



An Overview of Reservoir Management Concepts & Monitoring Techniques

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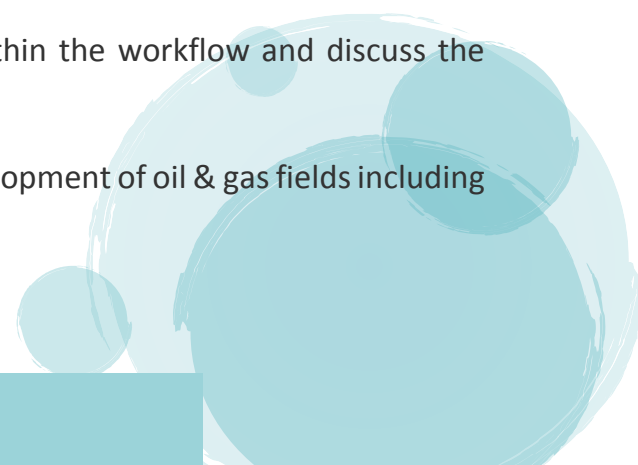
Introduction:

The principles of sound reservoir management are presented with emphasis on practical applications. Actual case histories are used to study both successes and failures. An interdisciplinary synergistic approach to efficient reservoir management is detailed with the goal of optimized profitability. The significance of each component and the importance of timing and cost/benefit analysis are emphasized.

Reservoir management models for optimum field development and field operating plans are analyzed. The interdisciplinary reservoir management approach shows how each technology or function contributes to the plan and how checks and balances are developed. This course provides a comprehensive overview of techniques used in the management of an asset, throughout its lifetime, from the discovery of a reservoir till the end of production.

Objectives:

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

- Discuss main concepts of reservoir management from geology to hydrocarbon recovery and export point
 - Include each reservoir management component within the workflow and discuss the importance of timing and cost/benefit analysis
 - List techniques and best practices related to the development of oil & gas fields including economic aspects
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- Describe petroleum resources management system (PRMS), reserves and resources definition and classifications
 - Describe main monitoring techniques in order to apply IOR and EOR methods during reservoir life
- Discuss integrating risks and uncertainties into reserves evaluation: static uncertainties, dynamic uncertainties, geostochastic modelling, etc.
 - Use the interdisciplinary synergistic approach leading to efficient reservoir management

Who should attend?

Geologists, Geophysicists, Reservoir Engineers, Production Engineers, Petro physicists, 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 Outline:

Introduction to Reservoir Management

- Objectives of reservoir management
- Field development projects: an integrated effort

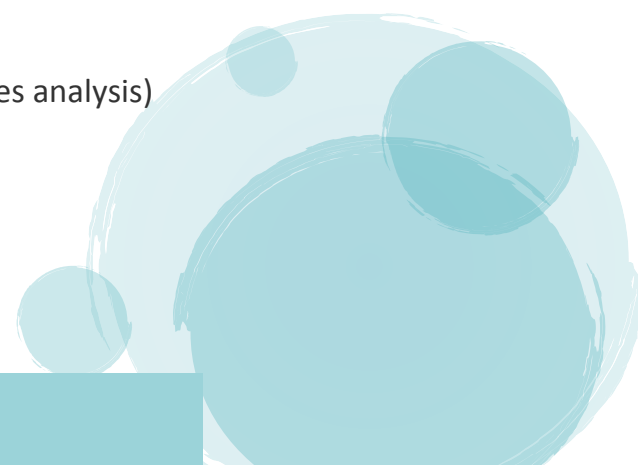
Decision Process & Business Aspects

- Development decision process
- Project economics (NPV, IRR,)

Reservoir characterization - Reminders

- Data gathering, data base, quality control
- Reservoir characterization workflow
- Reservoir geo-modeling workflow

Reserves Classification & Evaluation

- SPE definitions and principles (PRMS)
 - SEC definitions and guidelines
 - Reserve estimation and production profile tools
 - Analogue methods
 - Performance analysis (material balance, decline curves analysis)
 - Simulation models
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Reservoir Monitoring & Data Acquisition for IOR/EOR

- Definitions, facilities, planning & costs
- IOR and EOR definitions
- Open hole logging pressure profile, saturation, porosity, etc.
- Cased hole logging CBL, saturation monitoring, etc.
- 4D Seismic

Risks & Uncertainties

- Introduction to risks and uncertainties
- Definitions
- Notions of probability and decision trees
- Statistical description of data
- Geophysical uncertainties
- Geological uncertainties
- Reservoir uncertainties
- Notions of geostatistics and stochastic modeling
- Uncertainty assessment techniques