Waterflooding and Chemical Flood Processes

Course Price

£3050

Course Description

The case for Waterflooding:

Waterflooding is one of the most important methods of improving recovery from oil reservoirs. This section of the course concentrates on reservoir and field operations aspects of water injection for pressure maintenance and secondary recovery. Participants will study fractional displacement theory and all methods available in the oil & gas industry to predict oil recovery. The course is a theoretical practical course where participants have to work towards solving a series of projects, and to immediately apply the concepts, mathematical principles and theories presented and learned during the course. Laptop/computers will be used to solve problems related to waterflooding.

The Case for Chemical Flooding:

Valuable insight has been gained through chemical floods in the past – failures as well as successes. MP and ASP methods hold the greatest potential for commercial success; polymer flooding a third option. Chemical flooding processes must be re-evaluated under the current technical and economic conditions. Chemical floods offer the only chance of commercial success in many depleted and waterflooded reservoirs. Chemical flooding is here to stay because it holds the key to maximizing the reserves in our known reservoirs.

Course Objectives

- To understand and practice the prediction and interpretation of oil & gas reservoirs under different known methods of water Injection.
- To review primary recovery mechanisms through the fundamentals of rock and fluid interaction to the application of classical waterflood prediction techniques.
- Technical knowledge of waterflood pattern options and the effect of selection and orientation on flood performance.
- Computer understanding the use and of Material Balance Software (MBE)
- Injection Wells Specifications, Control and Hall Plot as a Monitoring Tool of after Injection Wells
- Discussion on “Practical Reservoir Management for Mature Waterflooding”.

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Who Should Attend

Designed for Oil and Gas engineers, engineering trainees, technical managers, technical assistants, technicians, chemists, physicists, technical supervisors, service company personnel, data processing personnel, and support staff working with Waterflooding and Chemical EOR Processes definition, development and production and others involved in maximizing /, and/or planning work-over operations. The program will benefit personnel who wish to broaden their knowledge of the technical environment and “best practices” of the Waterflooding and Chemical EOR Processes.

Course Content

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A. Waterflooding Technology:

• The Waterflooding Process and Waterflooding Description Oil and Gas Reservoir Evaluation by Using MBE Software

• Immiscible Displacement Theory and Practical Application

• Injection Wells Specification, Management and Control

• Vertical Distribution of Water Saturation

• Classical Waterflooding Prediction Methods and MBE Compute Applications

• Natural Water Inflow

• Management for Mature Waterfloods

• Computer Use For Economic of Waterflooding

B. EOR Chemical Floods Processes

• Polymer Methods

• Micellar-Polymer Flooding

• Caustic Flooding

• Chemical EOR Methods Limitations, Current and Status

Recent Changes: Failures and Successes.

C. Discussion and Conclusions
CPD Unit

Continuing Professional Development

35 HOURS CPD