

## **A NEW CONCEPT IN BOREHOLE SEISMIC MEASUREMENT AND APPLICATIONS**

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Reservoir delineation is a key step in the development of an oil field, however, getting a reliable high resolution image of the reservoir away from the borehole remains the *tricky* issue. A new technique in borehole seismic measurement allows recording of high quality three components data by decoupling the sensor module from the rest of the tool body thereby maintaining waveform integrity. Vertical seismic profile results from such measurement allows accurate calibration of the surface seismic for possible time and phase shifts. The surface seismic section can then be inverted to produce stratigraphic image of the subsurface. The consistency at the well with log data and the high resolution of the acoustic impedance section allows a reliable lateral imaging in the vicinity of the borehole.

Other applications such as frequency attenuation as a function of depth and amplitude variation as a function of offset distance (AVO) are discussed.