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## RECENT CSEM LEARNINGS IN DEEPWATER BORNEO

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Controlled Source Electromagnetic (CSEM) is an emerging technology with the potential to provide detailed resistivity images of the subsurface. In the context of exploration in DW Borneo, given the potential to directly image the high-resistivity zones associated with hydrocarbon pay, the technology was regarded as the ideal tool to reduce one of the most significant exploration risks in the basin – seal failure. A number of significant early successes over DW Borneo's toe-thrust anticline plays confirmed the potential promise of the technology as an exploration tool in the basin.

Following on this string of successes, CSEM data was acquired over a number of similar structures in 2006. Application of industry-standard processing and interpretive techniques on the data revealed an encouraging CSEM anomaly.

However, proprietary inversion techniques indicated the possible presence of a shallow surface resistive body, while hinting at the presence of slightly elevated resistivities at depth. An exploration well campaign was carried out over the prospect late in 2006, but rather than encountering the expected hydrocarbon pay, the well encountered a near surface and resistive hydrate layer. Good quality but water-bearing reservoir was encountered at the target depth.

This disappointment was the first CSEM negative test in the basin and highlights the need for further development of processing and interpretation methodologies. This paper will present the key CSEM experiences in DW Borneo to date, highlighting on the pros and cons of a still promising and evolving technology in what is still a challenging area.