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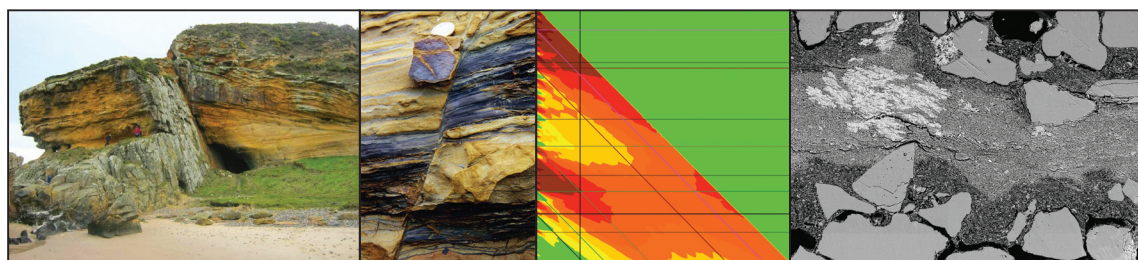
Registration Open

Handling Fault Seals, Baffles, Barriers and Conduits

Cost Effective & Integrated Fault Seal Analysis

15-17 November 2017

The Geological Society, Burlington House, Piccadilly, London



Faults are a key component of heterogeneity in reservoirs. They can trap/seal hydrocarbons or be barriers/baffles to fluid flow in a producing field. Whether or not they seal or act as a barrier to fluid flow is crucial in every part of the petroleum value chain – from prospect generation to development well planning. Characterizing the fluid flow properties of faults is often seen as a specialist subject, requiring dedicated software, and is often overlooked. However, most aspects of fault seal analysis draws upon the skills of an integrated geoscientist who can utilize all available data (e.g. seismic, well log, core, thin-section, outcrop, laboratory, PVT, and dynamic data) and assess uncertainty in both input data and interpretation. There are relatively simple and well established workflows (i.e., juxtaposition analysis, shale gouge calculations, which may or may not work depending on reservoir architecture and geomechanical conditions) that a geoscientist should follow that help characterize fault seal potential, but how to address more detailed challenges related to the intrinsic properties of fault rocks (i.e. other than shale gouge), fault geometries (i.e. segmentation) and setting (i.e. non-clastic lithologies, geomechanical effects, neotectonics) is not well established.

This meeting will build upon previous meetings to consider the most-cost effective ways of carrying out an integrated fault seal analysis in today's environment, in order to understand the uncertainties, risks and upsides associated with fault-related fluid flow. All parts of the petroleum value chain from exploration and appraisal to – development and production will be considered.

Themes/Thematic sessions

- Types of fault seal (processes, juxtaposition, reactivation) and established techniques
- Fault rock/zone architectures in core and outcrop
- Laboratory studies of fault rocks
- Fault slip modelling and simulation
- Reservoir geomechanics including coupled simulation modelling during production
- Fault seal in exploration and appraisal (i) workflows – seismic, juxtaposition diagrams, pre-and post-well scenarios, (ii) fault-controlled traps, (iii) basin modelling and migration, (iv) neotectonic settings
- Fault seal in development and production (i) workflows (as above but including more dynamic data, 4D Seismic, reservoir monitoring), (ii) baffles, barriers to flow, (iii) impact upon completion designs, depletion plans, (iv) fault reactivation, (v) uncertainty assessment.
- Novel approaches to handle issues where the basic workflow cannot address the key uncertainties e.g., self-juxtaposition seal in sands, fluid movement up and along faults.

To register:

Please visit the conference website: www.geolsoc.org.uk/PG-Fault-Seals

For further information please contact:

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