

## **Inversion and interpretation of Multicomponent Seismic Data: Willesden Green, Alberta**

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### Abstract/Excerpt

In this study, 2D multicomponent seismic data and well logs from the Willesden Green, Alberta area are used to investigate an oil reservoir interval. The Upper Cretaceous (Turonian) Second White Speckled Shale (2WS) represents the zone of interest. PP and PS synthetic seismograms generated from well logs correlate reasonably with the surface seismic data. PP and PS inversion was applied to the vertical and radial components to yield P and S impedance. The geologic model consists of 2WS shale interspersed with sand, limestone, gas and oil, giving rise to a low  $V_p/V_s$  ratio. The oil-saturated 2WS interval shows a P-wave impedance decrease and S impedance increase. The  $V_p/V_s$  estimate shows anomalous values over the zones of interest around the producing wells: 8-13-41-6W5; 8-26-41-6W5 and 6-15-41-6W5.