



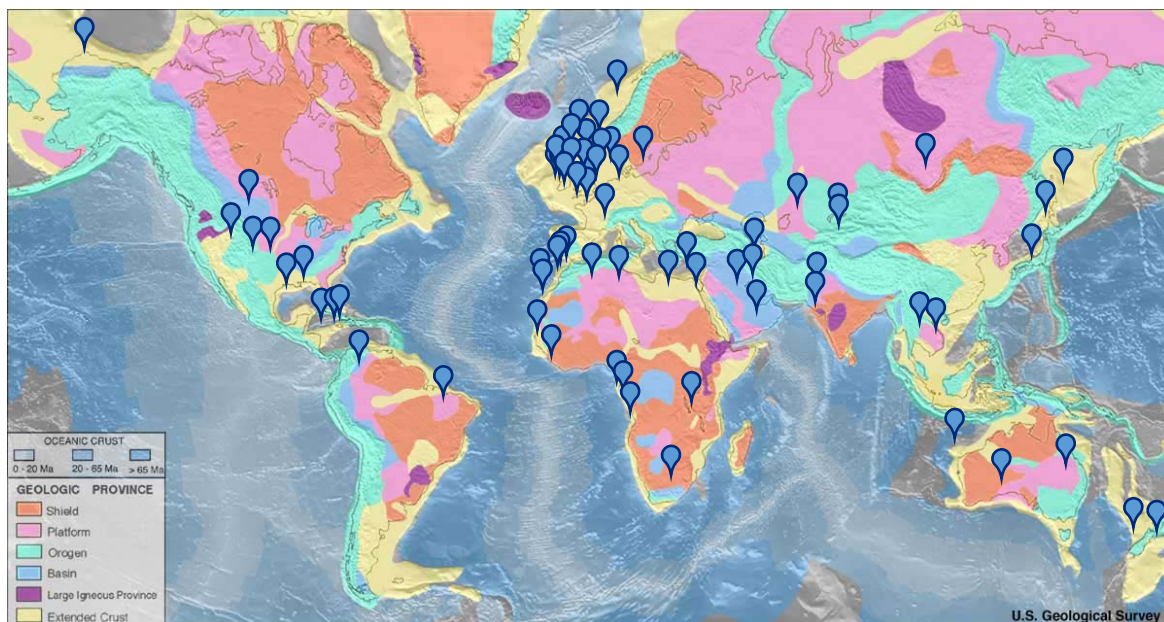
Founded in 2000, we are specialists in the analysis of sedimentary rocks, and offer a comprehensive range of geological, petrographical, mineralogical and geochemical services. Our work is focussed on the oil and gas industry, looking at the reservoir quality of sandstone reservoirs, however our experience extends into other lithologies and sectors.

Interpretative Services

- Single and multiwell petrographical studies
- Detailed characterisation of pore systems
- Detailed interpretation of controls on reservoir quality
- Diagenetic modelling
- Reservoir quality modelling
- QEMSCAN™ integration & interpretation
- Basin modelling
- Integration with sedimentological and burial history models
- Re-appraisal of legacy data – building and interpreting integrated datasets

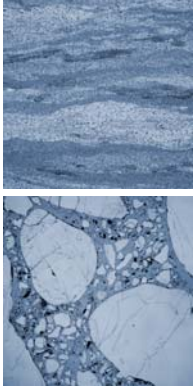
Analytical Services

- Thin-section textural & modal analysis
- Petrographical description
- Scanning electron microscopy
- Cathodoluminescence microscopy
- Epifluorescence microscopy
- Digital thin-sections
- “Deep-zoom” petrographic imaging
- SEM pore image analysis
- Fluid inclusion analysis
- X-ray diffraction analysis
- X-ray fluorescence analysis
- Laser particle size & sieve analysis
- Geochemical analysis (inorganic & organic)



Experience

Our experience includes sediments from many depositional settings in basins all over the world, ranging from shallow, poorly consolidated deposits, through to deeply buried, highly compacted and / or cemented strata.



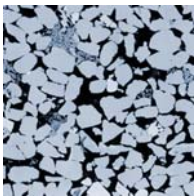
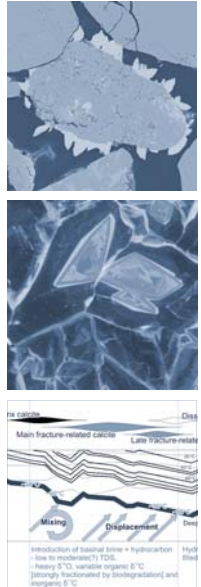
Depositional Character

Sandstone depositional character strongly influences ultimate reservoir quality. Grain size and sorting not only govern the size of original intergranular porosity, but are also commonly linked to primary detrital mineralogy. Characterisation and quantification of detrital components adds information on provenance, probable availability of reactive components for diagenesis, and also how the sediment is likely respond to burial and compaction.

Diagenetic Overprinting

Optical and electron microscopy, supported by fluid inclusion, geochemical and stable isotope analyses, are used to unravel diagenetic histories. These may be linked to original depositional settings (facies models) and to thermal, burial, fracture and charge histories, to upscale for reservoir prediction and modelling.

Careful evaluation of original porosities, grain packing and compaction fabrics, the distribution of diagenetic components (those filling primary pore space versus those replacing originally solid matter) enables detailed compaction analysis.

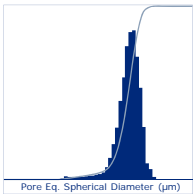


Pore Systems

Characterisation of sandstone textures and compositions leads naturally into providing a detailed understanding of sandstone pore systems. We provide data on the origin (primary - secondary - resurrected primary), size, shape, connectivity and volumes of pores, as well as interpretation on pore system evolution (linked to diagenetic and burial histories).



For a more quantitative understanding, pore image analysis of electron microscope images are used to derive data on pore sizes and volumes, which are particularly useful in situations where more conventional approaches cannot be applied (e.g. cuttings samples).



Reservoir Quality

A detailed understanding of the detrital and diagenetic characteristics of the sediments, coupled with detailed pore system data, allows us to provide a full appraisal of the controls on reservoir quality. Once the parameters that govern porosity and permeability have been elucidated, they can be up-scaled by integration with sedimentological / facies models, burial histories and reservoir models, in order to predict reservoir quality distribution.

