Applied Coring and Well Logging for Enhanced Reservoir Characterization

Date		($)Fees	
16 March -20 March 2025	Dubai	3200	Register Now

Why Choose this Training Course?

This course is designed to provide deep understanding of core analysis and well logging for better reservoir characterization. Accurate measurements of routine and special (RCAL&SCAL) rock properties using core analysis and well logging reveal good evidence of hydrocarbon presence, reservoir storage capacity and flow capability. Coring and well logging offer the most tangible and direct means of determining critical reservoir parameters for making important and critical decisions about reservoir management and/or development plus enhanced oil recovery projects.

This course covers Routine Core Analysis (RCAL), Special Core Analysis (SCAL) and different well logging techniques. It covers coring objectives, coring methods, definitions and measurements of porosity, permeability, fluid saturation, capillary pressure, wettability, and others of advanced Special Core analysis (SCAL) tools such as; SEM, XRF, ICP-AEX, and EDS tools. The course also presents different well logging methods (shale, resistivity, and porosity logs) of clean and shaly reservoir rocks.

Actual field cases for optimum coring and well logging application are explained with in-class exercises.

This course will feature:

- Design of coring program and coring protocol
- Routine and Special Core Analyses (RCAL & SCAL)
- Laboratory measurements of different rock properties
- Well logging methods, interpretations, and applications
- Rock properties from well logging for clean and shaly formation
- Integration of various data for better identification of reservoir flow units

What are the Goals?

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

- Design good coring program and minimize rock alteration
- Determine rock properties using routine and special core analyses
- Interpret, and apply different logging methods for clean and shale reservoirs
- Integrate/correlate core and log data for well correlations
- Apply different techniques for identification/characterization of flow units.

Who is this Training Course for?

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

- Petroleum Engineers & Reservoir Engineers
- Geologists, Petrophysicists, and Geophysicists
- Geological engineers & other discipline engineers
- Engineers who are new to the profession
- Other individuals who need to know about current & advanced techniques of in reservoir characterization

How will this Training Course be Presented?

This course will utilise a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The course is designed as a blended environment of presentation, class exercises, field application/ analysis and several industry videos showing all processes.

The Course Content

Day One: Integrated Core Analysis and Coring Program

- Integrated coring program
- Coring definition and objectives
- Coring types and coring analysis techniques
- Workflow for required core analysis
- Contents of coring program and coring report
- Selection of coring fluids and applied coring tools

Day Two: Coring Protocol and Lab Measurements

- Coring types and coring protocol
- Essential reservoir rock properties
- Whole coring, sidewall, and other coring types
- Definition and equations for reservoir rock properties
- Lab Measurements and Calculations of rock properties
- RCAL-Porosity, Permeability, and Saturation

Day Three: Special Core Analysis (SCAL) Measurement

- Special Core Analysis (SCAL) Lab Measurements:
- Capillary Pressure: uses and measurement methods
- Rock Wettability: implications and measurement methods
- Relative Permeability: steady-state and unsteady-state techniques
- Effect of wettability alteration on relative permeability and oil recovery
- Limitations of current laboratory measurement techniques
- Applications of rock properties in reservoir and production engineering

Day Four: Principles and Analysis of Well Logging Methods

- Well Logging Methods
- Permeable zone methods: SP and Gamma Ray
- Electric resistivity well logging methods
- Porosity logs: Neutron, Density, and Acoustic
- Water saturation using Archie’s equation with its limitations
- Water saturation of shaly formations using different models
- Log-Core Correlation: Applications and Importance
- Rock Mechanical Properties: Why and How to determine?

Day Five: Reservoir Characterization of Flow Units

- Core characterization and correlations of well logging Data
- Advanced core analysis: newly-developed tools in the Industry
- Limitations and applications of correlations for reservoir description
- Different techniques identifying flow units of heterogeneous reservoirs
- Advanced technique for Reservoir Characterization Using Different Sources of Data

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