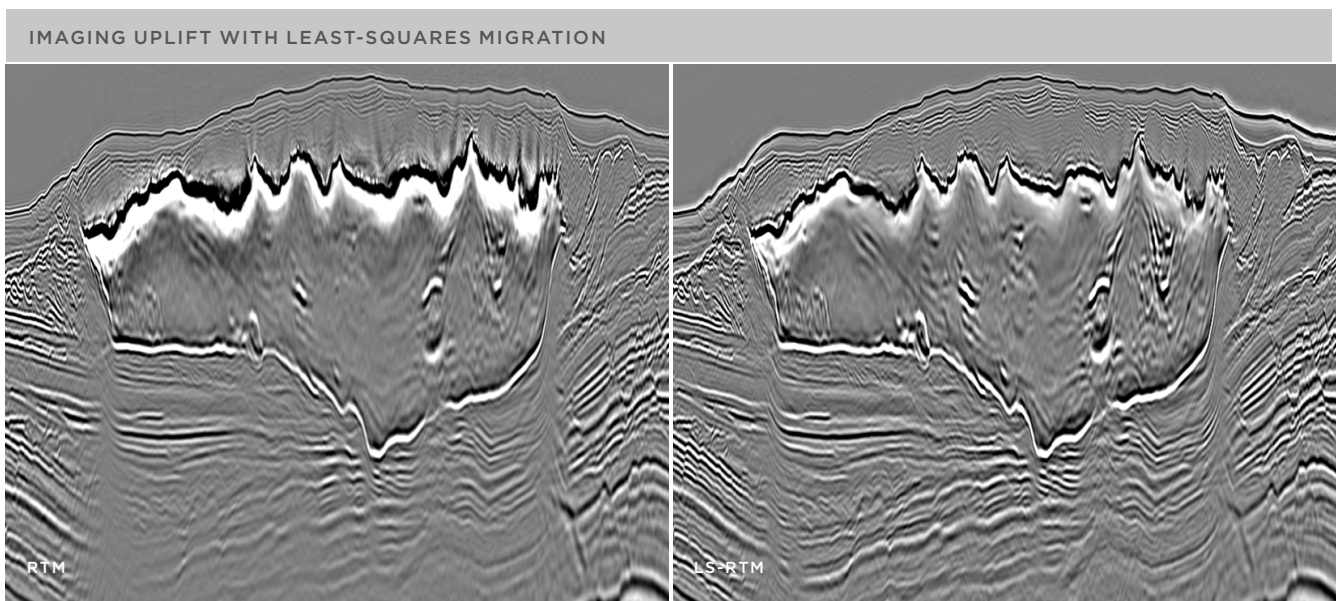




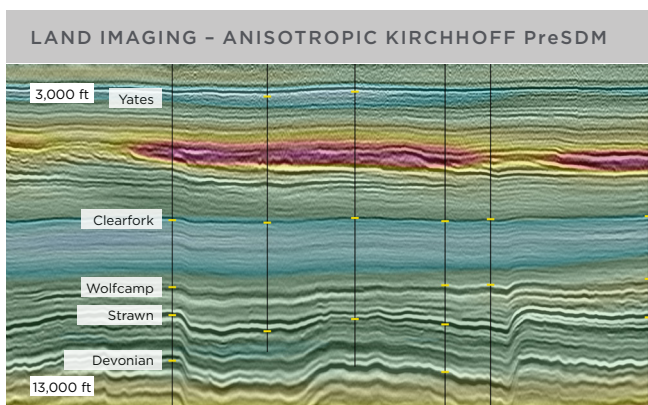
Depth and Least-Squares Imaging

DUG Insight's extensive imaging toolkit can handle any challenge. Our innovative and flexible model-building strategies incorporate a range of technologies including full waveform inversion and high-resolution reflection tomography. We offer conventional and least-squares imaging solutions for both Kirchhoff and reverse time migration (RTM).

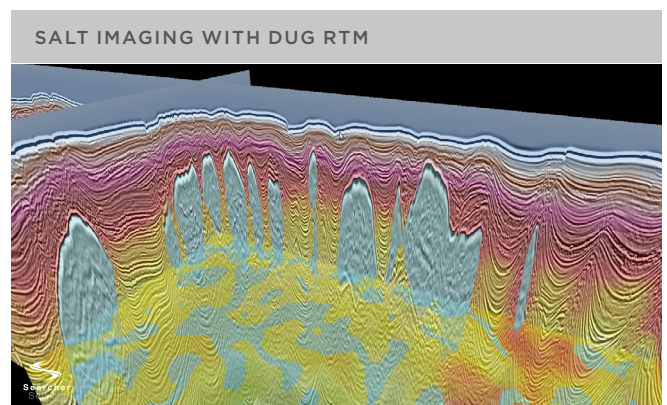
KIRCHHOFF MIGRATION:	DUG WAVE RTM:	HIGH RESOLUTION TOMOGRAPHY:
<ul style="list-style-type: none"> › Least-squares imaging › PreSTM - isotropic, VTI and HTI › PreSDM - isotropic, VTI, TTI or tilted orthorhombic › DUG MigQ - to compensate for laterally and vertically varying Q › Diffraction imaging - for imaging of faults and discontinuities 	<ul style="list-style-type: none"> › Least-squares imaging - image-domain and data-domain › Anisotropy - isotropic, VTI, TTI or tilted orthorhombic › LS-Q-RTM - to compensate for laterally and vertically varying Q › Vector offset output (VOO) - cartesian and polar 	<ul style="list-style-type: none"> › Surface offset gathers (SOG) - for model building › DUG sRTM - rapid scenario testing › Imaging conditions - deconvolution, global and shot-by-shot cross correlation › Synthetics - modelling for illumination analysis and survey design › Auto-picking › Refraction and reflection › Multi-azimuth › Structurally conformable updates › Fault constrained › Complete control over which part of the model is updated



01. Least-squares RTM (right) offers a number of benefits over conventional RTM (left) including improved bandwidth and illumination plus a reduction in migration noise and acquisition footprint. Data courtesy of Shell.



02. Final velocity model and TTI Kirchhoff depth-migrated section from onshore Texas. Note the excellent match to the well markers over a range of depths. Multi-client data presented with permission from Geophysical Pursuit, Inc.



03. Anisotropic (TTI) pre-stack Kirchhoff depth-migrated section from offshore Gabon. The final stack and interval velocity model after five iterations of anisotropic reflection tomography are shown. Data courtesy of Harvest Natural Resources Inc.