Sweet Spot Identification and In-situ Stress Analysis using Borehole Image Logs in Unconventional Wells

Brisbane Seminar

Date: Friday, July 15th 2016

Time: 4:00pm to 5:00pm

Registration: Please register online at https://fesaus.org/
Make sure to book early if possible.

Place: Geological Survey of Queensland - Department of Natural Resources and Mines
Bowen Basin room at Level 12, 61 Mary St, Brisbane
Guests should arrive 10 minutes early in order to sign in and show photo ID at the security desk. A GSQ representative will be in the lobby and escort you to Level 12.

Cost: **FREE - FESQ Members, Non-members and Student Members FREE**

Presented by: Brian Lee, Petrophysicist - Technical Support Asia Pacific - PARADIGM

Unconventional reservoir management & development is driving several new geoscience techniques, and novel ways of employing existing ones. Electrical borehole image logs have an established place in structural analysis, sedimentology, and petrophysical properties' calibration purpose for conventional reservoirs. Now, image logs are turning out to be an increasingly attractive data source for planning effective hydraulic fracturing jobs and maximizing the reservoirs producibility - a critical issue in shale gas development.

Some of the main features to analyze for unconventional reservoirs are open fractures, drilling induced fractures, and breakouts. Open fractures have a significant impact on system permeability and open fractures identified through wireline image logs help to estimate qualitative producibility. Furthermore, this fracture mapping helps to determine so-called sweet spot, the interval evaluated as the optimal zone for hydraulic fracturing. Drilling induced fractures - also called tensile fractures - are commonly interpreted alongside breakouts. Interpreted direction of borehole breakouts and drilling induced fractures indicate regional stress orientation. Both the native stress regime and the fracture density and direction are a powerful tool for guiding 3D well trajectory design.

About the presenter:

Brian Lee is a petrophysicist and formation evaluation technical support at Paradigm based in Brisbane. He received the BSc degree in geology from Yonsei University in Seoul, South Korea. Before joining Paradigm in 2013, he worked for Korean army as a logging operations officer to find suspicious underground tunnels in demilitarized zone. After serving in the army for 3 years, he worked in Myanmar and Korea for 6 years as a petrophysicst and geologist

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