

Correlating versus Inverting Vibroseis Records: Recovering What You Put into the Ground

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Abstract/Excerpt

Inverting uncorrelated seismic records avoids problems associated with the correlation method of removing the sweep energy by an approach which deconvolves, or inverts, with a recorded measured motion trace. North American Oil Sands Corporation has successfully used the method to image the McMurray target (depths of 500m) with high resolution (5m) and broad bandwidth (8-175Hz).

The method is considered to address three main areas of vibroseis specific noise: harmonic energy, side-lobe spurious reflectivity generated by correlation and, thirdly, potential recovery of a record from a sweep which deviates from the theoretical.