Seismic Processing

DownUnder GeoSolutions focuses on producing accurately imaged seismic data that is ready for input into amplitude and inversion studies. We have developed key technologies in coherent and incoherent noise removal, velocity model building, data regularisation, residual moveout and migration to meet this goal, including:

DUG SNR : Swell Noise Removal (wavelet based)
DUG LNR : Linear Noise Removal
DUG OSAMA : Frequency Dependent Noise Attenuator
DUG REG : Regularisation (downward continuation based)

DUG 3D SRME : True Azimuth 3D SRME
DUG TOMO : Reflection Tomography
DUG PreSDM : Anisotropic PreSDM (Kirchhoff and Beam)
DUG RMO : Anisotropic Residual Moveout Corrections

We have over 12,000 cores, petabyte robotic archive system and more than 1.5 petabytes of clustered global storage. This allows us to process any size dataset. Our largest PSDM project from field tapes was over 4,000 sq km.

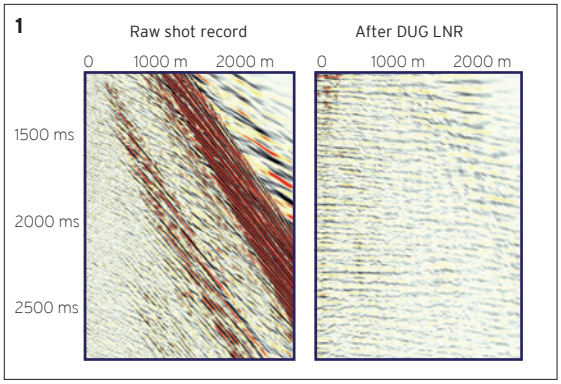

Figure 1.
DUG LNR is extremely effective at attenuating very strong coherent events. This data comes from the Carnarvon Basin in Western Australia, and the raw shot record is dominated by extremely high amplitude linear noise. DUG LNR has effectively removed this noise while leaving the primary data intact.
Note: both pictures are at the same scale.

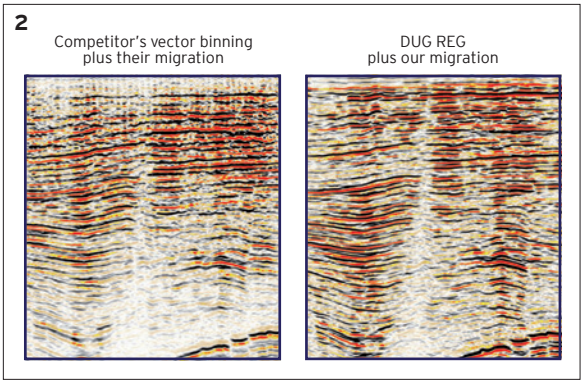

Figure 2.
This is an apples for apples comparison of DUG REG + DUG PreSDM vs one of our competitor's COV binning + their PSDM.

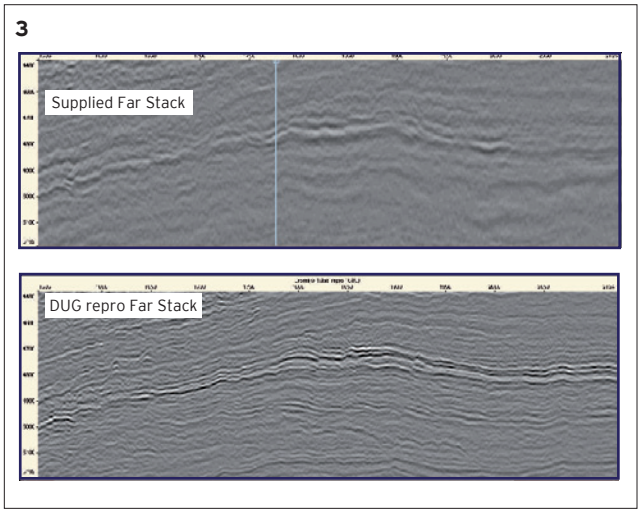

Figure 3.
This image compares a far stack from a major competitor to our reprocessed far stack.
* Picture courtesy of Fusion Oil and Gas

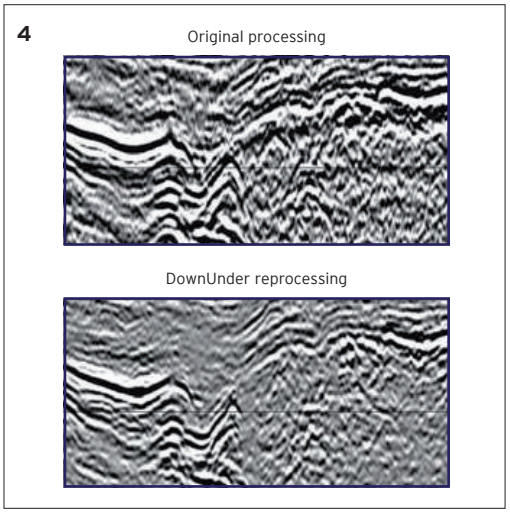

Figure 4.
Reprocessing of land data showing fault definition and general clarity.
* Picture courtesy of Stuart Petroleum