



ACQUISITION, HANDLING AND CORE ANALYSIS APPLICATIONS

Course Description

This course provides detailed discussions and hands-on exercises to understand the main applications of petrophysical interpretation using core analysis, drill cuttings and sidewall samples information.

The main goal of core analysis is to reduce uncertainty in reservoir characterization by providing representative reservoir data of in-situ conditions. Core analysis plays a paramount role in reservoir characterization and it is often considered to be the most reliable information to which other measurements are compared. This training will allow participants to adapt the core acquisition and analysis commercial programs to their specific requirements to obtain the best value for the money invested.

The course will show the importance of information integration and knowledge by using specific data to achieve the objectives of an integrated study. The development of this training covers both the analysis procedures of already acquired cores and new or cores to be acquired. Participants will learn how to generate an acquisition program in the most efficient manner (amount of core to be cut, diameter, bits, muds, sleeves, etc.) so that they could be able to follow up on conventional, geological and special analyses with the purpose of guaranteeing its integration with other disciplines.

The course will be supplemented by practical class project example problems, group exercises and interactive group discussion designed to consolidate and reinforce learning, and identify and offer solutions to specific problems associated with acquisition, handling and core analysis applications.

Who Should Attend?

This course is designed for professionals of the petroleum industry in the areas of production geology, operations geology, reservoir engineering, petrophysics, log analysis, sedimentology, drilling engineering, and geophysics applied to development of oil and gas fields.



What You Will Gain:

- Understanding the value of acquisition, handling and core analysis in reservoir characterization
- Learning core preservation techniques to minimize rock alteration
- Understanding conventional core analysis (grain density, porosity, permeability, and fluid saturation)
- Understanding special core analysis (relative permeability, wettability, capillary pressure, electrical properties, others)
- Understanding the main application of core analysis

Training Methodology

The training course will combine lectures (30%) with workshop/work presentations (30%), interactive practical exercises and case studies (20%), supported by video material, software and general discussions (20%)

Course Content

Design of core acquisition, handling and core analysis programs for consolidated and non-consolidated cores

- Review of main laboratory tests
- Optimum number of plugs and dimensions
- Composite plugs
- Coring process
- Core preservation techniques

Conventional core analysis

- Lithology
- Porosity
- Permeability
- Grain density
- Water saturation

Geological analysis of cores

- Mineralogical analysis
- Thin sections
- SEM
- Cryogenic SEM
- Description of sedimentary environments

Special core analysis

- Capillary Pressure



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- Relative permeability
- Wettability
- Electrical properties
- Low Salinity Water Injection
- Sensitivity to injection fluids
- Nuclear magnetic resonance
- Geochemical analysis
- TOC
- Geomechanical properties analyses