FESAus Monthly Technical Meeting

Tues 12th May (New Date!)| 12:00-13:30 | Faraday's 'Stateroom'

"The Physics and Petrophysics of Hydrogen"

Martin Kennedy (MSK Scientific Consultants)

Abstract:

This is a wide-ranging and general introduction to the formation, occurrence, detection and characterisation of free Hydrogen gas in the sub-surface. The increasing use of hydrogen as a fuel, in addition to its well established role as an industrial re-agent, means that demand is rapidly rising. That has spawned several exploration projects around the world actively looking for commercial accumulations of natural hydrogen (so-called 'Gold' or 'White' Hydrogen). Regardless, of whether these efforts are ultimately successful it is likely that large volumes of hydrogen will need to be stored in underground traps in much the same way as natural gas. Whether the hydrogen has accumulated naturally or has been injected into a storage facility, Petrophysics is needed to characterise these traps and monitor the distribution of the hydrogen. By and large the same tools and techniques are used to characterise the reservoir and seal as in any oil or gas field but of course hydrogen replaces petroleum. Hydrogen has significantly different properties to methane let alone oil and the way that logs respond to hydrogen and the way that hydrogen is expected to behave in a trap will be discussed in the talk. Unlike petroleum, the source rocks for natural hydrogen are not organic sedimentary rocks, but rather iron-rich basement rocks. The characterisation of these requires entirely different tools and techniques than for petroleum source rocks. In particular the geochemical log is likely to be important for even a semi-quantitative analysis of source potential. Log analysis of these rocks is at an early stage of development but some examples of what can and cannot be inferred from logs will be shown.

Agenda

12:00 – Networking
12:15 – Presidents Intro & Food
12:30 – Technical Presentation
13:30 – Close

About the Presenter:

Martin Kennedy is a Perth based consultant petrophysicist. He started his career as a logging engineer with Schlumberger. Subsequently he has worked in contract research with AEA technology, for the UK government and then with British Gas, Enterprise Oil, Petro-Canada and Woodside. The latter took him to Perth and he left to become an independent consultant in 2008. He has worked in most of the classic petroleum provinces as well as many obscure ones and has done everything from prospect evaluation though operational petrophysics to major field studies and technical QA. In recent years he has followed the industry trend and expanded beyond petroleum into related areas like CCUS, Hydrogen, Radioactive Waste Disposal and Geothermal. Apart from a few short-lived attempts to escape he has always worked in petrophysics in some capacity or other.

Tickets: In Person $30.00 | Online $10; Purchase here from now until 8th May, no tickets will be available at the venue.

- *Refunds can be provided for cancellations 1 week or more prior to event.*
- *Tickets may be transferred to another person up until the start of the event.*