

3D Post-stack Depth Migration: a step towards enhanced subsurface imaging

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One of the emerging technologies that leverages more information from 3D data is the depth imaging technique. Prestack Depth Migration is widely accepted as a more accurate technique than the time domain techniques for solving imaging problems in complex structure.

Considering the voluminous amount of prestack data in a 3D survey and the intense computational nature of prestack depth algorithms, the costs involved for such project is inevitably high. Therefore, a balanced decision have to be made which takes into account the degree of improvement made on the data versus the economics of the project.

In this paper, we will present a case study which uses the Poststack Depth Migration technique to improve the image of the deeper exploration targets and as a tool to help to decide for the next step. The result shows quite significant improvements in terms of reflection continuity and structural delineation. Technically, it is concluded that, there is a high probability that the Prestack Depth Migration will deliver much better enhanced subsurface image.