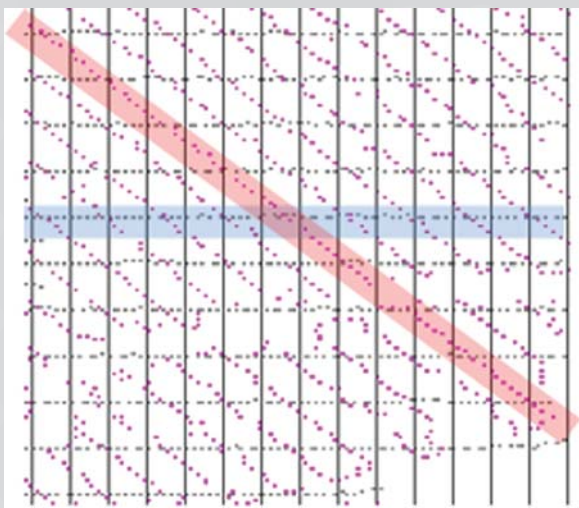
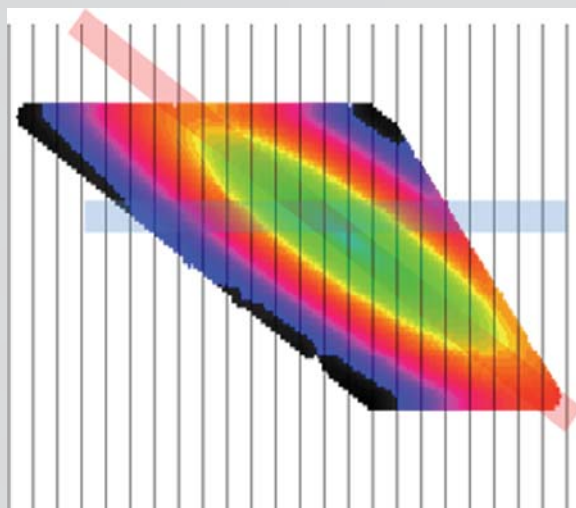


Nonaliased 3D Hybrid Domain Noise Rejection

Hybrid Gathers - from an aliased 2D world into an unaliased 3D world for more efficient noise elimination.



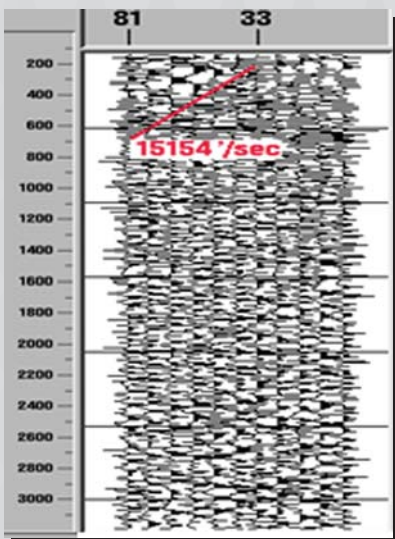
Acquisition geometry showing shots (blue) and receivers (red) and hybrid gather position.



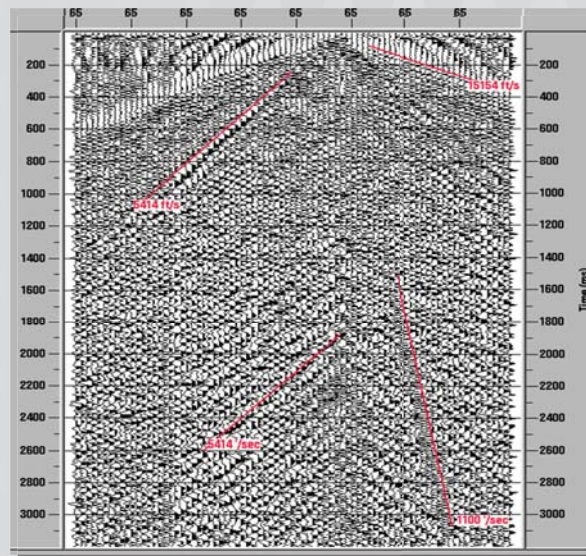
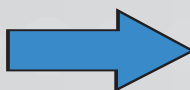
Spatial coverage and offset distribution for hybrid gather.

Hybrid Gathers are formed by resorting receiver-line traces acquired from a line of shots into 3D cross-spreads. A hybrid gather will occur at each source and receiver line intersection in the seismic survey.

Sparse sampling in 3D shot coverage becomes dense and regular after Hybrid Transform allowing for better noise elimination



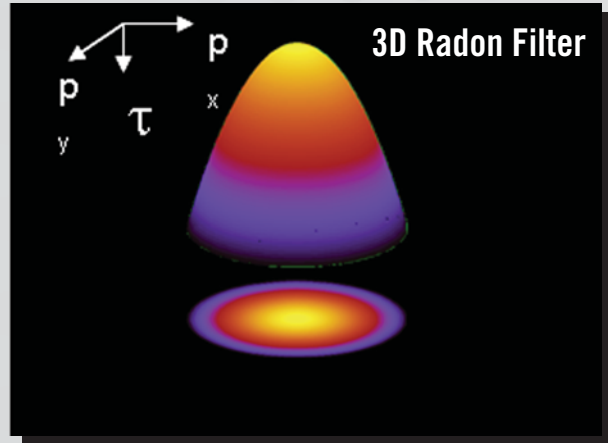
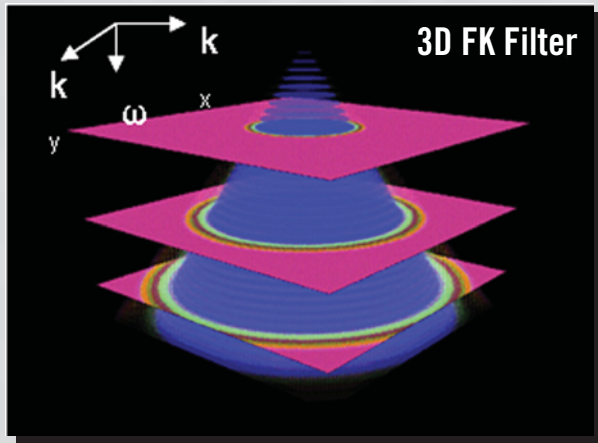
Input - seismic transect before hybrid sort



