JUPITER PRIME

Consulting • Training • Advisory

جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

# Rift and Passive Margin Petroleum Basin Geology Training Course

3 – 7 May 2027
Amsterdam

**jupiterprime.uk**

info@jupiterprime.uk

Registered in the United Kingdom and Saudi Arabia

# Rift and Passive Margin Petroleum Basin Geology Training Course

**Ref:** 2910_110895 **Date:** 3 – 7 May 2027 **Location:** Amsterdam **Fees:** 6200 GBP

Rift and Passive Margin Petroleum Basin Geology is a 1-week training course for exploration geologists and geoscientists who must read how a basin opened, subsided and filled, and leave with a regional play summary for one basin type. Exploration portfolios now depend on remaining traps in mature rifts and on ranking frontier margins before costly wells. Jupiter Prime Training delivers this course on Rift and Passive Margin Petroleum Basin Geology.

## Why Rift and Passive Margin Petroleum Basin Geology Matters Now

Three pressures shape this subject today. Licence rounds offer deep-water margins with sparse wells, so geoscientists must predict source, reservoir and seal from tectonic setting alone. Mature rift provinces are moving from structural highs to subtle stratigraphic and syn-rift traps that demand sharper sequence interpretation. A company that reads basin evolution well spends its exploration budget on fairways with working petroleum systems; one that reads it poorly drills attractive structures that never received charge or lost their seal.

## Who Gains Most from Rift and Passive Margin Petroleum Basin Geology

- Geologists mapping basin fill, unconformities and tectono-stratigraphic megasequences
- Geophysicists who interpret fault blocks, rollover structures and margin architecture on regional seismic lines
- Geochemists who assess the richness and maturity of lacustrine and marine source intervals
- New-ventures specialists who screen open acreage before bid decisions
- Prospect generators who carry regional chance factors down into individual leads

Exploration asset groups gain most when interpreters, geochemists and new-ventures staff attend together.

## Rift and Passive Margin Petroleum Basin Geology Capabilities

Participants link each phase of extension and subsidence to the petroleum elements it deposits or destroys.

- Classify a basin by its stage of extension, thermal sag or later inversion — acreage screening decisions
- Assess syn-rift and post-rift source rock potential from depositional setting — charge risk owners
- Specify reservoir fairways in fan deltas, shelf sands and deep-water turbidites — prospect generators
- Weigh regional seal capacity of evaporites, marine shales and drowning surfaces — chance-of-success reviews
- Build common risk segment maps from regional stratigraphic correlation — new-ventures leadership
- Communicate basin-scale risk in a regional play summary — investment committees

## Key Rift and Passive Margin Petroleum Basin Geology Terms

- Syn-rift sequence — sediments deposited while extensional faults were active, thickening towards the bounding fault.
- Post-rift thermal sag — broad subsidence after faulting stops, as the stretched lithosphere cools and the basin deepens without new faults.
- Breakup unconformity — a regional surface marking the change from continental rifting to ocean spreading.
- Half-graben — an asymmetric fault-bounded depression where one major normal fault controls tilt, accommodation and sediment supply.
- Play fairway — the area where all elements of a play type are judged present and effective together.
- Common risk segment map — a map dividing a play into zones of shared chance for source, reservoir, seal and trap.

## Rift and Passive Margin Petroleum Basin Geology Day by Day

## Day 1: Lithosphere Extension and Basin Origins

- Crustal Stretching and Subsidence Curves — Predicting Accommodation Through Time
- Rift Initiation, Linkage and Fault Growth — Locating Early Depocentres
- Volcanic and Non-Volcanic Margin Types — Screening Frontier Margin Prospectivity
- Heat Flow History Across Rift and Sag — Timing of Source Maturation
- Basin Classification Matrix — Comparing Analogue Basins for New Acreage

## Day 2: Syn-Rift Fill and Its Petroleum Elements

- Half-Graben Architecture and Tilted Fault Blocks — Structural Trap Inventory
- Lacustrine Source Rock Settings — Rich Oil-Prone Kitchen Prediction
- Fan Delta and Footwall-Derived Reservoirs — Reservoir Quality Near Faults
- Fault Seal and Juxtaposition Diagrams — Lateral Seal Risk on Fault Blocks
- Syn-Rift Unconformity Mapping — Truncation Traps Beneath the Breakup Surface

## Day 3: Passive Margin Subsidence and Deep-Water Systems

- Breakup Unconformity and Drowning Surfaces — Regional Seal Placement
- Salt Basins and Evaporite Seals on Margins — Sub-Salt Play Viability
- Shelf Margin Clinoforms and Sequence Stacking — Shelf Edge Reservoir Prediction
- Turbidite Channel and Fan Systems — Deep-Water Reservoir Fairway Limits
- Gravity Sliding and Toe Thrust Belts — Structural Traps on Outer Margins

## Day 4: Late Overprints and Regional Risk Mapping

- Basin Inversion and Foreland Loading — Trap Breach and Remigration Risk
- Regional Well Correlation Panels — Chronostratigraphic Correlation for Play Definition
- Gross Depositional Environment Maps — Reservoir and Seal Presence Boundaries
- Source Kitchen and Migration Pathway Maps — Charge Access to Traps
- Common Risk Segment Mapping — Composite Play Chance Across the Basin

## Day 5: Practising the Regional Play Summary

- Selecting the Basin Analogue and Play Types — Scope of the Summary
- Assembling Stage-by-Stage Petroleum Elements — Linking Earlier Days' Evidence
- Stacking Risk Segment Maps into Fairways — Ranking Areas for Seismic
- Peer Challenge of Charge and Seal Assumptions — Strengthening Weak Elements
- Completing the Regional Play Summary — Recommendation to New-Ventures Leadership

## Applying Rift and Passive Margin Petroleum Basin Geology After the Course

- Lead a review of the home basin's tectono-stratigraphic megasequences and redraw its common risk segment maps for the main play.
- Run a screening session comparing two open blocks against syn-rift and post-rift analogue basins before the next bid decision.

## Rift and Passive Margin Petroleum Basin Geology Questions FAQ

### What is Rift and Passive Margin Petroleum Basin Geology and why does it matter now?

It is the study of how extensional basins and continental margins form and which source rocks, reservoirs and seals each stage creates. It matters now because remaining discoveries lie in subtle syn-rift traps and sparsely drilled deep-water margins.

### Which roles gain most from Rift and Passive Margin Petroleum Basin Geology?

Exploration geologists, seismic interpreters, geochemists and new-ventures specialists gain most. Each uses basin evolution to judge charge, reservoir and seal before drilling.

## How does Rift and Passive Margin Petroleum Basin Geology differ from a basin modelling course?

This course reads tectonic stages and stratigraphy at regional scale to map play fairways; a basin modelling course simulates burial and generation numerically at one location.

## What do you bring back from Rift and Passive Margin Petroleum Basin Geology?

You bring back a regional play summary for one basin type, with risk segment maps and a ranked fairway recommendation for your exploration group.

## Rift and Passive Margin Petroleum Basin Geology: The Way Forward

The regional play summary first informs where the next seismic survey or licence application should focus. New-ventures leaders and asset geoscientists use it to compare fairways on one consistent basis. After its first use, revisit the seal and charge maps once new wells or reprocessed seismic arrive.