

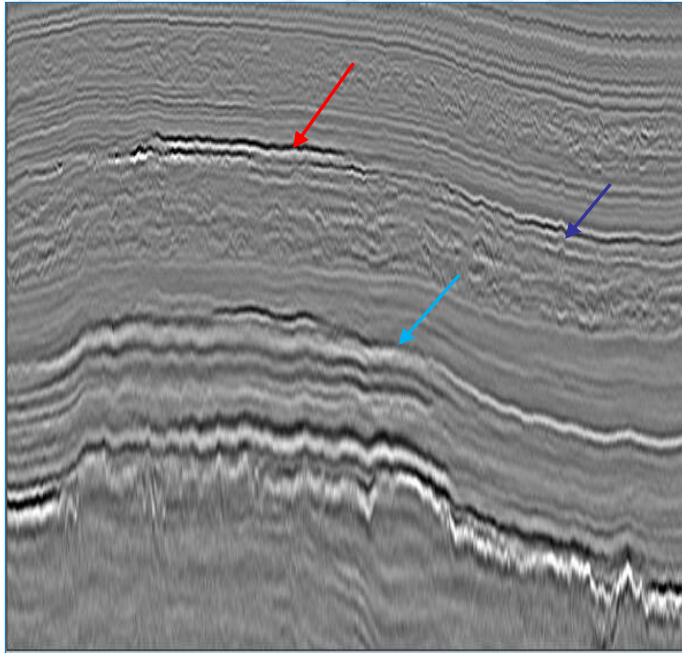
Processing Technology by **GEOGALS** company

