

Gas Hydrates And Heat Flow Determination In The Makassar Strait, Indonesia

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Until relatively recently, gas hydrates have been of interest primarily to pipeline engineers and research geoscientists involved in the deep sea drilling projects (DSDP and ODP) and arctic exploration. With the commencement of deep water exploration and development, gas hydrates have been of more wide-spread interest due to their potential as a water-bottom stability hazard, a potential source of methane, and as a method of predicting heat flow in frontier areas.

In this talk, Brent will show the distribution of gas hydrates in the Makassar Strait, Indonesia based on the presence of extensive bottom simulating reflectors (BSRs) and give some examples of their seismic characteristics. The gas hydrates are distributed primarily within the offshore extension of the West Sulawesi Fold Belt. Turbidite deposition within the fold belt mini-basins provides a reservoir and a source of organic material for the production of biogenic methane gas.

He will then describe one method of determining the geothermal gradient and the heat flow based on seismic analysis of the BSRs. Analysis of the BSRs can provide a first approximation of the heat flow for the purpose of basin thermal modelling and hydrocarbon maturation in a deep-water area where no well information is available.

Biography

Brent Jackson graduated from the University of Saskatchewan (Canada) in 1979 with a B.Sc. in Geological Engineering. He worked as a geophysicist for Hudson's Bay Oil & Gas from 1979 to 1981, and then transferred to their Perth subsidiary, Hudbay, from 1981 to 1984.

In 1985, he joined Bow Valley in Canada exploring the east coast Jeanne d'Arc Basin and some international projects until 1989. In 1990, he was involved in establishing Bow Valley's Indonesian office where he worked on

new venture evaluations as well as operating a block in Sumatra until 1997.

During his time in Indonesia, Bow Valley was taken over by Talisman Energy which led to a transfer to their Aberdeen office in 1998 where he became involved in exploitation of the Buchan Field, as well as exploration in the Moray Firth, North Sea.

After three years in Aberdeen, Brent resigned and returned to Perth in 2001 to work as a consultant geophysicist for Isis Consultants, Idemitsu and ENI. Since 2001 Brent has worked as a seismic interpreter on the Otway, Exmouth, Barrow, Beagle and Dampier basins, as well as international areas such as the Cambay (India), Kutai (Indonesia), Malay (Vietnam), Sandakan (Malaysia), Phu Khanh (Vietnam) and Pearl River Mouth (China) basins. Many of the exploration areas were in deep water leading to Brent's interest in gas hydrates. Brent is a member of PESA, AAPG and SEG. ■