Global Horizon
TRAINING CENTER

Training Course:
Advanced Fault Seal Analysis for Hydrocarbon Exploration and Field Development

14 - 18 June 2026
Istanbul (Turkey)
DoubleTree by Hilton Istanbul Esentepe

Training Course:
Advanced Fault Seal Analysis for Hydrocarbon Exploration and Field Development

Training Course code: EN236389 From: 14 - 18 June 2026 Venue: Istanbul (Turkey) - DoubleTree by Hilton Istanbul Esentepe Training Course Fees: 6825 Euro

Introduction

Fault seal analysis is a critical discipline in petroleum geology and reservoir engineering, directly influencing hydrocarbon trapping, field development strategies, and risk reduction in exploration and production activities. Understanding whether faults act as barriers or conduits to fluid flow is essential for accurate reservoir characterization, volumetric estimation, and production planning.

This training program, designed and delivered by Global Horizon Training Center, provides a comprehensive and applied understanding of fault seal mechanisms, analytical techniques, and decision-making frameworks used in exploration and development projects. The program bridges geological theory with real-world applications, enabling participants to evaluate fault sealing behavior and integrate results into subsurface models and development plans.

Program Objectives

By the end of this program, participants will be able to:

- Understand the geological and geomechanical principles governing fault seal behavior
- Distinguish between different fault seal mechanisms and their implications for hydrocarbon accumulation
- Apply fault seal analysis techniques using geological, petrophysical, and pressure data
- Assess fault-related risks during exploration, appraisal, and development phases
- Integrate fault seal evaluation into reservoir modeling and field development planning
- Support decision-making related to well placement, compartmentalization, and production strategy

Target Audience

This program is designed for:

- Exploration and Development Geologists
- Reservoir Engineers
- Geophysicists and Structural Geologists

- Subsurface and Asset Development Teams
- Petroleum Engineers involved in field planning
- Technical professionals involved in reservoir characterization and modeling

Outline

Day 1: Fundamentals of Faults and Structural Controls

- Overview of fault systems in sedimentary basins
- Fault classification: normal, reverse, strike-slip, and hybrid faults
- Fault geometry, segmentation, and growth history
- Relationship between faults, stratigraphy, and reservoir architecture
- Introduction to fault seal concepts in exploration and development
- Common misconceptions and limitations in fault seal interpretation

Day 2: Fault Seal Mechanisms and Geological Controls

- Fault juxtaposition and its impact on seal integrity
- Shale gouge development and clay smearing processes
- Fault zone architecture: core, damage zone, and fracture networks
- Lithological controls on fault sealing capacity
- Role of burial history, diagenesis, and compaction
- Impact of fault reactivation on seal behavior

Day 3: Fault Seal Analysis Techniques and Tools

- Fault juxtaposition analysis and Allan diagrams
- Shale Gouge Ratio SGR, Clay Smear Potential CSP, and related indices
- Use of well logs and petrophysical data in fault seal assessment
- Integration of seismic interpretation with fault seal analysis

- Pressure data, fluid contacts, and fault transmissibility
- Uncertainty management and sensitivity analysis

Day 4: Fault Seal in Reservoir Modeling and Development Planning

- Incorporating fault seal properties into static reservoir models
- Fault transmissibility multipliers and dynamic modeling concepts
- Compartmentalization and its impact on reserves and production
- Implications for well placement and completion strategy
- Managing fault-related risks during appraisal and early development
- Decision workflows linking fault seal analysis to field development plans

Day 5: Applied Case Studies and Integrated Workflows

- Exploration case studies: fault seal risk in trap evaluation
- Development case studies: fault-controlled compartmentalization
- Lessons learned from failed and successful fault seal predictions
- Best practices for multidisciplinary integration
- Practical workflow for fault seal evaluation from seismic to simulation
- Program wrap-up, key takeaways, and application roadmap.

Registration form on the Training Course: Advanced Fault Seal Analysis for Hydrocarbon Exploration and Field Development

Training Course code: EN236389 From: 14 - 18 June 2026 Venue: Istanbul (Turkey) - DoubleTree by Hilton Istanbul Esentepe Training Course Fees: 6825 Euro

Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

Delegate Information

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
Official E-Mail: .....

Company Information

Company Name: .....
Address: .....
City / Country: .....

Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
Official E-Mail: .....

Payment Method

☐ Please find enclosed a cheque made payable to Global Horizon

☐ Please invoice me

☐ Please invoice my company

Easy Ways To Register

Telephone: +201095004484 to provisionally reserve your place.

Fax your completed registration form to: +20233379764

E-mail to us : info@gh4t.com or training@gh4t.com

Complete & return the booking form with cheque to:Global Horizon 3 Oudai street, Aldouki, Giza, Giza Governorate, Egypt.