PetroSkills

# Sequence Stratigraphy: An Applied Workshop - SQS

COURSE

## About the Course

Sequence stratigraphy, based on sedimentary response to changes in relative sea level gives the explorationist and the development geoscientist a powerful new predictive tool for regional basin analysis, shelf to basin correlation, and reservoir heterogeneity. Perhaps most importantly, sequence stratigraphy gives the geoscientist a superior framework for the integration of geologic, geophysical, and engineering data and expertise.

The particular strength of this seminar is the application of these basic principles to actual subsurface data sets gathered into a series of well-founded exercises. In recent courses the data sets included Miocene delta complexes in Venezuela, Cretaceous incised valleys in the US, Paleozoic mixed carbonate clastic basin floor fans and low stand prograding complexes in the US, and Jurassic basin floor and slope fans in France.

*"The exercises were extremely helpful. The "idealized" parasequence exercises were great for visualizing, and then the follow up, more realistic exercises were perfect for cementing the concept. Same idea for the sequence exercises."* - Geologist, United States

*"Hands-on"* - Geologist, Japan

## Target Audience

Geologists, geophysicists, biostratigraphers, and engineers (with some knowledge of geology) needing a fundamental understanding of the principles and applications of sequence stratigraphy.

## You Will Learn

Participants will learn how to:

- Identify unconformities and sequence boundaries
- Identify parasequences and utilize in correlation
- Identify incised valleys
- Visualize and interpret deep water fans and their geometries
- Recognize seismic signatures of deep water deposits
- Relate sequence stratigraphy to basin architecture and relative sea levels
- Build predictive stratigraphic models
- Utilize sequence stratigraphy to develop exploration/production strategies

**Course Content**

- Seismic geometries
- Unconformities
- Relative sea level
- Eustasy
- Parasequences and their stacking patterns
- Parasequences as a correlation tool
- Relationship of stratigraphic patterns to changes in subsidence rates as driven by regional and earth scale tectonic processes
- Cycle hierarchy
- World-wide cycle chart and its application
- The sequence stratigraphic model
- LST sequence boundaries, incised valleys, slope fans, basin floor fans, and prograding complexes
- TST incised valley fill, source rock and reservoir seal
- HST alluvial, deltaic, shoreline complexes and shelf sands
- Sequence stratigraphy in a mixed clastic/carbonate province
- Exploration and production scaled case histories and strategies

**Product Details**

Categories: Upstream

Disciplines: Geology

Levels: Foundation

Product Type: Course

Formats Available: In-Classroom

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