RECENT SEISMIC ACQUISITION TRIALS IN THE COOPER BASIN

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During the last two decades, whilst acquiring approximately 102,000 km of 2D data and 9,100 sq km of 3D data in the Cooper/Eromanga Basins, extensive testing has been conducted to optimise the quality and productivity of the seismic coverage. The most significant results of trials carried out up to the mid-90s have previously been published in papers dated 1989 and 1995 (Hughes & Fitzgerald).

As a result of tests carried out in recent years, it has become apparent that we have gone as far as we can in gaining improvements in quality and productivity with the state-of-the-art acquisition systems currently available. Innovative acquisition technologies will be required if we are to make further advances in data quality whilst improving productivity to balance the inevitable higher cost of such systems.

This paper summarises the trials carried out in the Cooper Basin utilising both prototype technology and the partial simulation of technology becoming available in other parts of the world. The prototype technology consisted of an 80,000 lb tracked vibrator being compared to the existing 60,000 lb non-tracked vibrators. In addition, the impact of utilising densely sampled receiver spreads, consisting of 1.67m and 5m group intervals compared to our production group interval of 40m, in sampling and subsequent attenuation in processing of the various noise trains is reviewed.

These trials provide some insights into the potential nature of future acquisition systems needed in the Cooper Basin if we are to increase the bandwidth to achieve our interpretive objectives.