



FESAus Monthly Technical Meeting

"A New Non-destructive Technology for Core Analysis"

Jean-Baptiste Peyaud

Abstract:

Core analyses are key to understand reservoir properties and interpret log data. However, because they are carried on discrete samples, extrapolating measured properties to the whole core and then the reservoir, attracts a large error. The development of rock physics has enabled a very precise and accurate measurement of reservoir properties at an even higher resolution, but they are even more affected by uncertainty when results are upscaled.

In order to solve this problem, scan-based, non-destructive processes are developed to capture all the significant properties of the core continuously. The core is scanned at different scales, then data are processed and integrated to generate a virtual analogue encompassing mineralogy, grain size and shape, pore size and shape, fluids when still present and permeability. As data are continuous over the whole core, they allow for a detailed comparison between log data, mineralogical/geochemical data and sedimentological information.

This talk will present the technology and its potential, then illustrate it with an example from Chrysaor 2. This well was chosen for the length of its core and the extent of the data available, covering mineralogy, porosity, permeability, MICP and relative permeability. The data extracted from the virtualized core will be compared to the historical data.

About the Presenter:

Jean-Baptiste Peyaud is a geologist specialized in Sedimentology, Mineralogy and Geochemistry, reservoir diagenesis is his field of expertise. He obtained his PhD in 2002 at the University of Paris 11 – Orsay France studying the migration of rare earth elements in a fractured shale as a proxy related to the safety of underground nuclear waste repositories. He worked as a contractor in France before joining the University of Liverpool where he studied the impact of microbiological processes on the generation of diagenetic chlorite in reservoirs and occasionally killed lugworms. In 2008, he joined the CSIRO in Perth as a Researcher before joining Baker Hughes in 2009 as a geoscientist, becoming a specialist in geochemical logs. In 2016, he left Baker Hughes and has been working as an independent consultant since then.



DATE: Tuesday 9th April 2019, 12:00 – 1:30 PM **VENUE:** Hotel IBIS- 334 Murray Street, Perth

COST: Members \$30.00; Non Members \$40.00; Students/Retirees \$10.00

Online registration at www.fesaus.org by Friday 5th April 3PM

Note: limited seats for unregistered attendees may be available: \$50.00 cash door charge

