

Tight Reservoir Petrophysics

5 days
Overview

TIGHTPE-EN-P

LEVEL

Skilled

PURPOSE

This course provides knowledge and understanding of the petrophysical aspects of tight reservoirs.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able to:

- characterize tight reservoir lithology and mineralogy, porosity, water saturation, permeability, capillary and relative permeability, quantify the Total Organic Content (TOC) and calculate Hydrocarbons In Place (HIP),
- understand and use the log core data in tight reservoirs,
- understand and characterize tight reservoir mineralogy and lithology,
- apply the principles of tight reservoir petrophysics,
- understand the use of petrophysical properties tight reservoir in the characterization and modeling workflow.

WAYS AND MEANS

Interactive courses and exercises.
Videos and examples with the most known unconventional reservoirs in the world.
Hands-on practice using a real case studies data set (Oil & Gas).

LEARNING ASSESSMENT

Knowledge assessment with multiple-choice questions.

PREREQUISITES

Degree in geology, geophysics or reservoir engineering, or equivalent experience, with basic knowledge in petrophysics.

Agenda

PETROPHYSICS IN TIGHT RESERVOIRS

1 d

Basic of tight reservoir.
Tight reservoirs in the world.
Overview of petrophysical properties in tight reservoir.
Log and core data.
Petrophysical model in tight reservoirs.
Petrophysical properties in static and dynamic models.

MINERALOGY & LITHOLOGY

1 d

Mineralogy of tight reservoirs.
Mineralogy from logging measurements and core data.
Lithology corrections.
Shale volume in tight reservoirs.
Examples from several tight plays in the word.

Lithofacies determination from log data and mineralogy.

PETROPHYSICAL PROPERTIES CALCULATION IN TIGHT RESERVOIRS

2 d

Porosity calculation in tight reservoirs.

Total Organic Content (TOC) in tight reservoirs.

Water saturation evaluation.

Hydrocarbons in place.

Sweet spots determination.

Permeability and relative permeability.

Capillary pressure.

TIGHT RESERVOIR PETROPHYSICS WORKSHOP

1 d

Examples from several tight plays in the world.

Hands-on application: 3 different datasets of tight reservoirs (Oil & Gas).