Formation Testing: Wireline and LWD

Course Description:
This five day course will consist of theoretical and practical classroom session with the last day of the course being devoted to Wireline, Logging While Drilling (LWD), and Pressure Volume Temperature (PVT) lab to see Formation Testing (FT) tools and PVT lab facilities/experiments. This course will also include all FT applications, including pressure surveys, gradient analysis, sampling and downhole fluid analysis, FT pressure transients, and FT In-Situ Stress testing.

Experience professionals will provide participants with presentations of tools, operations, and the latest interpretation advances. The participants will also have various practical exposure sessions with real data and InSituPro software. The class will be 50% classroom learning and 50% practical application with exercises, including visits to Wireline, LWD, and PVT laboratories.

For more information on this course, please contact Email: uksistraining@slb.com

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**Audience:**
Reservoir engineers, Geoscientists, Operations Geologists, well log witnesses with little or no prior knowledge of formation testing services.

**Prerequisites:**
A familiarity with the basics of reservoir engineering and formation evaluation concepts.

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**Course Agenda**

**DAY 1**

**Wireline Formation Testing – Hardware & Software**
- Reservoir Engineering Fundamentals
- Wireline Formation Testing (WFT) tools and hardware options
- TechLOG – Formation Testing Suite
- Pretesting and Pressure Gradient Analysis
- Integration with Petrophysics

On day one participants will be introduced to the InSituPro software and will install it on their computer for use throughout the class. WFT tools and hardware will be discussed along with pretesting and pressure gradient analysis. Interval Pressure Transition Testing or IPTT with MDT will also be covered.

**DAY 2**

**Sampling and Downhole Fluid Analysis**
- Reservoir Fluid Sampling
- Job Planning and simulation
- Downhole Fluid Analysis, Water Chemistry, & H2S
- Reservoir characterization through integrating DFA
- Interval Pressure Transition Testing (IPPT) & Interpretation
- Formation Testing whilst Tripping

Day two will begin with the continued discussion of IPTT. Optical spectroscopy, and sampling downhole fluid analysis, and H2S (LFA, CFA, IFA, density, viscosity, pH and applications, focused sampling) will be covered as well.

**DAY 3**

**LWD formation testing**
- LWD Formation Testing (Stethoscope)
- Sampling and Fluid Analysis while Drilling (JPEG)
- Drilling Applications, Geosteering
- Base Visit: Drilling & Measurements (Stethoscope)
- Base Visit: Wireline (MDT – Saturn, IFA, Pumpout)

On this day, participants will learn about LWD formation testing (Stethoscope). They will also learn about sampling and fluid analysis while drilling. FT in cased hole (CHDT) and In-Situ Stress Testing with MDT will also be covered on this day.

**DAY 4**

**Pressure Testing and Applications**
- Stress Testing / Micro-Frac
- Stress-Test Planner
- HPHT Solutions
- Formation Testing in Cased Hole (CHDT)
- Practical Considerations and Novel Applications (Conveyance, sticking, EOR)

Day four of the course will cover In-Situ Stress Testing with OHDT. Other topics that will be discussed include efficient pressure testing surveys and HPHT (Saturn, XPT, HXPT, MDT Forte and MDT Forte-HT). Practical consideration and novel applications (Conveyance, sticking, EOR) will also be covered.

**DAY 5**

**Visits and Review**
- Reservoir Fluid Geodynamics
- Geochemistry
- PVT techniques
- PVT Lab Visit – CoreLAB – if available at time of training
- Course review and evaluation

The last day will enable the participants to get acquainted with the actual tools, various modules, and equipment. Visits will be conducted to the nearest Schlumberger facilities or Schlumberger training centers where tools will be displayed.