A Step Change in Seismic Imaging – Using a Unique Ghost Free Source and Receiver System

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Abstract

Until the invention of the dual-sensor streamer in 2007, towed streamer seismic acquisition and processing projects where hampered by the imposed sea-surface ghost reflections. There was always a trade off in terms of towing depth and frequency content as they are inherently linked to each other. Deeper tow meant more low frequency signal at the expense of the high frequencies. Since 2007 the seismic industry has taken on the challenge of delivering broadband signal – uncompromised by the sea-surface ghost reflections. This paper describes the unique ghost free acquisition system based on the dual-sensor streamer combined with a ghost free time and depth distributed source. The new system allows for true removal of the surface ghosts, leading to an acquisition platform that can be towed deeper for increased low frequency content and increased signal to noise ratio (S/N) without compromising the high frequency S/N.