

BEST PRACTICES IN DEEPWATER EXPLORATION

General:

Discipline: Deepwater exploration (facies analysis and process interpretation, facies tracts, seismic response of deepwater facies, seismic stratigraphy, reservoir prediction)

Level: Advance

Duration: 5 days

Instructor: Jean GERARD

Purpose:

Combining first class outcrop examination and fully documented presentations and posters in classrooms are the ideal way for conveying latest developments in deepwater systems. Deepwater facies description and process interpretation are fundamental to describe and predict lateral facies variations and connectivity away from a wellbore.

Outstanding Eocene outcrops from southern Pyrenees basin are selected to demonstrate the facies tracts from delta slope to basin. This transect is accessible within a short distance in the order of 60km avoiding long driving. Accommodation and facilities are excellent in the area.

References to published outcrops of the world will be used to illustrate the facies tracts and lateral variations inside and away the main sediment fairways.

Subsurface case studies will be presented to illustrate the contribution of detailed seismic interpretation to prospect evaluation and ranking for deepwater exploration projects and reservoir delineation for appraisal and production projects.

Designed for:

Both young professional and senior geoscientists (geologists, geophysicists, and reservoir engineers) wanting to develop technical skills in deepwater facies analysis, architectural elements, and associated reservoir characteristics.

You Will Learn:

How to:

- Describe deepwater sedimentary facies
- Interpret depositional processes from sedimentary facies
- Analyse facies associations using stacking pattern analysis
- Identify architectural elements (canyons, channels, channel to lobe transition zones and lobes)
- Identify correlative cycles and abandonment phase
- Correlate sequences
- Use meaningful seismic attributes
- Predict and delineate reservoirs
- Support exploration team during prospect evaluation and ranking
- Support appraisal and production teams during field development planning and production optimization programs

Course Content:

- Fundamental concepts of stratigraphy
- Sedimentary facies: grain size, sorting, texture, porosity, permeability
- Geometric characteristics of architectural elements
- Stratigraphic orders
- Significant geological surfaces
- Well correlation
- Seismic displays
- Seismic tie of geological surfaces and selection of seismic horizons
- Interpretation of key seismic horizons to compute seismic attributes
- Prediction, delineation, and mapping of reservoirs inside deepwater depositional systems
- Prospect evaluation and ranking for exploration projects
- Reservoir delineation and production issues

Software applications:

- Microsoft Office



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