An Intensive 5 Day Training Course

Advanced Well Completion Design

24 - 28 Sep 2017, Dubai

This course is Designed, Developed, and will be Delivered under ISO Quality Standards
Why Choose this Training Course?

This training course provides in-depth information on the impact of workovers and completion design in maximizing field production and increasing recoverable reserves. It also emphasizes the importance of a team concept as a determining factor in operations success. Participants will gain a greater understanding of how to apply advanced technologies to designing and executing workover jobs, and how to select the best operations method to perform the task in the safest, most efficient manner.

This training course will feature:

- Develop a high-level completion strategy for wells in a variety of situations
- Select tubing, packers, and completion flow control equipment

What Are the Goals?

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

- Appraise/design a suitable flow barrier strategy and suitable intervention strategy
- Make recommendations on installation and retrieval practices for tubing, packers, etc. in different well types
- Identify key features/applicability of the main sand control, frac. pack and well stimulation options.

Who Is This Training Course For?

This PetroKnowledge training course is suitable to a wide range of professionals but will greatly benefit:

- Affiliate Technical Directors
- Asset Managers
- Petroleum Engineers
- Production Technologists
- Production Personnel (Production Operators, Maintenance Supervisors)
- Drilling and Well Servicing Personnel (Drilling Manager, Drilling/Well Engineers, Completion and Well Service Engineers, Drilling Supervisors, Rig Manager, Toolpusher, Drillers)

How Will this Training Course be Presented?

This training course will utilise a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The daily workshops will be highly interactive and participative.
Day One: Basic Well Completion Design, Practices, and Strategies

- Completion and workover operations
- Design considerations
- Reservoir considerations
- Mechanical considerations
- A wellhead provides a means of support
- Types of completions
- Reservoir completion methods
- Upper completion methods
- Examples of completion methods
- Example of well performance sensitivity to reservoir pressure
- Multiple zone single string completion
- Dual zone dual string completion
- Triple zone dual string completion
- Reservoir drive mechanism
- Sources of reservoir energy
- Well completion design
- Design considerations
- Team integration
- Data gathering
- Productivity index
- Example of an IPR curve
- Vertical lift performance
- Well outflow and inflow systems
- Typical vertical lift performance (VLP) for various tubing sizes
- Matching VLP curves with an IPR curve
- Completion design example 1
- Completion design example 2
- Gas lift
- Gas lift completion designs
- Electrical submersible pumps
- Y block
- Coiled tubing deployed ESP
- Turbine driven submersible
- Jet pumps
- Progressive cavity pumps
- Beam pumps
- Packer type gas anchor
- Hydraulic Piston pumps
- Reciprocating plunger pump

Day Two: Packer Selection and Tubing Forces

- Packers types
- Packers Generic Mechanisms
- Permanent and Retrievable Packers
- Locator Seals and Anchor Seals
- Applications for Permanent and for Retrievable Packers
- Setting Packers
- Dual Packers
- Compression Packers
- Tension Packers
- Inflatable Packers
- Packer Selection Process
- Packer/Polished Bore Receptacle (PBR) or Tubing Anchor?
- Packer Selection – Which type?
- Packer Selection Process
- Packer Selection Guide – Typical Application
- Running the Completion String – Retrievable Packers

Day Three: Wellheads / Chokes / Sub-surface Safety Valves and Flow Control Equipment

- Corrosion and Erosion Inflow and Tubing Performance
  - Types of wellhead
  - A sketch of a wellhead
  - A sketch of a Christmas tree
  - Single string surface production tree
  - Dual string surface production tree
  - Tubing hanger
  - A sketch of a casing head
  - Pressure testing the tree
  - Production chokes
  - Spool and hanger
  - Tree hook – up
  - Wellhead, tree and flow line
  - X mas tree selection
  - Tree saver
• Well Integrity Life Cycle
  o Definition of well integrity
  o Failure case history
  o Surface casing failure
  o Annulus pressure build up
  o Well integrity management system
  o Well integrity team
  o Tubing / Annulus program
  o Barrier system
  o Well & tree maintenance
  o Safety valve program
  o Data management
  o Well integrity diagnostic report
  o Why is well integrity important?
  o Well integrity checklist
  o Attached documentation
  o Well barrier envelope
  o Recommendation testing
  o Well quality
  o Risk assessment considerations for well integrity
  o Outflow potential
  o Well effluent
  o External environment
  o Application of risk assessment
  o Risk based maintenance & inspection matrix
  o Well Quality and integrity
  o External well integrity maintenance
  o Internal well integrity maintenance

Day Four: Deviated / Multiple Zone / Subsea / Horizontal / Multilateral and HPHT Completion Considerations

• Tubing design
• Tubing movement
• Piston effect
• Buckling effect
• Temperature effect
• Floating tubing
• Landing Conditions
• Sand control
  o Sand formation properties and geology
  o Why sand is produce?
  o Why Sand Control Production?
  o Erosion
  o Sand bridging
  o Casing failures

• What causes sand production?
• Drilling and completion requirements
• Fluid selection
• Solids free fluids
• Polymers bridging material
• Perforating
• Perforating damage
• Gravel control
• Gravel and screen selection
• Gravel sizing
• Slot sizing
• Inside gravel packing
• Open hole gravel packing
• Placement methods
• Hole enlargement
• Carrier fluid concept
• Chemical consolidation
• Consolidated packs
• Expandable screens
• Expandable screens and borehole interactions
• Expansion methods
• Open hole gravel packs (OHGPs)
• Cased hole gravel and frac packs
• Choosing the appropriate method of sand control

• Well stimulation methods
  o Acidizing
  o Fracturing
  o Acid frac

Day Five: Wireline / Coiled Tubing / Snubbing Operations

• Snubbing operations
• Rig assist snubbing system
• Push / pull snubbing machine
• Rig assist unit (Hydraulic)
• Well control during normal operations
• Slip operating sequence (Light pipe running in)
• Annular BOP
• Stripping BOP sequence when running in
• Coiled tubing
  o Coiled tubing use
  o Sand trap system
  o Debris catching
  o Under reaming
  o Mechanical scale removal
  o High pressure jet washing
  o Fishing and milling
  o Removing and recovering obstructions
  o Cutting pipe
  o Milling
  o Zone isolation
  o Retrievable packer
  o Stimulation and fracturing
  o Sand control completions
  o Circulating gravel pack system
  o Multi-Lateral wells drilling and completions
• Case history
Advanced Well Completion Design

COURSE DATES, VENUES AND FEES

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<thead>
<tr>
<th>DATE</th>
<th>VENUE</th>
<th>FEES</th>
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<tr>
<td>24 - 28 Sep 2017</td>
<td>Dubai - UAE</td>
<td>$4,500</td>
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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.

REGISTRATION DETAILS

Family Name: ____________________________ First Name (Mr./Ms.): ____________________________
Position: ____________________________ Company: ____________________________
Mailing Address: __________________________________________________________________________
Telephone: ____________________________ Mobile: ____________________________ Fax: ____________________________ Email: ____________________________

AUTHORISATION

Authorisation By: __________________________________________________________________________
Position: ____________________________ Company: ____________________________
Mailing Address: __________________________________________________________________________
Telephone: ____________________________ Mobile: ____________________________ Fax: ____________________________ Email: ____________________________

IN-HOUSE TRAINING

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 & seminars.

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