

Sequence and Seismic Stratigraphy applied to Exploration and Reservoirs Evaluation in siliciclastic

Basics and Applications

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Objectives: To acquire the basis of Sequence and Seismic Stratigraphy methods in order to interpret both Seismic Profiles, Outcrops, Well logs and Cores

Who should attend: Post Graduate to Master & Phd seminar

Prerequisites: Have a minimum back-ground in Geophysics and Sedimentary Geology

Duration: 5 days including lectures and practical applications; possibility of a week extension with local application on the field.

Language: English/French

Handouts: Slides in English, Course in pdf as well as application corrections

Program

Day 1: Sequence stratigraphy Concepts Introduction

- Key basic observations and where the concept comes from; Historical perspective
- Key Parameters controlling siliciclastic sedimentation
- Sea level changes driving mechanisms
- Stratigraphic cycles hierarchy, importance of datations & biostratigraphy

Day 2: Depositional Sequences and System tracts definition

- Sequence Stratigraphy Surfaces
- Basic geometrical relationships
- Third order depositional sequence
- System tracts definitions and characteristics of key stratigraphic surfaces from continental systems to deep water settings

Day 3: Stacking pattern methodology

- Application to outcrops analysis
- Application to well logs in continental settings,
- Application to delta, shelf systems and Incised Valley
- Applications to Turbidites
Including numerous exercises and correlations

Day 4: Seismic Stratigraphy

- Basics of seismic reflectors and concept
- Stratal pattern terminations
- Characterisation of Large scale stratigraphic cycles
- Interpretation of Third order depositional sequence and related system tracts

Day 5: Application of Sequence and Seismic Stratigraphy to Reservoir and Basin exploration

- Sequence Stratigraphy a pre-requisite for reservoir layering
- Sequence and systems tract variability in various tectonic settings according to basin classifications.
- Used of sequence stratigraphy to build play maps
- Integration with Seismic geomorphology
- New tools allowing automatic stratigraphic picking: Sismage and Paleoscan