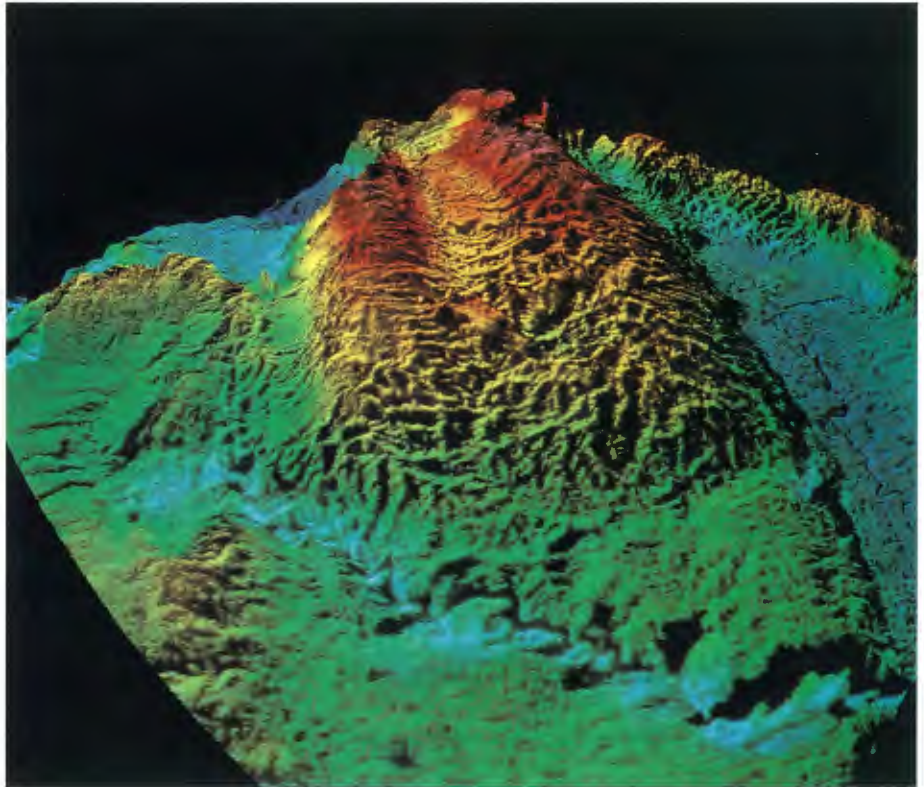


Abridged Abstract from PNG Convention Paper "Recent developments in prospect mapping in the Hides/Karius area of the Papuan Fold Belt" by A.M. Grainge.



View along the Hides-Karius anticlines generated from SAR Radar imagery rotated into a lateral perspective and coloured by BP's IGAS image-processing system.

Photo courtesy BP Developments Australia Ltd.

Significant quantities of hydrocarbons have been discovered, appraised and are now being successfully produced from the Papuan Fold Belt. Of the 26 structures drilled to date in the fold belt Toro fairway, over half have been discoveries and all have been made in readily identified thrust related anticlines, mapped using a combination of surface dip data and conventional displays of topography, aerial photographs and airborne radar. This is because the widespread outcrop of karstified Tertiary limestones renders seismic data almost useless in prospect mapping in the fold belt.

One of the main hurdles to overcome in proceeding from discovery to development is to improve our understanding of the range of uncertainty associated with mapping reservoir geometry away from well control. A commonly held view is that it may take too many expensive wells to reduce the rock volume uncertainty sufficiently in order to prove up reserves for a development to proceed.

Recent work conducted in the Hides/Karius area, integrates recent developments in interpreting both the surface (airborne radar and strontium age dating of

the Darai limestone) and sub-surface (magnetotelluric modelling, Toro fluid inclusions and regional aquifer pressures) with conventional methods, based on geological survey and well data.

This work has provided a much better resolution of the surface geological map, which in turn has had a direct impact on the sub-surface structural model used to estimate potential reserves. However, the range of model uncertainty remains considerable, primarily due to a lack of an identified hydrocarbon water contact in the Hides/Karius structure and a very limited areal spread of well control.

The technical case for the existence of an oil leg below the discovered gas in the Hides structure has been based on extensive geochemical and PVT analysis of the gas and condensate recovered from the Hides wells. Recently conducted studies indicate the presence of oil filled fluid inclusions in the Toro reservoir, providing additional support for the oil leg model. This, together with the revisions made to the Toro structure maps, provided the technical case for drilling a well (Hides-3, see separate story) to test the Hides/Karius oil leg prospect.