An Intensive 5 Day Training Course

Stratigraphy
Sequence, Seismic & Integrated Stratigraphic Analysis

11 - 15 Nov 2018, Dubai

This course is Designed, Developed, and will be Delivered under ISO Quality Standards
WHY CHOOSE THIS TRAINING COURSE?

The objective of this training course is to get more out of seismic and well data through the use of sequence and seismic stratigraphy and integrated stratigraphic analysis to further constrain geological models. Ultimately, it can be used to predict and discover more hydrocarbon plays, to improve the estimation of play and prospect risk and to determine what lithology is going to be drilled ahead of the drill bit.

This 5-day interactive Stratigraphy training course will deal with the fundamentals and practical applications of sequence and seismic stratigraphy. It will include exercises and case histories for some interpretation and workshop discussion.

This training course will feature:

- The history of sequence stratigraphy
- The models and principles of seismic and sequence stratigraphy
- Controls on basin stratigraphy.
- Sequence definition from wells and seismic
- The fundamentals of sequence stratigraphy in carbonate systems
- Relative sea level lowstands and reservoir development
- Sequence stratigraphy in lacustrine environments
- Integration of other stratigraphic information, biostratigraphical, radiometric dating, chemostratigraphical

WHAT ARE THE GOALS?

By the end of this training course, participants will be able to:

- Understand the critical use of chronostratigraphy in providing a temporal and spatial display of depositional packages
- Have a full understanding of sedimentary basin types and their depositional patterns
- Identify the main sequences on seismic
- Integrate other geological data and then identify sequences and parasequences on well logs
- Have awareness with the terms and definitions used in sequence and seismic stratigraphy
- Use sequence and seismic stratigraphy towards new play definition and as an aid in play and prospect risking

HOW WILL THIS TRAINING COURSE BE PRESENTED?

The training course will be based around PowerPoint presentations for each module followed by interactive and participative individual and team exercises. There will also be workshop sessions based around real exploration and development case studies to get participants to actively become aware of the predictive capabilities of applied sequence and seismic stratigraphy and how to integrate other stratigraphical data. Course participants are also encouraged to bring along stratigraphic data, logs and seismic where appropriate from their own companies so that real working examples can be reviewed and interpreted.
Day One: An Overview and the Use of Chronostatigraphy

Competency Description: Understanding the fundamental laws, principles and application of chronostatigraphic techniques and to be able to identify key stratal surfaces and sequences on seismic.

Key behaviours

- Understand and apply key technical laws and principles
- Apply chronostratigraphy the under-used tool in exploration
- Recognize all stratal surfaces on seismic and on well logs
- Develop key interpretation skills

Topics to be covered

- Outline and overview
- The history of sequence stratigraphy and stratigraphic models
- Chronostratigraphy and seismic models
- Condensation surfaces
- Erosion and non-deposition surfaces
- Coastal onlap and eustatics

Day Two: Seismic Stratigraphy and Controls on Basin Stratigraphy

Competency Description: To recognize the geometry of depositional systems, to be able to identify seismic sequences and to understand the main controls on basin stratigraphy.

Key behaviours

- Understand key technical laws and principles
- Identify key aspects of sedimentary sequences
- Interpret sequences from seismic
- Understand the key controls of basin deposition

Topics to be covered

- Principles and the geometry of depositional systems
- Types of seismic reflector terminations
- Changes in accommodation space
- Controls on basin stratigraphy
- Orders of cyclicity
- Types of sedimentary basins
Day Three: The Models and Principles

Competency Description: To be able to recognize sequence and seismic sequence boundaries and all clastic systems tracts and to know where these are developed in a typical shelf to basin profile.

Key behaviours

- Develop key interpretation skills
- Learn how to fully integrate geological and seismic data
- Develop 3D visualization skills
- Able to recognize all of the systems tracts and to know where these develop in a typical shelf to basin transect

Topics to be covered

- The Exxon Model
- Sequence boundary types and systems tracts
- Other systems tract types and variations on the ideal model
- Genetic stratigraphic sequences
- Sequences on seismic
- Sequence boundary recognition

Day Four: Sequence Definition from Wells and Seismic

Competency Description: To be able to identify key stratal surfaces and sequences on seismic and also how to calibrate these by using integrated well log data and recognize seismic facies and how to identify them by using seismic attributes.

Key behaviours

- Develop key seismic interpretation skills
- Develop 3D visualization skills
- Recognize all stratal surfaces on seismic and on well logs
- Recognition of internal sequence character using seismic data and how this can be used in exploration

Topics to be covered

- The use of well log data
- Definition of surfaces and systems tracts
- Recognition of systems tracts on seismic
- Recognition of stratal surfaces on seismic
- Seismic facies analysis
- Analysis of seismic attributes

Day Five: Sequence Stratigraphy of Carbonates and Relative Sea-level Lowstands

Competency Description: To understand the controls on carbonate production and sedimentation and how sequence stratigraphical techniques can be applied on carbonate platforms and their associated shelves.