Full waveform inversion

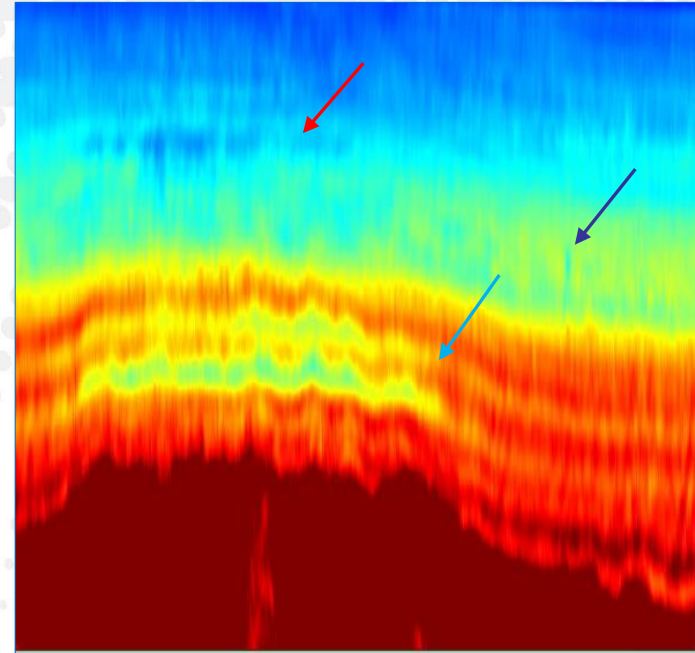


Full Waveform Inversion

3D stack section

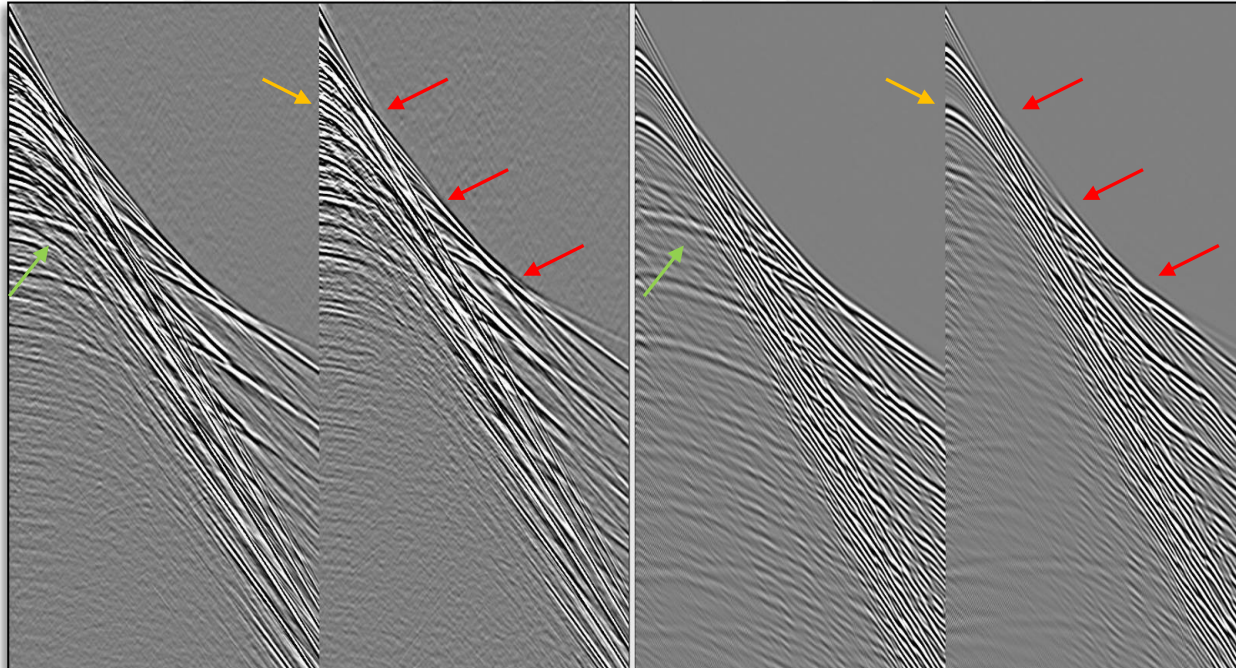


FWI Velocity Model



Full Waveform Inversion is a new instrument to obtain high-frequency depth velocity model

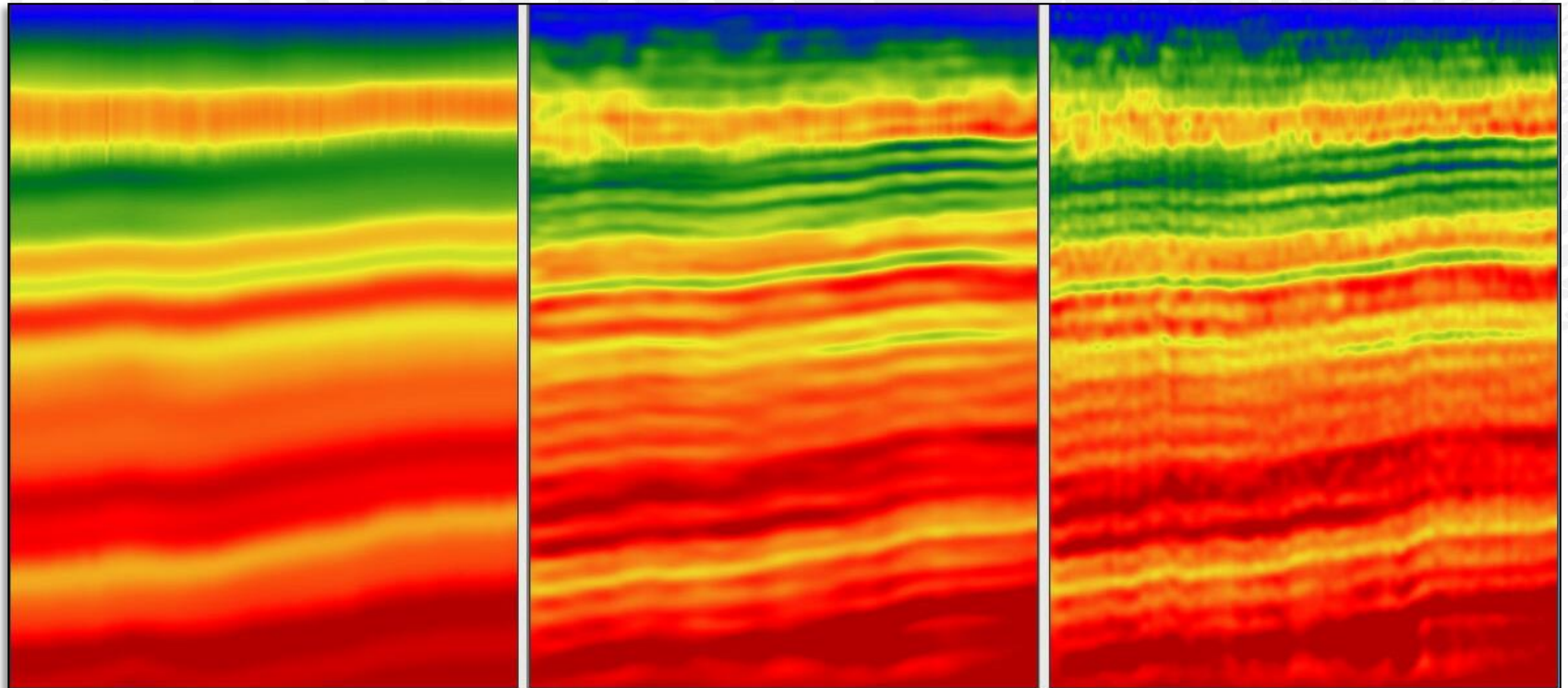
Full Waveform Inversion - creating a high-frequency Velocity Model



