# Land Demultiple without Velocity Discrimination:
# Tau-P Deconvolution on High Fold Desert Data

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## Abstract

Predictive deconvolution in the Tau-P domain has routinely been applied successfully to marine data, but is less used on land seismic data. Land data has additional issues to consider such as static problems, lower s/n ratio, source coupling, and variable character and amplitude of both signal events and multiples within source records as well as across a seismic survey program.

Many demultiple tools utilized in land seismic processing require velocity discrimination between primary and multiple events. However, predictive deconvolution in the Tau-P domain does not have this requirement although there are some pre-conditioning requirements, including removal of strong linear noise, successful resolution of static problems, and effective random noise attenuation/elimination.

After the pre-conditioning is completed, parameter testing for predictive deconvolution can be accomplished on stacked data. These parameters are then applied to the Tau-P transform of shot records. The sequence is completed via inverse transform back to the T-X domain.

This paper will illustrate this workflow concept and include real data examples that will demonstrate the effect of Tau-P deconvolution on land multiples. Reverberations and interbed multiples are effectively attenuated with this technique.

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505