



ORAL PRESENTATION

Reservoir Characterisation with Ocean Bottom Seismic: A South East Asia Case Study

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Ocean bottom seismic has seen a renaissance in recent years. Acquisition companies have developed technology for faster deployment and recovery, more innovative shooting geometries leveraging increased sensor inventories, compressive sensing and simultaneous sources. It has thus become more economically viable to acquire larger nearfield exploration ocean bottom datasets.

Reservoir areas obscured by gas anomalies are a common challenge in South East Asia. Extensive AVO compliant preconditioning and a simultaneous PP-PS elastic inversion enable a clearer reservoir interpretation in the gas obscured areas. This is demonstrated by improved well ties over the PP inversion and by more geologically consistent elastic properties within the layers.

In our case study, we demonstrated that density estimated from PP-PS simultaneous inversion of multicomponent seismic data is superior to one obtained from PP (P-wave only) seismic inversion (see Figure 1). Superior results are obtained even in the gas cloud areas. The density estimated from PP PS simultaneous inversion was used in reservoir delineation and characterization.

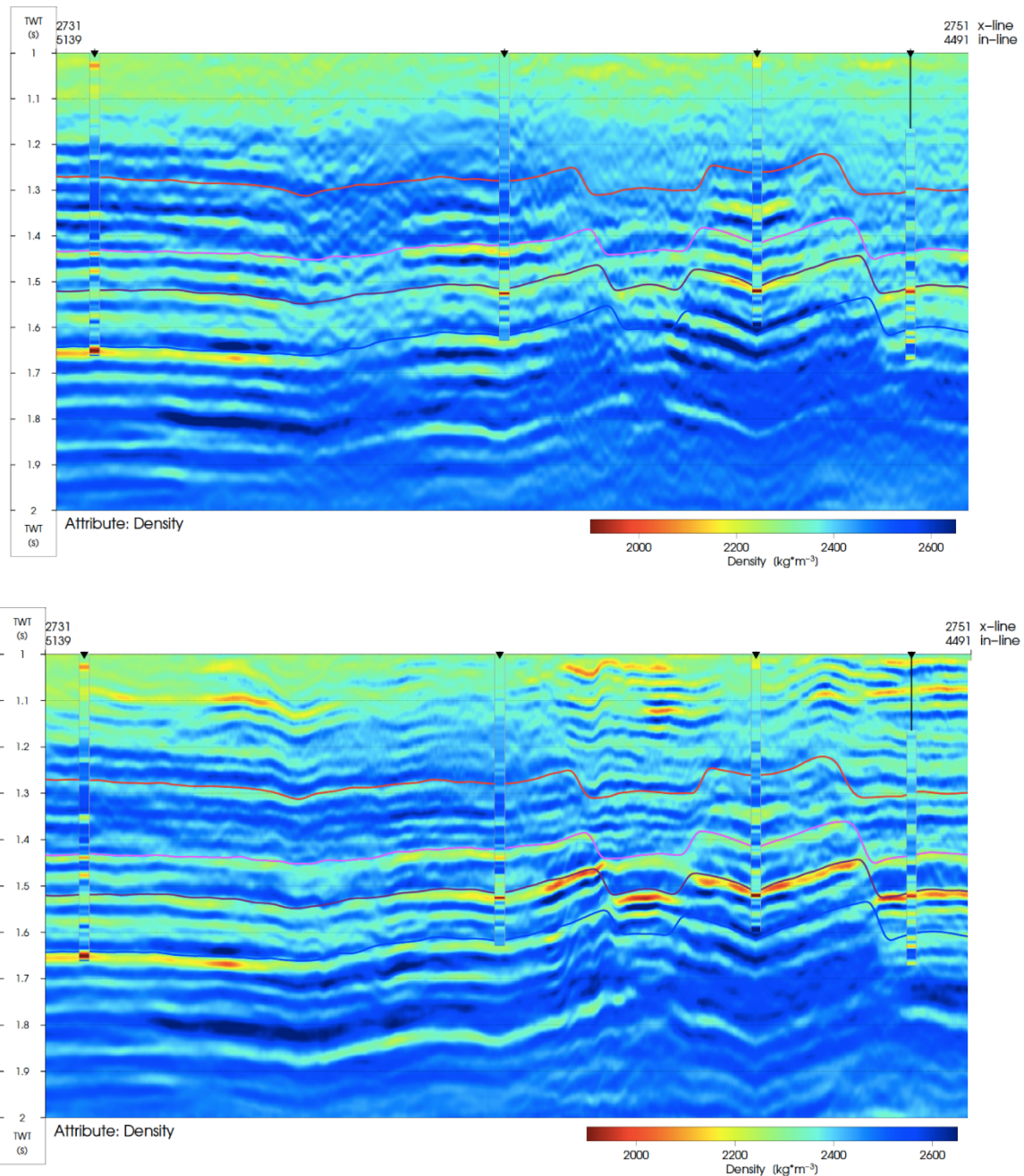


Figure 1. Absolute density inversion results – (top) PP (bottom) PP-PS. Note the improved resolution in the PP-PS events for example in the central graben structure and across the E8 horizon. Four well traces are inserted for comparison purpose.

SPEAKER BIOGRAPHY

Rob Ross started his career in what was then Geco-Prakla in 1997. He worked in many locations onshore and offshore in a range of operational and managerial roles mostly focussed on the sales and execution of projects based on new technology. In 2011 he left Schlumberger and joined TGS in the newly formed Reservoir Services division where he was responsible for design and delivery of client solutions using the newly acquired Stingray fibre optic sensing system. In 2015 he joined Qeye, a quantitative interpretation company headquartered in Denmark.

Rob is currently the MD of Qeye for South East Asia, based in Perth. Rob is an active member of SEAPEX, PESA, EAGE and SEG and holds a M.Eng degree from University Cambridge (UK) and an MBA from Erasmus University Rotterdam (NL).