

Advances in visualization technologies: a case study, Laho Field, offshore Peninsular Malaysia

CHRISTIANNE M. GELL¹, DOUGLAS E. MEYER², ROSEMAWATI ABDUL MAJID² AND DAVID J. CARR²

¹Landmark Graphics Malaysia Sdn. Bhd.
207 Jalan Tun Razak
50400 Kuala Lumpur, Malaysia
e-mail: cmgell@lgc.com

²Petronas Carigali Sdn. Bhd.
Level 15, Tower 2, Petronas Twin Towers
50088 Kuala Lumpur, Malaysia
e-mail: dmeyer@petronas.com.my

A typical problem facing oil company asset teams today is the integration of new information into existing fields. Recently acquired 3D seismic for example, can add much needed detail to the understanding reservoirs from producing wells. The key step of interpreting faults and surfaces, on which many other results depend, can often be time consuming and delay efforts to bring additional production on-line. However, using a volume-based approach to seismic interpretation using today's visualization technology can lead to more accurate results produced up to four times faster than traditional line-by-line methods.

Over the last four years, visualization technologies have advanced to the point where utilizing these new techniques allow for a faster and more geologically correct interpretation and evaluation of potential reservoirs in a shorter amount of time. These advanced techniques include, but are certainly not limited to: multiple attribute voxel detection; interpreting fault planes (versus fault sticks); real-time volume rendering and the ability to create geobodies; quick reconnaissance work in volume; and the ability to combine workflows using non-3D volume tools such as wave-form classification with volume interpretation.

This paper gives an example of a field from offshore Peninsular Malaysia where two wells were already producing and the operator, Petronas Carigali Sdn. Bhd. (PCSB), acquired 3D data to evaluate the possibility of drilling additional locations. GeoProbe®, a Magic Earth Inc. proprietary visualization program, was used to create the figures for this article.