ADVANCED RESERVOIR ENGINEERING & MANAGEMENT

TRAINIT ACADEMY

DRPT109
Drilling, Reservoir & Petroleum Training

COURSE TITLE

ADVANCED RESERVOIR ENGINEERING & MANAGEMENT

COURSE DATE/ VENUE

17-21 January, 2022

London, UK

COURSE REFERENCE

DRPT109

COURSE DURATION

05 days

DISCIPLINE

Drilling, Reservoir & Petroleum Training

COURSE INTRODUCTION

Oil Reservoirs have been created by complex sedimentary and diagenetic processes, and modified by a history of tectonic change. Reservoirs are complex systems on all scales. Decisions such as pumping and injection, new well placement, and drilling in an active oil field, are typical of the complex relationships between reservoir engineering and oil field/reservoir management.

A reservoir's life begins with exploration that leads to discovery, which is followed by delineation of the reservoir, development of the field, production by primary, secondary, and tertiary means, and finally to abandonment. Integrated, sound reservoir management is the key to a successful operation throughout a reservoir's life. Further, the need to enhance recovery from the vast amount of remaining oil and gas-in-place, plus the global competition, requires better reservoir management practices. Reservoir engineering is the application of scientific principles to solve issues arising during the development and production of oil and gas reservoirs. This course covers the engineering operations involved in analysing the production behaviour of oil and gas wells, including well

performance engineering, reservoir aspects of well performance, restricted flow into the wellbore, rate decline analysis, and fundamentals of artificial lift.

This course is designed to provide many tools and techniques to help address the challenges of providing a more reliable and sound reservoir engineering & management. In addition to a wealth of classic information on the concepts and processes involved in reservoir engineering and management, the course presents insights about data acquisition, reservoir performance analysis & forecast, reservoir management economics and improved recovery processes. Further, the course is illustrated through a number of case studies, which will be shown to the participants to help them appreciate the concepts presented in the course.

COURSE OBJECTIVE

Upon successful completion of this course, the delegates will be able to:

- ✓ Be familiar with reservoir management, explain the integration of geoscience and engineering & know the reasons for integrating exploration and development technology
- ✓ Ensure the proper execution of the reservoir management process
- ✓ Illustrate the proper procedure for data acquisition, analysis and management which includes validation, storing, retrieval and application
- ✓ Explain the role of reservoir models as well as the importance of reservoir surveillance
- ✓ Apply the different methods of reservoir performance analysis and forecast & give emphasis on the integration of production/injection data, log data, pressure data and any subsurface data for analysis
- ✓ Provide details on the reservoir management economics, which includes economic criteria, scenarios, economic evaluation, risk and uncertainties
- ✓ Understand the improved recovery processes related to water flooding, thermal methods, chemical methods and EOR screening guidelines
- ✓ Implement reservoir management plans for newly discovered fields, secondary and EOR operated fields

- ✓ Plan the outlook and the next step & be ready with the current challenges and areas of further work for reservoir engineering and management

COURSE AUDIENCE

Engineers, geologists, geophysicists, field operation staffs, managers, government officials, and others involved with reservoirs.

COURSE CONTENT

- Introduction to Reservoir Engineering
- Petrophysical properties of rocks
- Reservoir fluid properties
- Fluid flow through porous media
- Reservoir performance prediction
- Concepts of pressure maintenance and EOR
- Reserve estimation – volumetric, MBE and decline curves
- Oil and gas field development
- Reservoir management
- Decision analysis and probability concept
- Reservoir management plan
- Reservoir drive mechanisms
- Estimation of reserves and prediction of reservoir performance
- Secondary recovery and pressure maintenance
- Introduction to enhanced oil recovery techniques
- Depreciation accounting in cash flow analysis
- Economic evaluation of oilfield development.

COURSE CERTIFICATE

TRAINIT ACADEMY will award an internationally recognized certificate(s) for each delegate on completion of training.

COURSE FEES

$6,150 per Delegate. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

COURSE METHODOLOGY

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions