td>
<td>Registration (Day1)</td>
</tr>
<tr>
<td>09:00 – 11:00</td>
<td>Session I</td>
</tr>
<tr>
<td>11:00 – 11:15</td>
<td>Refreshment &amp; Networking Session I</td>
</tr>
<tr>
<td>11:15 – 13:00</td>
<td>Session II</td>
</tr>
<tr>
<td>13:00 – 14:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00 – 15:30</td>
<td>Session III</td>
</tr>
<tr>
<td>15:30 – 15:45</td>
<td>Refreshment &amp; Networking Session II</td>
</tr>
<tr>
<td>15:45 – 17:00</td>
<td>Session IV</td>
</tr>
<tr>
<td>17:00</td>
<td>End of Day</td>
</tr>
</tbody>
</table>

### Partial Client List

- Esso  
- Saudi Aramco  
- Saudi Petroleum Services  
- Chevron  
- Kuwait Oil Co  
- Corpoven  
- Petrolbel  
- Pioneer Exploration  
- Aramco  
- Gulf Oil Company  
- GOM USA  
- State of Texas  
- Hydril  
- DKES  
- Qarun Petroleum  
- Lagoven  
- Pan Ocean  
- SINCOR  
- Great Wall of China Drilling Company  
- Yemen Hunt  
- Apache North Sea, Petroleum Engineering Intl  
- Pogo Producing  
- TransJordan Exploration  
- PGP Exploration  
- TXM – Hungary  
- Repsol Argentina  
- Repsol Algeria  
- Seadragon – Egypt  
- and many others
**INVESTMENT PACKAGES**

<table>
<thead>
<tr>
<th>Investment Package</th>
<th>Deadline</th>
<th>MASTERCLASS 1: 3 DAYS</th>
<th>MASTERCLASS 2: 2 DAYS</th>
<th>FULL MASTERCLASS 1 &amp; 2: 5 DAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Bird Offer</td>
<td>30th Sep 2011</td>
<td>SGD $ 3,795</td>
<td>SGD $ 2,795</td>
<td>SGD $ 5,795</td>
</tr>
<tr>
<td>Loyalty Discount (Previous Delegates)</td>
<td>28th Oct 2011</td>
<td>SGD $ 3,595</td>
<td>SGD $ 2,595</td>
<td>SGD $ 5,995</td>
</tr>
<tr>
<td>Group Discount (2 or more Delegates)</td>
<td>28th Oct 2011</td>
<td>10% discount for groups of 2 registering from the same organization at the same time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* To enjoy the offer, full payment must be made before the deadline.
* For 5 or more delegates, please inquire for more attractive package.
* Prices include lunches, refreshments and materials. Discounts cannot be combined with other promotional offers.
* Important: Please note that registration without payment will incur a SGD $150 administration fee.

**DELEGATE DETAILS**

Name : _______________________________ Email: _______________________________
Job Title: ___________________________ Direct Line Number: ___________________________
Head of Department: ___________________________

**INVOICE DETAILS**

Attention Invoice to: _______________________________
Direct Line Number: ___________________________ Fax: ___________________________
Company: ___________________________
Address: ___________________________
Country: ___________________________
Postcode: ___________________________
Email: ___________________________

**FINANCE DEPARTEMENT CONTACT DETAILS**

Name : _______________________________ Email: _______________________________
Job Title: ___________________________ Direct Line Number: ___________________________

**PAYMENT METHODS**

- By Cheque/Bank Draft: Made payable to PetroSync LLP
- By Direct Transfer: Please quote invoice number(s) on remittance advice.
- By Credit Card: Please debit my credit card: _Visa_ _MasterCard_
  - Security Code: ___________________________
  - Card Number: ___________________________
  - Expiry Date: ___________________________

**PAYMENT TERMS**

- Payment is due in full at the time of registration. Full payment is mandatory for event attendance.
- By Credit Card: Please debit my credit card: _Visa_ _MasterCard_
- Security Code: ___________________________
- Card Number: ___________________________
- Expiry Date: ___________________________

**TERMS AND CONDITIONS**

Please note that trainers and topics were confirmed at the time of publishing; however, PetroSync may necessitate substitutions, alterations or cancellations of the trainers or topics. As such, PetroSync reserves the right to change or cancel any part of its published programme due to unforeseen circumstances. Any substitutions or alterations will be updated on our webpage as soon as possible.

**DATA PROTECTION**

The information you provide will be safeguarded by PetroSync that may be used to keep you informed of relevant products and services. As an international group we may transfer your data on a global basis for the purpose indicated above. If you do not want us to share your information with other reputable companies, please tick this box.

**CANCELLATION POLICY**

You may substitute delegates at any time as long as reasonable advance notice is given to PetroSync. For any cancellation received in writing not less than fourteen (14) working days prior to the training course, you will receive a full refund less a SGD $150 administration fee and any related bank or credit card charges.

Dellegates who cancel less than fourteen (14) working days of the training course, or who do not attend the course, are liable to pay the full course fee and no refunds will be granted.

In the event that PetroSync cancels or postpones an event for any reason and that the delegate is unable or unwilling to attend in on the rescheduled date, you will receive a credit for 100% of the contract fee paid. You may use this credit for another PetroSync to be mutually agreed with PetroSync, which must occur within a year from the date of postponement.

PetroSync is not responsible for any loss or damage as a result of the cancellation policy. PetroSync will assume no liability whatsoever in the event this event is cancelled, rescheduled or postponed due to any Act of God, fire, act of government or state, war, civil commotion, insurrection, embargo, industrial action, or any other reason beyond management control.

All of our training courses are held in 4-5 star venues. The training venues are carefully selected by their location, training and their refreshment facilities. You will only learn in comfortable and convenient environments.

Hotel accommodation and travel cost are not included in the registration fees.

**VENUE**

incorrect details. We will amend them accordingly.

Please email us at registration@petrosync.com and inform us of any incorrect details. We will amend them accordingly.

By Cheque/Bank Draft: Made payable to PetroSync LLP

By Direct Transfer: Please quote invoice number(s) on remittance advice.

PetroSync LLP Bank details:

- Account Name: PetroSync LLP
- Bank Number: 7144 - Branch Code: 013 - Account No: 1310-055316
- Name of Correspondent Bank: Standard Chartered Bank, 1 Sophia Road,
  #01-01/08 Peace Center Singapore 228149
- SWIFT Code of Correspondent Bank: SCBLSGISXXX

All bank charges to be borne by payer. Please ensure that PetroSync LLP receives the full invoiced amount.

By Credit Card:

- Please debit my credit card: _Visa_ _MasterCard_
- Security Code: ___________________________
- Card Number: ___________________________
- Expiry Date: ___________________________

I agree to PetroSync’s payment terms and cancellation policy.

Signature: ___________________________

**PROGRAMME CONSULTANT**

Name : Cay Aagen
Email : marketing1@petrosync.com
Phone : +65 6415 4500
Fax : +65 6826 4322

**DISCLAIMER**

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Signature: ___________________________