Illuminating Reserves: A Data Driven Solution to Identifying Current and Future Reserves in the Gulf of Mexico

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Abstract

With considerable seismic coverage in the Gulf of Mexico progressing from narrow azimuth NAZ) to wide azimuth (WAZ) to multi wide azimuth (MWAZ)/full azimuth (FAZ); what comes next? In the world of low commodity prices and the desire of E & P companies to improve return on investment (ROI), how do we get more from our seismic data? The simple answer is acquiring the right data to meet the objectives.

Historically new marine seismic has been acquired in accordance with the current technology available (aka technology driven solutions). In today's information era where we have access to hardware and software for modelling, the value of 'data driven solutions' becomes reality. Utilizing salt models driven by existing seismic data we investigate optimizing acquisition parameters through the application of full waveform modelling and finite difference modeling.

Additionally consideration to today's imaging technology incorporated in to this analysis provides additional insight over the pros and cons of various design configurations to optimize results.