PETROSYNC'S GEOSCIENCE SERIES

SEISMIC INTERPRETATION

Develop Efficient Workflow in Seismic Interpretation

22 February — 26 February 2016
Bandung, Indonesia
Course Overview

Seismic interpretation is a critical step in evaluating the subsurface, as it turns the large investments in seismic data to tangible value to base all E&P decisions. It is essential for explorationists to learn to execute this key skill in their career.

Our program is designed to provide advanced techniques in seismic interpretation with workflows to plan and execute an interpretation project. This course will enable attendees to avoid the most common pitfalls and would be familiar with interpretation QAQC.

Course Design Focuses on Skill-Based Interpretation Workflow
This course focuses on the key skills of 2D/3D seismic interpretation workflows, seismic attributes application, and the various geological knowledge required for sound interpretation.

Includes Specific and Practical Case Studies
Various international case study examples, seismic illustrations of structural styles will be presented, together with hands-on exercises on hand interpretation, volumetrics, and inversion exercises.

How Does This Course Benefits You?

Ensure Data Quality
Ensure that the best seismic data are available through understanding the basics of seismic acquisition, processing, and the key seismic interpretation drivers.

Develop Best-Fit Interpretation Workflow
Develop your own seismic interpretation workflow which best fits current project through the understanding of available interpretation procedures in 2D/3D seismic data.

Generate Sound Structural Seismic Data
Generate sound structural seismic data by going through practical application in structural interpretation workflow and in-depth analysis of various structural styles.

Create Representative Stratigraphic Seismic Data
Create representative stratigraphic data through interpretation exercises on stratigraphic interpretation, QAQC project, and discussion of the pitfalls in interpretation.

Identify Direct Hydrocarbon Indicators
Identify direct hydrocarbon indicators in seismic data through understanding of rock and fluid expressions in seismic, seismic inversions, and AVO.

PetroSync Quality Assurance
All PetroSync courses are developed with top quality to address all your training needs and purposes. Our courses are vetted strictly to ensure that we always deliver the best courses with the best industry expert.

PetroSync Inhouse Solutions
PetroSync can tailor our courses to meet your specific needs at your preferred location and schedule. Contact us for more information at +65 6415 4500 or email to general@petrosync.com
PetroSync Distinguished Instructor

Drs Gerhard Diephuis
International Geophysical Consultant, EPTS

Practical & Consulting
Over 40 years of work experience in the O&G industry, primarily with Shell International for 20 years (1977-1997), and has consulted for a number of multinational companies including UNOCAL, CONOCO, TAQA Petroleum, BG Group, Saudi Aramo, etc.

Training
Experienced lecturer who has conducted industry courses for in-house training and conferences. Gerhard was the course module for developer Shell internal training from 1999 to 2002.

Regional
Has worked and consulted for previously for companies in Malaysia and Indonesia.

Who Needs This Program

- Explorationists who are involved in seismic interpretation, seismic processing for 2D & 3D data
- Those who are utilizing seismic data for subsurface analysis and exploration decisions

Job Titles Include:
- Geophysicists
- Geoscientists
- Geologists
- Petroleum Engineers
- Seismic Interpreters
- Exploration Managers
- Subsurface Managers

Course Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>08:00—09:00</td>
<td>Registration (Day 1)</td>
</tr>
<tr>
<td>09:00—11:00</td>
<td>Session I</td>
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<tr>
<td>11:00—11:15</td>
<td>Refreshment Session I</td>
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<tr>
<td>11:15—13:00</td>
<td>Session II</td>
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<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 Session II</td>
</tr>
<tr>
<td>15:45—17:00</td>
<td>Session IV (Last Session)</td>
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Course Agenda — 5 Days

DAY 1
Principles of Seismic Data
- Introduction & Brief History of Seismic Methods
- Recapitulation of Seismic Principles that are of direct relevance for interpretation, reflection coefficients, polarity convention
  - Seismic Reflection & Diffraction
  - Display-Polarity
  - Seismic Signals
- Brief summary on seismic acquisition and processing, focusing on aspects that have direct relevance for interpretation
  - Minimum/maximum offset
  - Multiplicity
  - Type of Imaging
  - Phase Issues etc.

