

Marine magnetometer said to minimise seismic interference risk

Fugro-LCT is claiming a significant breakthrough in the acquisition of marine magnetic data with its GUNMAG marine magnetometer system.

The company says that magnetic surveys are most economically conducted in conjunction with seismic acquisition, and for some time now this has posed the problem for potential interference with the seismic equipment. The small risk of entanglement of 250m magnetometer cable with streamers or guns is often seen by seismic contractors as unjustifiable, given the overall cost of the survey. As a result, magnetic data has often not been acquired in areas where it would enhance the geological interpretation.

Fugro-LCT's GUNMAG system utilises the SeaSPY Overhauser-effect magnetometer which has several techni-

cal advantages over the proton precession magnetometers routinely used in marine acquisition. The SeaSPY is said to increase sampling, typically 1 Hz. With much improved sensitivity and accuracy.

Most importantly, the company says that the SeaSpy magnetometer signal is digitized to the onboard recording system. The signal therefore suffers no degradation in transmission, in contrast to the analogue voltages produced by proton precession magnetometers. When deployed in conventional, towed sensor mode, the SeaSPY tow cable is only half the diameter of conventional tow cables saving on the need for a dedicated winch.

Fugro-LCT has recently designed and engineered a tow block to allow the SeaSPY to be towed from the seismic

gun array. The magnetometer links into the existing conductor bundle to the gun array for data transmission and needs only a short 50m tow cable to maintain sufficient distance from the guns. The sensor is kept at the same depth as the guns and well clear of the seismic cables and other equipment.

The simplicity of installation, according to the company, means that the system can be linked into any of the gun arrays and multiple sensors can be towed to ensure data redundancy or provide magnetic gradient information. The GUNMAG system has already been deployed on a two-month survey off shore Brazil and further surveys are planned.