

PVT Properties of Reservoir Fluids

DISCIPLINE

Reservoir
Engineering and
Petrophysics

COURSE DESCRIPTION

Knowledge of reservoir fluid properties is key to understand wide ranging topics in petroleum engineering such as reserves estimates, reservoir simulation, well test analysis and well performance modeling. Pressure-Volume-Temperature (PVT) analysis is used to classify reservoir fluid types and quantify their properties. This course will focus on reservoir fluid classification and PVT analysis.

COURSE DURATION

5 Days

DELIVERY METHOD

In-house

COURSE CONTENTS

- Phase behavior fundamentals
- Classification of reservoir fluids
- Fluid sampling techniques
- PVT laboratory testing
- PVT correlations:
 - ✓ Bubble point pressure
 - ✓ Oil formation volume factor
 - ✓ Total formation volume factor
 - ✓ Fluid compressibility
 - ✓ Oil density
 - ✓ Oil viscosity
 - ✓ Solution gas-oil ratio
- Gas equation of state
- Z-factor calculations
- Determination or gas density, viscosity, and formation volume factor
- Overview of reservoir fluid properties applications:
 - ✓ Reservoir estimates
 - ✓ Reservoir simulation
 - ✓ Well test analysis
 - ✓ Multi-phase flow correlations
 - √ Surface facilities design