

## **Applications of Broadband Land Seismology**

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### **ABSTRACT**

The reef-flat facies reservoirs in carbonate are dominantly developed along the Eastern Edge of the Pre-Caspian Basin. Due to the influences of salt domes and strong heterogeneity, the pre-salt stratigraphy-controlled traps cannot be well imaged with the conventional source, geometry, and processing methods. The narrow-azimuth and low-fold geometry cannot provide high S/N data and image salt-domes and pre-salt reef-flat bodies distinctively; the lack of low frequencies and the loss of high frequencies severely affect the resolution of seismic data and inversion quality. The broadband vibrator, LFV3 which enhances low frequency energy from 3Hz, has been developed and was deployed in AMG 3D project, Kazakhstan in 2013. A Wide-azimuth, Broadband, and High-density (WBH) data volume was acquired. Following the acquisition, a WBH processing and inversion flow was set up, and the imaging accuracy of the salt dome boundaries and pre-salt reflections and resolution were greatly improved.