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SOME 3D SEISMIC APPLICATIONS OFFSHORE SARAWAK

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3D seismic surveys with exploration, appraisal and development objectives, have been acquired in SHELL operated offshore Sarawak acreage since 1984. A total of 11 surveys have been performed covering an area of close to 1500 sq km. 3D surveys offer improved structural delineation and in the case of success allow follow-up appraisal plans to be matured quickly since further infill shooting is unlikely to be required as used to happen with 2D seismic surveys.

The very significant effect of 3D seismic acquisition and processing will be illustrated by a comparison using a conventional 2D seismic line extracted from a 3D survey. Contour maps using 3D seismic data have proved by drilling to be more accurate than maps constructed using only 2D seismic, particularly in complexly faulted areas.

Time-slices can be used directly for fault and contour interpretations and these aspects will be illustrated by various examples.

It is vital to predict and map out potential drilling hazards. In some instances the dense 3D coverage can aid in the delineation of shallow gas anomalies and sea-bottom channels. Examples will be shown.