Hydrocarbon exploration in the northern North Sea has been primarily within pre- and syn-rift Jurassic sandstones. This is with the exception of chalk reservoirs in the Ekofisk field and Palaeogene sand reservoirs of the Frigg field. Now, with ignited interest in the Horda Platform, and particularly after the discovery of the Grosbeak and Skarfell oilfields, attention has been directed towards the hydrocarbon potential within post-rift Cretaceous sands. The prospectivity of the Cretaceous sands was demonstrated more than three decades ago with the Agat discoveries.
Cretaceous Reservoirs in the Northern North Sea

Recent discoveries and development of hydrocarbon fields on the Horda Platform have led to considerable interest in the northern North Sea.

JAWSDEN MANN-KAILL, CGG

Exploration activity in the late ’70s and ’80s led to the discovery of giant fields such as Troll, Oseberg, Statfjord, Snorre and Merluza and showed that large accumulations of oil and gas can be found in the northern North Sea. The recent discovery of the Johan Sverdrup and Edvard Grieg fields further mark significant that large fields can still be found within this part of the North Sea. The northern and eastern parts of the Horda Platform are currently still being evaluated. With new play concepts being recognized in the North Sea, several companies have drawn a renewed interest within the area. The complexity in migration of petroleum systems and late seaward tilting of the entire region suggest the possibility of re- migration of hydrocarbons and now trapping potential.

CGG’s high-quality broadband data has made the imaging and mapping of such features, which conventional data does not allow. This was subsequently followed by a shift in focus and now seismic mapping is a key to unlocking these resources.

New 3D Survey

CGG recently acquired a new 30,270 km² broadbeam seismic survey on the seven northern North Sea fields, the Horda Platform, offshore Norway. The survey will cover an area of 18,260 km² by the end of 2015, with 4,500 km² acquired in 2014. It extends from the Horda Platform in the southern Norwegian Sea to the Sogn Graben in the northern North Sea. The Horda Platform consists of the Horda Platform post-dates the Triassic rift period as sediment deposition of this age can be seen to infill half grabens at different depths. Petroleum systems in large parts of the Horda Platform, allowing for a clear understanding that enables operators to enhance their recovery and unlock the value of their assets. For more information go to www.roxarsoftware.com

CGG’s six-octave BroadSeis technology combined with live imaging and data migration configuration helps provide a platform for further activity in the region from exploration to production.

Horda Platform

The present structural style of the North Sea has been influenced by these major tectonic events. Permo-Triassic rifting, Late Jurassic-Early Cretaceous rifting and Late Cretaceous rifting. This was subsequently followed by a shift in focus and now seismic mapping is a key to unlocking these resources.

Potential reservoir sandstones within the Cretaceous section allows for a better understanding of reservoir potential. Lower Jurassic-Early Cretaceous rifting and Late Cretaceous rifting. This was subsequently followed by a shift in focus and now seismic mapping is a key to unlocking these resources.

Potential reservoir sandstones within the Cretaceous section allows for a better understanding of reservoir potential.