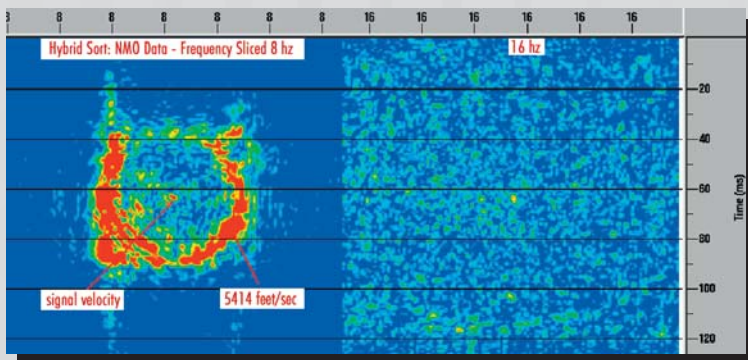
Output - seismic transects after hybrid sort



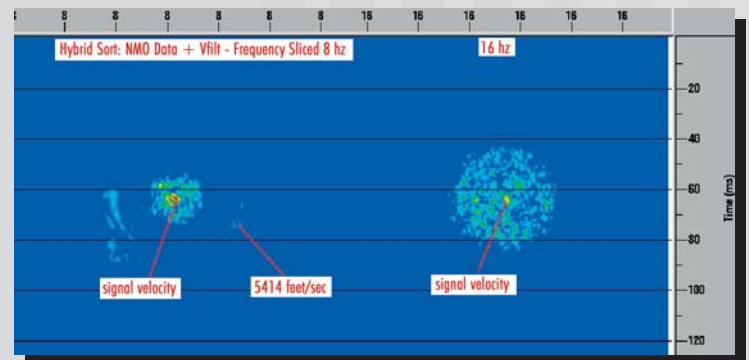
Hybrid Gathers required the development of 3D filtering techniques



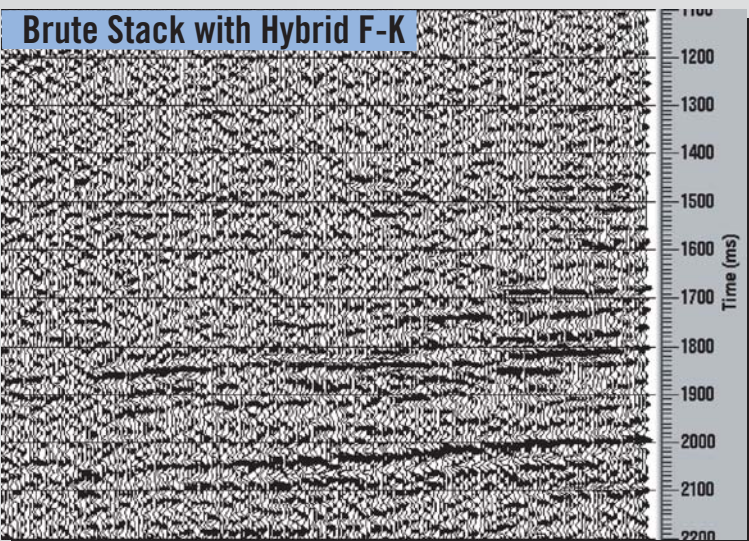
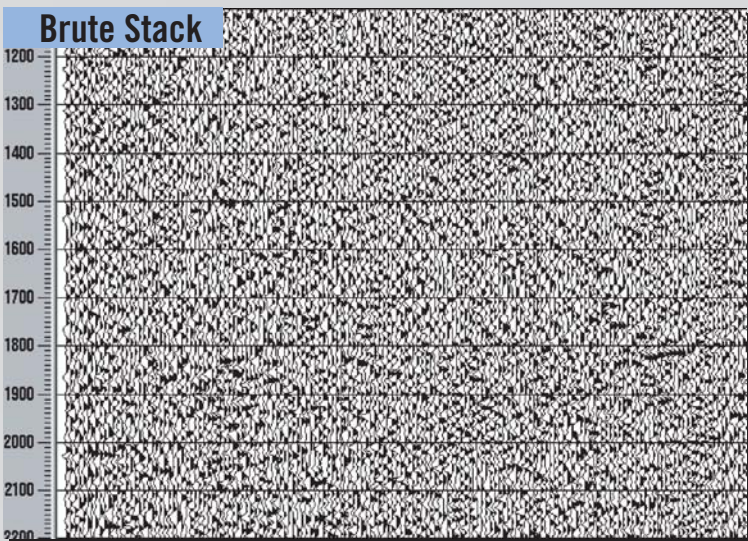
Map view of data before and after 3D FK noise rejection



Before: Shot Generated Noise



After: 3D F-K Noise Rejection



Benefits:

- Attenuate ground roll
- Attenuate random noise
- Diminish acquisition footprint
- Superior wavelet processing
- Superior velocities and statics
- Superior input to Kirchhoff PSTM

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