



FESAus and SPE 26th August 2010

FESAus Distinguished Lecturer
Keith Boyle Presents:

The next meeting of the Victoria Section will be held at **12:00** on **Thursday, 26 August 2009** at the Kelvin Club in Melbourne, **Keith Boyle FESAus 2010 Distinguished Lecturer will present**

“Porosity ”

Abstract

What can be considered a fairly simple concept, the stuff that is not rock, porosity has very different meanings to different disciplines and even within disciplines. This talk will explore the various views of porosity, how it is measured, what those measurements represent, how this measurement is used and potentially abused. Core, the traditional ground truth for any Petrophysical interpretation, will form the basis for this discussion. Starting with total porosity, which once had a reasonably concise definition, now with the advent of shale gas and tight reservoirs not only has the definition has changed but also how it is measured. Conversely effective porosity has always had very different definitions depending on who is speaking and what the data will be used for. There are a number of core experiments that can define this effective porosity, unfortunately depending on how the samples are treated the results vary tremendously. In clastic reservoirs, clay, desolution and microporosity tend to dominate the non-effective volume while in carbonates where clay and clay-bound water are less an issue, capillary bound water and micro-porosity dominate this volume. Moving from core experiments to logs introduces a new set of opportunities for interpretation and uncertainty. As there no logging tools that measure porosity directly, correlations and interpretations are used to provide an answer. What the various logging tools measure and how the measurement is converted to porosity creates a range of uncertainties that need to be understood when discussing log based interpretations. The final users of porosity, however, are not Petrophysicists, but Geologists, and Reservoir engineers who will use this information to construct static and dynamic models of the entire reservoir. This value of porosity, that has been meticulously derived for a given 10 cm interval at the wellbore, must now be somehow be massaged to represent an interval 10 to 100 times thicker and spread over the entire reservoir. Upscaling is not a simple process, honouring the range of pore values and staying true to the depositional structure is paramount to providing a model that can be utilised to predict reservoir performance.

Biography



Keith Boyle received a Bachelor of Electrical Engineering from Carleton University in Ottawa in 1981. Since then he has worked for Schlumberger and various operators in a number of locations before taking his current position of Manager of Petrophysical Services for Santos.

Who Should Attend?

This presentation is intended to be taken by geoscientists and engineers at all stages of their careers.

Date

Thursday 26th, August, 2010

Location

The Kelvin Club

Melbourne Place (off Russell St, between Bourke St and Little Collins St)

Registration 12:00-12:15pm for 12:30 Luncheon Start; Presentation 12:45-2:00pm

Cost

SPE / PESA / FESAus Members \$50

Non-members \$60

Students & Retired \$15

For Melbourne SPE members bookings via email to Mel.I.Osborne@BHPBilliton.com (by COB Monday 23rd August)

For FESAus Members any queries in regards to On Line Registrations, please contact us on admin@fesaus.org or contact our Secretary, Leanne Brennan (sec@fesaus.org)