**TRAINING TITLE**
**GEOPHYSICAL RESERVOIR CHARACTERIZATION**

**Training Duration**
**5 days**

**Training Venue and Dates**

| DE347 | Geophysical Reservoir Characterization | 5 | 15-19 Dec 2025 | $5,750 | DUBAI, UAE |
|-------|------------------------------------------|---|----------------|--------|------------|

**In any of the 4 or 5-star hotels. The exact venue will be informed later.**

**Training Fees**
- **$5,750 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch**

**Training Certificate**
**Define** **Management Consultancy & Training Certificate of course completion will be issued to all attendees.**

**TRAINING DESCRIPTION**
This course focuses on the integration of geophysical data and techniques for reservoir characterization in the oil and gas industry. It covers the use of seismic data, well logs, and other geophysical methods to build accurate subsurface models that help in understanding reservoir properties, fluid distribution, and potential production. The course provides a practical approach to how geophysical data is used in reservoir characterization, aiding in reservoir management, development planning, and optimization of hydrocarbon recovery.

**TRAINING OBJECTIVES**
**By the end of this course, participants will be able to:**
- Understand the role of geophysics in reservoir characterization and development.
- Learn how seismic, well-log, and other geophysical data can be integrated to build reservoir models.
- Gain skills in interpreting and analyzing geophysical data for subsurface characterization.
- Explore the relationship between geophysical properties and reservoir performance.
- Learn how geophysical techniques contribute to reservoir management, including field development and production optimization.

## WHO SHOULD ATTEND?

- Reservoir engineers, geophysicists, and geologists working in the oil and gas industry.
- Professionals involved in reservoir modeling, interpretation, and simulation.
- Engineers and technical personnel involved in reservoir development, monitoring, and optimization.
- Individuals who want to develop a deeper understanding of how geophysical data contributes to reservoir management.

## TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. 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.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work& Practical Exercises
- 20% Videos& General Discussions

## COURSE PROGRAM:

**Day 1: Introduction to Geophysical Reservoir Characterization**

- Overview of reservoir characterization and the role of geophysics.
- Types of geophysical data: Seismic, well logs, electromagnetic, and gravitational methods.
- Importance of integrating geophysical data with geological and petrophysical data.
- Basic principles of seismic waves, reflection, and refraction.
- Overview of geophysical tools and techniques used in reservoir characterization.

**Day 2: Seismic Data Interpretation and Reservoir Imaging**

- Fundamentals of seismic data acquisition and processing.
- Interpreting seismic data: Time and depth domains.
- Seismic attributes: Amplitude, phase, frequency, and seismic inversion.
- Seismic interpretation techniques: Faults, horizons, and structural analysis.

*DMCT/OL/9/18(Rev3Dt:23/9/18)*

- Imaging the subsurface: 2D and 3D seismic data and reservoir mapping.

### Day 3: Well Logs and Geophysical Data Integration

- Types of well logs: Electrical, nuclear, acoustic, and sonic logs.
- Using well logs for reservoir characterization: Lithology, porosity, and permeability.
- Combining seismic data with well logs for reservoir modeling.
- Geophysical data integration techniques: Seismic-to-well tie and impedance inversion.
- Quantitative interpretation: Using well log data to constrain seismic models.

### Day 4: Advanced Geophysical Techniques for Reservoir Characterization

- Seismic inversion and its applications in reservoir characterization.
- AVO (Amplitude Versus Offset) analysis for fluid detection and reservoir property estimation.
- Time-lapse (4D) seismic monitoring for reservoir monitoring and management.
- Electromagnetic methods: Resistivity and conductivity in characterizing fluid reservoirs.
- Geophysical methods for detecting fractures, faults, and fluid migration.

### Day 5: Geophysical Data for Reservoir Management and Field Development

- Building reservoir models using geophysical data: Static and dynamic models.
- Using geophysical data to assess reservoir quality, fluid distribution, and recovery potential.
- Role of geophysics in field development planning: Optimizing well placement and completion.
- Monitoring and optimizing reservoir performance using geophysical data.

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**NOTE:**
**Pre-& Post Tests will be conducted.**
**Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.**

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