(9)   Gas Injection in Gas Condensate Reservoirs

WHO SHOULD ATTEND

- All engineers engaged in the oil and gas industry, in particular for those engineers involved with gas condensate reservoirs.
- Reservoir engineers and professionals who are familiar with reservoir engineering principles and are interested in maximizing liquid hydrocarbon recovery from gas-condensate reservoirs
- Engineers (production engineers, reservoir engineer and field engineer), and other staffs from an operating and/or service and/or consultant and/or engineering company involved in gas production operation process and engineering
- Engineers and technical personnel involving with appraisal or field development project, and/or reservoir management team intending to enhance their technical skills
- Engineers from an operating and/or service and/or consultant and/or engineering company requires improving their technical skills with high level of confidence to adapt appropriate technology to optimize the production performance and better reservoir management
- Technical, project and commercial managers, staff responsible in the production development, evaluation and field operation for gas facilities operation
- Sales and marketing professionals wishing to gain an understanding of Oil & Gas
- Suppliers or customers wanting to gain upstream or downstream knowledge

COURSE OBJECTIVES

- Calculate the flow gas wells in gas reservoirs
- Calculate hydrocarbons initially in place using several methods
- Assess reservoir performance with dynamic techniques
- Determine the parameters that impact well/reservoir performance over time
- Determine reservoir drive mechanisms for gas condensate reservoirs
- Apply gas field development planning principles
- The fundamentals of fluid flow in porous media
- How gas condensate reservoirs are characterized by fluid type and drive mechanisms
- Gas condensate displacement and optimizing reservoir performance
- The basics of enhanced gas condensate recovery
- How gas in place can be estimated and recovery predicted
- How to apply the material balance techniques
- How to derive the basic differential equation for radial flow in a porous medium
- How these properties affect fluid flow and the distribution of fluids in the reservoir
- How to perform basic material balance calculations for gas condensate reservoirs
- How reservoir drive mechanisms affect overall reservoir performance
- How to use fractional flow theory to calculate displacement efficiency
- How to measure and calculate gas properties at reservoir conditions
- How to calculate static pressure and condensate saturations distributions in a reservoir

CONTENT

Reservoir Fluid Types; Gas and Gas Condensate; Representative fluid sample; Molar balance; EOS Fundamentals: Pen-Robinson and Soave-Redlich-Kwong ; K-value correlations; Phase Envelopes; Estimation of gas condensate reserves; Volumetric Method; Eaton and Jacobi Correlations; Original Gas Condensate in Place (OGCIP); Material Balance; Pressure Declination Method; Retrograde Gas Reservoir; Gas Cycling Process; Gas Injection in a Gas Condensate Reservoir (case study)

INTENDED FOR

The course provides a basic understanding of gas condensate reservoir and fluid properties. The dry gas injection will yield a modification of the reservoir fluid composition as well as its phase envelope. Fundaments in the estimation of original gas in place using volumetric method, correlations and material balance method.