



Reservoir Fluid and Rock Analysis

09 - 13 Jun 2024
Online



Reservoir Fluid and Rock Analysis

Ref.: 15127_288496 **Date:** 09 - 13 Jun 2024 **Location:** Online **Fees:** 2500 **Euro**

Introduction:

This course will help participants to define reservoir fluid properties with increased confidence. Chemical properties of hydrocarbons, conventional laboratory PVT Pressure-Volume- Temperature tests and quality control will be covered.

The course will provide insight into reservoir characterization through the practical integration of validated core analysis data with log and well data to predict rock properties for reservoir engineering calculations.

Targeted Groups:

Reservoir and Production Engineers

Course Objectives:

At the end of this course the participants will be able to:

- Understand Reservoir Fluids and Their Phase Behaviour.
- Define Properties for different types of Reservoir Fluids.
- Understand Reservoir Fluid Sampling Methods and Tools.
- Define the Different types of Reservoir Rock Properties and Their Measurements.
- Integrate the Results of Core Data From Different Sources for Reservoir Engineering Calculations.

Course Content:

Unit 1: Reservoir Fluids and their Phase Behavior:

- Introduction.
- Components of Naturally Occurring Petroleum Fluids.
- Identifying Components - Single Components and SCN Fractions.
- Phase Behaviour - Pure Substances.
- Two-Component Mixtures, Three and Multi-component Mixtures.
- The Five Reservoir Fluids.
- Compositional Gradients.

Unit 2: Properties of Reservoir Fluids 1.00 Days:

- Real Gases.
- Properties of Dry Gases.
- Properties of Wet Gases.
- Properties of Black Oils.
- Retrograde Gases.
- Volatile Oils.

Unit 3: Reservoir Fluids Sampling and Analysis, PVT Reports and Application 1.00 Days:

- Reservoir Fluid Sampling Methods.
- Reservoir Fluid Sampling Tools.
- Well Conditioning.
- Application of Laboratory PVT Studies to Predict Reserves.

Unit 4: Introduction to Reservoir Core Analysis & Porosity Definitions and Measurements 1.00 Days:

- Core Analysis Application to Reservoir Exploitation and Management
- Core Damage and Rock Property Alteration
- Fluid Saturation and Wettability Alteration.
- Rock Textural and Mechanical Property damage; Clay Damage.
- Total and Effective Porosity Concepts and Models.
- Core Porosity Ambient and Overburden, Pore Volume Compressibility
- Core and Log Porosity Reconciliation.

Unit 5: Permeability, Saturation, and Capillary pressure Measurements 1.00 Days:

- Permeability & Water Saturation
 - Core Permeability Measurements.
 - Well Test and Log Permeability Estimation.
 - Interrelationships and up Scaling
 - Water Saturation
 - Direct Core Measurements.
 - Core and log Data Reconciliation.
- Relative Permeability
 - Theory and definitions; Data Analysis Methods.
 - Laboratory Measurement Methods.
 - Factors Affecting Relative Permeability.
 - Data Averaging, Normalization, and Application.
- Capillary Pressures
 - Factors Affecting Capillary Pressure; Fluid Contacts.
 - Core Measurement Methods.
 - Capillary Pressure Data Correction; Fitting and Averaging Functions.



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**Registration form on the :
Reservoir Fluid and Rock Analysis**

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