Key behaviours

- Understand key technical principles for carbonate platform deposition
- Identify key aspects of carbonate sequences and platform growth
- Interpret sequences from seismic
- Understand the key controls of basin deposition

Topics to be covered

- Carbonate systems overview
- Introduction to carbonate sequence stratigraphy
- Carbonate platform drowning and causes
- Highstand shedding
- Controls on carbonate production and sedimentation
- Relative sea level lowstands, carbonate, evaporate and siliciclastic partitioning
Stratigraphy
Sequence, Seismic & Integrated Stratigraphic Analysis

<table>
<thead>
<tr>
<th>COURSE DATES, VENUES AND FEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 - 15 Nov 2018</td>
</tr>
</tbody>
</table>

This fee is inclusive of Documentation, Lunch and Refreshments

Please use BLOCK CAPITALS to fill in this form. It is important that you read carefully through all information before starting to complete the form.

<table>
<thead>
<tr>
<th>REGISTRATION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Name:</td>
</tr>
<tr>
<td>Position:</td>
</tr>
<tr>
<td>Mailing Address:</td>
</tr>
<tr>
<td>Telephone: Mobile: Fax: Email:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AUTHORISATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorisation By:</td>
</tr>
<tr>
<td>Position: Company:</td>
</tr>
<tr>
<td>Mailing Address:</td>
</tr>
<tr>
<td>Telephone: Mobile: Fax: Email:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IN-HOUSE TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximize your training budget and have several members of your staff, who require specific training, to attend with the advantage of not incurring additional travel costs when attending a ‘public’ training courses &amp; seminars.</td>
</tr>
</tbody>
</table>

Would you like a PetroKnowledge training course delivered at a time or location to suit you? Would you like PetroKnowledge to tailor a course from our comprehensive library of programmes? Or would you like us to create an entirely new, bespoke course to suit the exact needs of your organisation?

Working in partnership with our clients, PetroKnowledge provides an enjoyable, creative learning experience that enables participants to develop their skills and knowledge. We can deliver not only generic, off-the-shelf courses from our extensive learning portfolio, but we can provide tailored as well as bespoke learning on any aspect of skill development or knowledge. Our in-house courses are conducted by the same expert trainers who conduct PetroKnowledge public courses so you can be assured they will fulfill the learning objective of any organisation.
BOOKING TERMS & CONDITIONS

Booking
- Bookings for courses can be made via our website (petroknowledge.com) or by contacting our Registration Desk on +971 2 5577389 or at reg@petroknowledge.com
- For on-line bookings, please select the course that you require and click on the “Register Now” button, following the instructions step by step
- Upon receipt of booking in order, enrollment on the respective training course will be confirmed by Registration Team with all necessary documentation

Invoicing and Payment
- Our fees include course presentation, relevant materials, physical & digital documentation, lunch and refreshments served during entire training. Accommodation charges are not included in the course fees
- Course fees are payable upon booking unless a valid, authorized Purchase Order is provided and accepted
- Invoices will be sent via email/courier to the ID/name and address provided
- We prefer to have the fees payment in our account before the start of training course. However, if your company has a different payment policy, the same should inform us in advance
- The currency of fees is in US Dollars (USD). Payments can be made in USD or UAE local currency AED (Arab Emirates Dirhams) either by Bank Transfer or by Credit Card. Our Bank Account details will be provided on the Invoice
- Please note that we do accept payment by cash, in USD or AED, only for the last minute bookings

Cancellation of Courses
- It may be necessary for PetroKnowledge to amend or cancel any course, course times, instructors, dates or published fees due to unforeseen circumstances and we reserve the right for such changes
- Any amendments will be advised before the course start date and any bookings already paid in full will not be subject to increased fees

Cancellation by Client
- Once you have completed your booking, received your confirmation of enrollment and a dated payment Invoice, you are deemed to have a contract with PetroKnowledge. You reserve the right to cancel this contract given the below terms
- All cancellations must be received in writing at reg@petroknowledge.com and info@petroknowledge.com at least 14 days prior to the training
- After the cancellation period has expired, consideration may be given, on a case to case basis, if a registered delegate nominates a substitute on the same course, shifts to next session of the course or moves to a new course
- For a cancellation request made on or before the statutory 14 day cancellation period, a refund may be given or a credit note issued which can be used against future course fees
- A 25% administration fee (of the total course fee at the time of booking) will be charged for any cancellations made outside of the statutory cancellation period

Attendance Certificate
- The daily course schedule should be accurately followed to ensure undeterred implementation of our training
- All delegates, who participated in their course throughout, will receive the Certificate of Completion on the last day
- Please report any foreseeable absences to a PetroKnowledge representative or to your sponsors directly
- An absence of three (3) or more sessions of the course will invalidate your eligibility for the Certificate of Completion