

# Development Geology



**DRPT116**  
**Drilling, Reservoir**  
**& Geology**

## **COURSE TITLE**

**Development Geology**

## **COURSE DATE/ VENUE**

**12<sup>th</sup> - 16<sup>th</sup> Aug 24'**

**London, UK**

## **COURSE REFERENCE**

**DRPT116**

## **COURSE DURATION**

**05 Days**

## **DISCIPLINE**

**Drilling, Reservoir & Geology**

## **COURSE INTRODUCTION**

Effective field appraisal, development, and management necessitate a fundamental grasp of reservoir pore space distribution. Through hands-on exercises, participants will learn to compile a development plan that emphasizes optimal recovery. The course focuses on rock, log, and test data to distinguish between reservoir and non-reservoir rock properties. Structural, stratigraphic, depositional, and diagenetic concepts are employed to locate drill sites and describe reservoirs. The input required to construct a geologic reservoir model is reviewed. Participants will also learn the importance of modifying development plans as a field matures, with discussions on techniques for rejuvenating mature fields through case histories.

## **COURSE OBJECTIVE**

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

- Select optimal drill sites for field development
- Utilize log and rock data to identify reservoir and non-reservoir rock, and pay zones
- Determine fluid distribution and identify reservoir compartments

- Estimate field reserves throughout the life of the field
- Characterize carbonate and clastic rocks by productivity
- Construct geological reservoir models
- Determine field drive mechanisms
- Apply seismic analysis to reservoir development
- Optimize development through depositional characteristics
- Compile comprehensive development plans
- Use economic techniques to evaluate different development plans
- Understand the impact of drive mechanisms on recovery
- Apply seismic techniques for field development
- Optimize hydrocarbon recovery through development drilling
- Assess the economic impacts on field development
- Identify key factors affecting the development of fractured reservoirs
- Understand the impact of barriers on field development
- Implement secondary and tertiary field development strategies
- Rejuvenate old, marginal fields

### **COURSE AUDIENCE**

This course is designed for reservoir, development, and exploration geologists; geophysicists; petrophysicists; log analysts; petroleum engineers; and experienced technicians.

### **COURSE CONTENT**

#### **Day 1: Development Projects and Subsurface Data**

Life cycle of oil and gas fields

Oil and gas development projects

Subsurface data and data gaps

Reservoir rock and fluid properties

Characteristics impacting field development

#### **Day 2: Measurements and Evaluation of Subsurface Data**

Basic well technology, including horizontal wells, and well data

Log and core data, uncertainties, and mapping

Characteristics of carbonate reservoirs

Subsurface pressures, with practical exercises

### **Day 3: Subsurface Models**

Application of geostatistics in reservoir characterization

Seismic attributes for development geology

Use of conceptual models and analogue field data

Construction of reservoir geological models (static models)

Design and upscaling of dynamic grids

Reservoir dynamic models

Model validation and ranking

### **Day 4: Volumetric Reserve Estimation and Uncertainty Analysis**

Influencing elements in volumetric reserve estimation

Methods for volumetric estimation

Deterministic and probabilistic reserve estimation

Conducting uncertainty analysis

Reserves classification and reporting

Techniques for optimizing hydrocarbon recovery through development drilling

### **Day 5: Subsurface Development Options**

Field development planning (FDP)

Use of analogue fields in development planning

Project economics and sensitivity analysis

Decision-making processes in field development

Project planning and risk management strategies

Strategies for secondary and tertiary field development

## **COURSE CERTIFICATE**

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

## **COURSE FEES**

£5,750 per Delegate. This rate includes participant's manual, Hand-Outs, 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