Course Title: Reservoir Fluid Properties

Course Code: PE-212

Course Contents

Introduction to reservoir fluid and its behavior

Properties of reservoir fluids, phase behavior of single and multi-component mixtures, Properties of formation waters and relevance in reservoir engineering.

Sampling

Sampling and methods of sampling of reservoir fluids. The fluids chain.

PVT analysis/experiments

PVT analysis of reservoir fluids through experiments like CCE, CVD, DE & Separator test. Petroleum Reservoir fluid types, classification and its constituents. Field observations of PVT properties. Gas- Liquid Equilibrium (Flash Calculations). Compositional analysis of petroleum reservoir fluids, examples of typical compositional data on hydrocarbons and formation water. Convergence pressure, and general low-pressure calculation

Text book

1. William D. McCain, Jr. "Properties of Petroleum Fluids, 3rd Edition" Pennwell, ISBN1593703732, 2017.

Reference Book

1. Ali Danesh, "PVT and Phase Behaviour Of Petroleum Reservoir Fluids", Elsevier Science, 1998.
2. Tarek Ahmed, "Reservoir Engineering Handbook", 4th edition, Gulf Professional Publishing, 2010.