



Discovery
and
appraisal



Processing
& Imaging

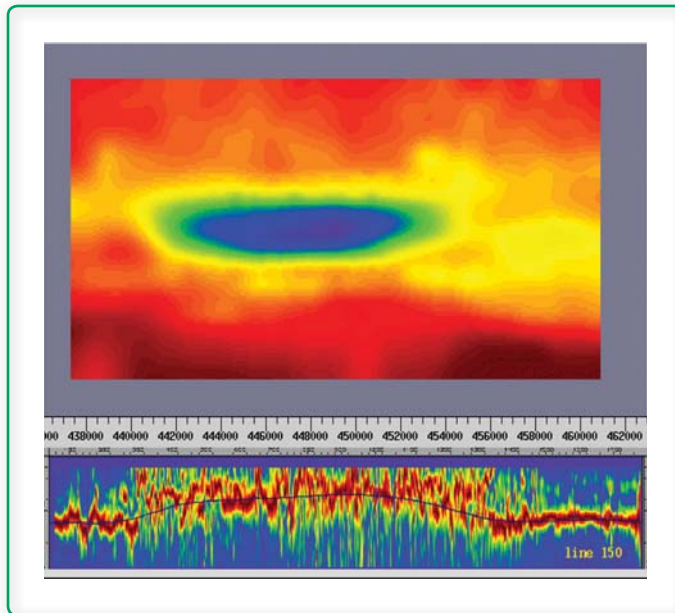
The Challenge

After a previous, relatively unsuccessful drilling campaign in the South China Sea, Amerada Hess Corporation (“Hess”) needed to improve their seismic imaging in order to reduce uncertainty in well planning.

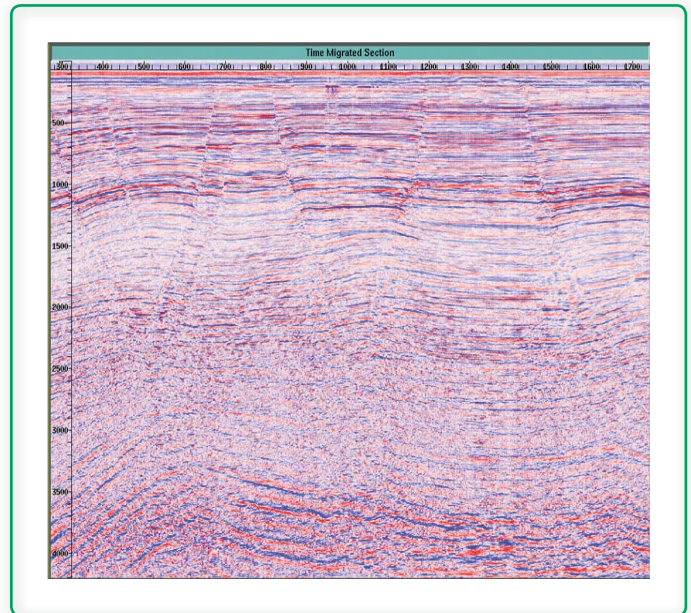
The Assessment

Shallow gas was affecting some parts of the structure to cause a loss coherency, loss of frequency and causing velocity anomalies. In addition, the shallow gas was obscuring features of interest such as channels and possible direct hydrocarbon indicators.

Instead of acquiring new data, Hess geoscientists decided to first reprocess the old data with new techniques and to image in depth.



Low velocity anomaly caused by gas accumulation.

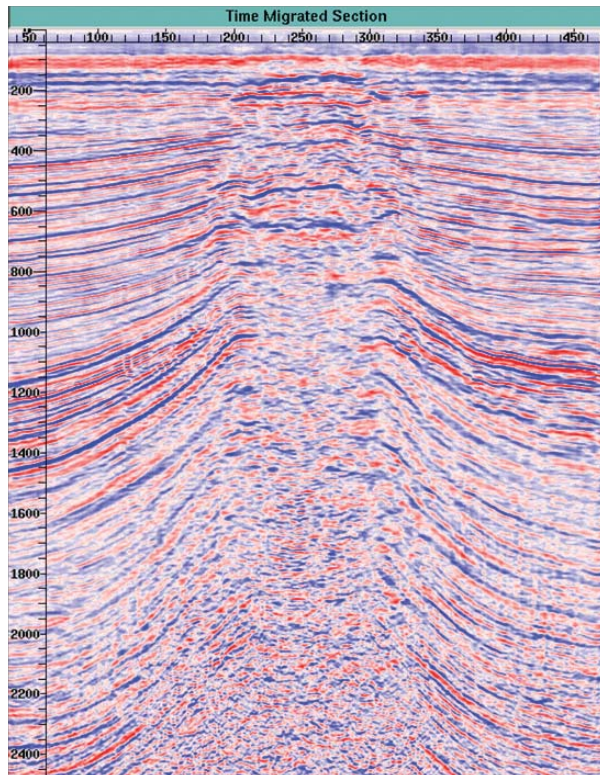


Low velocity anomaly caused by shallow gas

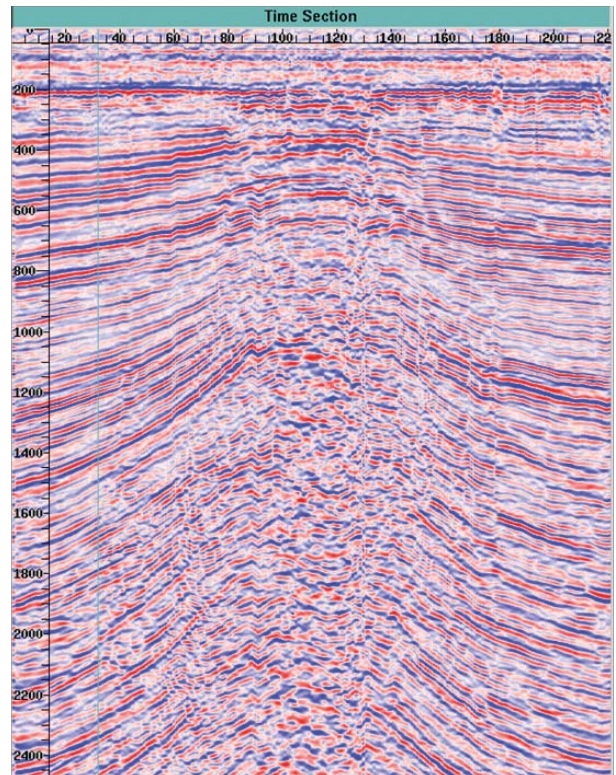
The Solution

The Paradigm™ Echos™ time-processing system was used to improve multiple energy attenuation and enhance the primary energy in the gas cloud area. The Paradigm GeoDepth® solution was then used to build a velocity depth model using a coherency

inversion method. This model was refined through horizon-based tomography. The refined velocity model was subsequently used to perform pre-stack depth migration and deliver a significantly enhanced depth image.



Time-migrated



Pre-stack depth-migrated (converted to time)

The Results

The reprocessing in depth avoided the substantial cost and delay that would have been necessary to re-acquire the seismic survey data. The reprocessing improved the lateral continuity of the reflectors and greatly improved the fault definition and the interpretability of the data.

Based on the reprocessed data and the subsequent interpretation, a successful well was drilled.

For further information, contact your account representative or visit www.pdgm.com.