Course RC1: Best Practices in the Integration of Special Core Analysis for Reservoir Management

Oil and gas production forecasting is central to our business. Production profiles are used for financial reporting purposes and for informing investment decisions. For all simulation-based methods, knowledge of capillary pressure and relative permeability data is central to production forecasting. Generally, in different asset reviews, we have found that relative permeability characterization is typically the third biggest uncertainty influencing the field performance (following volumes and reservoir connectivity); it impacts key decisions on well numbers & location, injection & water handling facilities. It similarly impacts activities related to migrating resources across the life of asset.

This course will provide a summary of recommendations for carrying out Special Core Analysis tests and dynamic displacement studies. It is intended to serve as a reference for the experienced practitioner and a checklist for the less experienced to flag those topics he/she will require expert help.

Contents:

- Coring Planning Aspects
- Geological Characterization
- Core Analysis Methodos
- Wettability Aspects
- Saturation Measurement
- Permeability Measurement
- Capillary Pressure Measurement
- Relative Permeability Measurement
- Use of Analogue Data
- Integration of Data
- Dynamic Displacement Model (2-phase versus 3-phase, hysteresis)
- Simulation