FWI algorithm is based on modeling synthetic gathers using initial velocity model and minimization of difference between real and modeled gathers

Registered field gathers on left and modeled with FWI gathers on the right. Confident refractor positioning is shown with red arrows, orange arrows are for multiples and up to 28Hz reflection power, shown with green arrow.

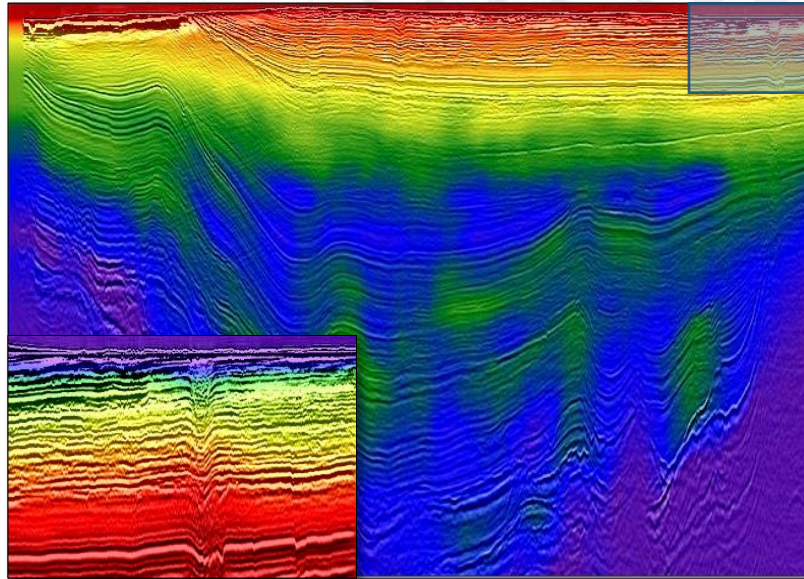
Full Waveform Inversion - Iterative update



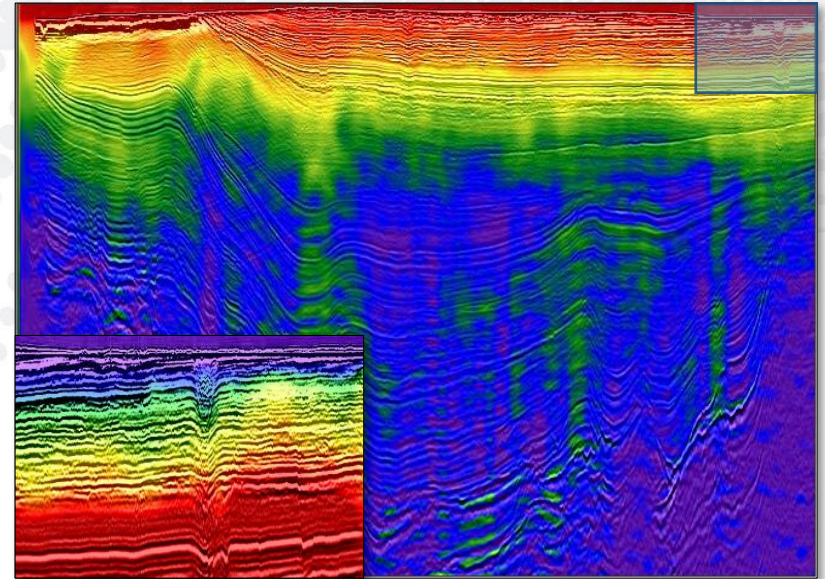
*Iterative FWI model velocity frequency update:
8 Hz, 15 Hz & 35 Hz in a row*

Tomography & FWI

TOMO



FWI



PreSDM section with overlaid velocity models derived by TOMO (left) and FWI (right) tools. Interval velocity seems to be very similar, but FWI lets us to obtain higher values of velocity frequency especially at shallow parts. As an example, zoomed sections of paleo-channel pictures from near water bottom area shows us how soft sediments filling it are described with lower velocity values.