Course Description:

The course will be held at the Schlumberger Europe Learning Center (ELC), Melun, France. It will consist of some theoretical classroom sessions conducted with experienced professional providing presentations of well testing equipment, procedures and operations. The participants will then have practical exposure sessions using the well testing flow loop and hands on sessions with various well testing tools in the training center. It is anticipated that the course will be 50% classroom based and 50% practical on the various training pads and workshops at ELC.

The course includes an introduction to well testing equipment and the instrumentation required to control, monitor, measure and sample reservoir fluids produced during a typical well test.

Participants will gain an understanding of the primary objective of surface and downhole well testing which is to assess well productivity by measuring gas, oil and water flow rates and pressures under controlled production conditions. A major focus during the course is to instil on the participant a thorough understanding of safe handling practices of the produced effluents (solids, liquids and gases) at high pressures and temperatures.

Topics Covered:

- Well Testing Objectives
- Basics of Well Testing Interpretation
- Surface Well Testing
- Testing Data Acquisition
- Fluid Sampling and Analysis
- Drill-Stem Testing
- Tubing Conveyed Perforating
- Subsea Landing String Systems
- HSE Best Practices

Throughout this course, safety will be a primary focus and participants will be shown HSE best practices that should be implemented during each phase of well testing operations.

Audience:

Reservoir Engineers, Production Engineers, Petroleum Engineers, Production Supervisors as well as others needing a practical understanding of Well Testing Operations.

Prerequisites:

Prior knowledge of basic well testing operations and well testing interpretation is preferable.

Cost: EURO 4,950
DAY 1

- ELC Introduction and HSE Briefing
- Introduction to Testing Services
  - Overview of the complete Testing Cycle
  - Well Testing Objectives
- Well Test Interpretation
  - Permeability
  - Description of Fluid Flow in Porous Media (Pressure Diffusion)
  - Pressure vs Flow Rate Relationship (Darcy Equation/Linear-Radial)
  - Skin
  - Pressure vs Flow Rate Relationship (Darcy Equation/Linear-Radial)
  - Example Pressure/Flow Rate vs Time Data and Flow Periods
  - Log-Log graph (Early-Middle-Late Time)
  - Boundary types and derivative behavior
  - Data matching for determining reservoir and boundary properties

DAY 2

- Introduction to TCP
  - Perforating Principle
  - Gun System Description and Selection
  - Firing Heads and Accessories
  - TCP Workshop Practical Session

*In this session at the ELC workshop, attendees will be exposed to common perforating equipment and accessories, such as gun systems, shaped charge technology, firing heads, firing mechanism.*

- Introduction to DST
  - Introduction to DST concept
  - DST Workshop Practical Session

*In this session at the ELC workshop, attendees will be exposed to common DST equipment such as packers, downhole valve, circulating valves.*
**DAY 3**

- Introduction to Subsea Operations
  - Explanation of Subsea Operations
  - Subsea Tools Overview *Practical Session*

*In this session at the ELC Subsea workshop, attendees will be exposed to common subsea testing equipment such as retainer valve, lubricator valve, latch assembly.*

- Reservoir Fluid Sampling and Analysis
  - Downhole Sampling Operations – Cased Hole and Open Hole
  - Onsite Fluid Analysis with Wellsite Chemistry: methods, major equipment and applications
  - Surface Fluid Sampling: separator and wellhead sampling, Phase Sampler

- Reservoir Fluid Sampling and Analysis Workshop Visit - *Practical Session*
  - Demonstration of Downhole Sampling Equipment in the ELC workshop and principle of operations
  - Demonstration of Wellsite Chemistry Equipment (MGC, SirG, UOP and Water Analysis kit)

**DAY 4**

- Introduction to Surface Testing
  - Introduction to Surface Well Testing and Well Test Parameters
  - Equipment Introduction
  - Equipment Selection and Testing Procedures/Standards Introduction
  - Basic Well Test Operations and Processes

- Surface Welltest *Practical Session*
  - Welltest Practical Introduction
  - Practical Simulation of a welltest

*In this session at the ELC testing pads, attendees will be exposed to various types of surface well testing equipment including choke manifold, 3 phase separators, tanks...which will be operated within a 3 phase fluids flow loop.*

**DAY 5**

- Testing Data Acquisition (TDA) and Multiphase Flowmeter (Vx) Theory
  - Introduction to TDA
  - Introduction to Vx

- TDA and Vx *Practical Session*

*In this session at the ELC workshop, attendees will be exposed to various types of gauges, multiphase metering technology, acquisition system.*

- Q&A Session
- Class Evaluation
- Round Table and Wrap Up
About NExT

NExT, a Schlumberger company, has more than 14 years of experience providing training, competency, and professional development services for the E&P industry. With a portfolio of more than 420 courses covering technical, practical, and software skills, NExT develops the petrotechnical expertise necessary to meet today’s increasingly complex industry challenges.

For a comprehensive portfolio of courses covering a broad spectrum of disciplines, visit

www.NExTtraining.com

For more information on the course, please contact:
Name: Isabelle Badets NExT Pau Training Centre Manager
email: IBadets@slb.com