Best Technology Solutions **BTS**

Principles of Reservoir Management Process

Training Program

Introduction:

This course will address all the principles of reservoir management. The reservoir management process with integrated concept, role of reservoir simulation in reservoir management and importance of reservoir surveillance and monitoring for the whole reservoir management process will be discussed. The significance of the production optimization process in addition to the economics evaluation will be incorporated. The course covers all aspects related to hydrocarbon recovery methods starting from the primary recovery and up to enhanced oil recovery. The course will focus on different aspects of reservoir management applications for new reservoirs, matured reservoirs, reservoir with small gas caps, reservoir with huge gas caps, thin oil rims, reservoirs with new infill opportunities and fractured reservoirs.

Who Should Attend?

Geologists, Geophysicists, Reservoir Engineers, Production Engineers, Petrophysicists, Petroleum Engineers, Drilling Engineers, Field Development Engineers, Managers, Asset Managers, Oil & Gas Engineers, Reservoir Operators, Surveillance Engineers, Technicians, Engineering Trainees, Technical Managers, Technical Assistants, Technicians, Chemists, Physicists, Technical Supervisors, Service Company Personnel responsible for improving the performance of petroleum reservoirs

Course Objectives:

By the end of this course, delegates will be able to:

- Understand the principles of reservoir management concept and process
- Understand reservoir management integration concept
- Understand the role of reservoir modeling in the reservoir management process
- Gain sufficient knowledge on the project economics evaluation
- Understand reservoir surveillance and monitoring
- Gain better knowledge on importance of production optimization
- Identify different aspects of reservoir management applications

Course Outline:

Introduction

- Reservoir management definition
- Reservoir management concept
- Integrated reservoir management concept
- Getting to understand your reservoir
- Reservoir drive mechanisms
- Reservoir rock properties
- Reservoir fluid properties
- Reservoir performance
- Reservoir management process
- Reservoir data management and interpretation

Role of Simulation in Reservoir Management

- Reservoir characterization
- Developing reservoir static model
- Developing reservoir dynamic
- Fluid characterization/PVT modeling
- Dynamic model calibration
- Setting reservoir future predictions

Oil Recovery Methods

- Primary recovery
- Secondary recovery
- Water flooding
- Flooding patterns
- Factors affecting water flooding
- Fractional flow curve
- Enhanced oil recovery

- EOR concept
- EOR screening criteria
- EOR types

Production Optimization Using Nodal Analysis Approach

- Objective of nodal analysis
- Production system pressure losses
- Nodal analysis approach
- Inflow/outflow curves
- Applications of nodal analysis

Reservoir Economic Evaluation

- Economic fundamentals
- Economic parameters
- Economic optimization

Reservoir Surveillance, Monitoring & Testing

- Importance of reservoir surveillance for reservoir management
- Reservoir measurements parameters
- Reservoir monitoring program
- Well test objectives
- Types of well tests
- Define test input/output data

Reservoir Management Case Applications

- New reservoirs
- Matured reservoirs
- Reservoirs with small gas caps
- Reservoirs with huge gas caps

- Thin oil rims
- Reservoirs with new infill opportunities
- Fractured reservoirs