



W005: The Upper Jurassic of the North Sea: A Case Study in Assessing Controls on Reservoir Quality in Shallow Marine Depositional Systems

Instructor(s): To Be Confirmed

2 Days	Competence Level: Skilled
	Classroom Course

Summary

The workshop will focus on characterising the controls on reservoir distribution and reservoir quality in shallow marine shoreface and shelf depositional systems. The key learnings will be exportable to shallow marine plays in different geographic areas and/or lithostratigraphic units. Core analysis will focus on the Upper Jurassic Ula Formation but the learnings overall have regional applicability to the Fulmar Formation and other North Sea equivalents.

Duration and Training Method

The workshop will explore the criteria necessary to differentiate sedimentary successions deposited in land-attached shoreface settings and non land-attached shelf sand fairways, whilst also investigating primary and secondary controls on reservoir quality in both play types. The structural controls on sandbody distribution within a stratigraphic context will also be investigated, particularly the influence of diapiric activity. Understanding the role of diapirism and its influence on reservoir presence/absence is exportable to other diapir-influenced shallow marine depositional systems. Exercises and case studies will illustrate problems associated with stratigraphic interpretation, sandbody correlation and facies interpretation in shallow marine systems. Core viewing will allow participants to make observations and will include group exercises focussing on constraining depositional models within a sequence stratigraphic framework and understanding controls on reservoir quality.

Who Should Attend

The course is designed to appeal to all geoscientists and petroleum engineers involved in the subsurface analysis of the Upper Jurassic of the North Sea. Although emphasis will be placed on using the data within an exploration context, many themes will be of equal value to participants focussed on reservoir-scale field development and production.

Prerequisites and Linking Courses

There are no prerequisites for this workshop

Course Content

Day 1 - Introduction to the Ula Formation and its applicability as a case study for Late Jurassic syn-rift shallow marine plays

- Upper Jurassic stratigraphy of the Central Graben
- Depositional models, including modern and ancient analogues
- Geochemical, petrophysical and mineralogical concepts related to Ula reservoir quality
- Primary (i.e. depositional) and secondary (i.e. diagenetic) controls on reservoir quality
- Core viewing and exercises
- Wireline log and CCA data exercises



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Day 2 - Facies architecture and controls on reservoir quality in shallow marine depositional systems

- Facies architecture and controls on reservoir quality in shallow marine depositional systems
- The role of diapirs and salt movement on sandbody distribution and architecture
- Links between depositional processes, diagenesis and reservoir quality
- Integration of petrophysical, CCA and wireline log data with sedimentological data
- Core viewing and exercises
- Conclusions and wrap-up