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**Complex transtensional structures and the hydrocarbon potential
of the greater Sarawak Basin, East Malaysia, as defined by
Synthetic Aperture Radar**

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Synthetic Aperture Radar (SAR) is an active microwave sensor which operates both day and night and is capable of penetrating cloud cover and tropical haze. SAR has proved to be an excellent tool for unraveling the critical structural elements of the region which have a major control on the location and

Nov-Dec 1993

size of prospective hydrocarbon accumulations in East Malaysia. Interpretation of SAR data acquired over the Greater Sarawak Basin in East Malaysia has revealed the complex tectonostratigraphic history of the region when combined with other geoscientific information. The high quality radar images are of primary use in field logistics, particularly in orienting and locating seismic acquisition programs and prospective boreholes.

Borneo underwent complex transtensional deformation during the Tertiary related to strike-slip motion caused by the indentation of India against the Indochina-South East Asian block. These sinistral strike-slip zones are best developed in the Sabah Shear, West Baram-Tinjar Lines and Lupar Line-Paternoster Fault. The onshore extension of the seismically defined transverse faults in the South China Sea controlled the migration and accumulation of hydrocarbons near Miri, Sarawak and prospective regions further southeast delineated by high resolution SAR data.

The collision of the Australian continent with the Banda Arcs to the southeast and renewed subduction to the east and west put Borneo under compression in the Middle Miocene. Complex fold interference patterns produced by Cenozoic aged strike-slip displacement and the northward advance of the Rajang Accretionary Prism are well displayed on SAR data as are several suites of lineaments correlated to the prevailing regional stress regime. The lithological terrain units and structure defined in the SAR interpretation agree well with documented field observations.
