

Ceramah Teknik (Technical Talk)

Dr. Jonathan Redfern: Glacial facies – Their sedimentology, distribution and hydrocarbon potential (Fina Far East Pte. Ltd., Singapore)

Abstrak (Abstract)

A review of the sedimentology of the Permo-Carboniferous Grant Group of the Canning Basin and analogous Gondwanan glacial sequences.

Glacial sediments provide unusual, complex and yet in some areas prolific hydrocarbon reservoirs. Understanding the environment of deposition and controls on facies distribution plays a major part in predicting the reservoir potential of these sequences.

A detailed study has been undertaken in the Canning Basin, Western Australia, where over 5 km of core has been cut through the Permo-Carboniferous Grant Group by Western Mining Corporation. These cores provide an excellent and unique data set through this enigmatic glaciogenic facies suite.

The Grant Group sediments indicate that the ice sheet covered the Canning Basin during the Permo-Carboniferous and record the gradual deglaciation of the basin. The basal Hoya Formation contains all the glaciogenic sediments, and provides evidence for periodic ice advance and retreat. The overlying mudrock dominated Calytrix Formation is interpreted to reflect the rise in sea level subsequent to the main deglaciation phase, and the regressive package of sediments that form the upper Cliathus Formation result from isostatic uplift and basin fill under post glacial conditions.

The talk will review the hydrocarbon prospectivity of the Grant Group in the relatively unexplored Canning Basin, and compare it with analogous glacial sequences from Oman, which contain in excess of 3 billion barrels of oil in place.

Jonathan Redfern obtained a degree in geology from the University of London in 1983, and a Ph.D. in 1989 on the sedimentology of the Grant Group, studying at Bristol University (UK) and Adelaide University (S.A.). He currently works for Fina Far East Pte. Ltd. in Singapore.

Jonathan Redfern



Jul-Aug 1991