DAY 2
Well to Seismic Matching & Introduction to 2D & 3D Interpretation
- Generation of synthetic seismograms and well-to-seismic matching
- Making a map of a faultblock on basis of 12 in/crosslines
- Summary of well geophysics
- Interpretation fundamentals and introduction of 2D/3D seismic interpretation workflows
- Techniques and approaches of 3D interpretation
- Marker recognition and transfer
- Seismic (volume) attributes for seismic interpretation

DAY 3
Structural Seismic Interpretation
- Structural styles and their seismic appearance
  - Extensional
  - Delta
  - Compressional
  - Wrench
  - Salt Tectonics
- Structural Workflow
- Mechanics of faulting and Fault interpretation

DAY 4
Stratigraphic Interpretation
- Summary of Stratigraphic Interpretation
- Seismic Interpretation Pitfalls
- Overview of seismic velocities.
- Time-to-depth conversion
- Volumetrics and uncertainties

DAY 5
Quantitative Interpretation Methods
- Seismic expression of DHI’s
- Introduction to Quantitative Interpretation Methods
- Rock and fluid prediction from seismic
- Seismic Inversion and AvO

EXERCISES ON SEISMIC FUNDAMENTALS
SEISMIC ACQUISITION/PROCESSING RELATED EXERCISES

WELL-TO SEISMIC MATCHING EXERCISE

EXERCISES ON QUANTITATIVE INTERPRETATION

Register For This Course Now!
Kindly fill up your particulars in the registration form placed at the end of this brochure, and send it to us or email to registration@petrosync.com

general@petrosync.com | +65 6451 4500 | www.petrosync.com
COURSE DETAILS
Title: Seismic Interpretation
Date: 22 February 2015 — 26 February 2016
Location: Bandung, Indonesia

INVESTMENT PACKAGES (Please Circle)

<table>
<thead>
<tr>
<th>INVESTMENT PACKAGE</th>
<th>DATELINE</th>
<th>FULL MASTERCLASS</th>
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<tbody>
<tr>
<td>Standard Price</td>
<td>19 February 2016</td>
<td>USD 4,295</td>
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<tr>
<td>Early Bird Offer</td>
<td>22 January 2016</td>
<td>USD 4,095</td>
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<tr>
<td>Group Discount</td>
<td>19 February 2016</td>
<td>USD 3,865</td>
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Group Discount is based on Standard Price
*Prices include lunches, refreshments and materials. Promotion & discount cannot be combined with other promotional offers.
*To enjoy the promotion & discount offer, payment must be made before dateline

DELEGATES DETAILS

<table>
<thead>
<tr>
<th>1st Delegate Name:</th>
<th>Mr  Mrs  Ms  Dr  Others</th>
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</thead>
<tbody>
<tr>
<td>Direct Line Number:</td>
<td>Email: Job Title: Department: Head of Department:</td>
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<tr>
<td>2nd Delegate Name:</td>
<td>Mr  Mrs  Ms  Dr  Others</td>
</tr>
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<td>Direct Line Number:</td>
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<td>3rd Delegate Name:</td>
<td>Mr  Mrs  Ms  Dr  Others</td>
</tr>
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<td>Email: Job Title: Department: Head of Department:</td>
</tr>
</tbody>
</table>

INVOICE DETAILS

Attention Invoice to: Phone: Fax: Email: 
Company: Industry: Address: Postcode: 
Country: Email: 

PAYMENT METHOD

- By Credit Card: Please debit my credit card: Visa MasterCard AMEX Security Code: Expiry Date: Name Printed on Card: 

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

Authorized Signature: ____________________________

PAYMENT TERMS: Payment is due in full at the time of registration. Full payment is mandatory for event attendance.

COURSE CONSULTANT
Name: Cay Aagen
Email: registration@petrosync.com
Phone: +65 6415 4500
Fax: +65 6415 4322

TERMS AND CONDITIONS

DISCLAIMER
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 course due to unforeseen circumstances. Any substitutions or alterations will be updated on our website 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 wish 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 credit voucher less a SGD $200 administration fee and any related bank or credit card charges. Delegates 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 on the rescheduled date, you will receive a credit voucher for 100% of the contract fee paid. You may use this credit voucher 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.

CERTIFICATE OF ATTENDANCE

70% attendance is required for PetroSync’s Certificate of Attendance

DETAILS
Please accept our apologies for mail or email that is incorrectly addressed. Please email us at registration@petrosync.com and inform us of any incorrect details. We will amend them accordingly.

CHARGES & FEE(S)

- For Payment by Direct Telegraphic Transfer, client has to bear both local and oversea bank charges.
- For credit card payment, there is additional 4% credit card processing fee.

CONFIRMATION

