

## Northland Block Offer



### OFFSHORE NORTHLAND BASIN

The offshore Northland basin lies to the west of the upper part of the North Island of New Zealand. This basin is contiguous with the hydrocarbon producing Taranaki Basin. Over the last three decades, the region has seen extensive seismic survey coverage and the drilling of two wells in the area. The Waka Nui-1 well changed the understanding of the sequences of the region with Jurassic sediments being intersected, while the Karewa-1 well intersected significant, but as yet non-commercial, biogenic methane in the Neogene sediments. Hydrocarbon potential over the whole basin was recently enhanced by satellite radar imaging, which highlighted a large number of potential offshore oil seeps indicative of the presence of an active Petroleum System.

Active exploration is presently being undertaken in the permitted southern segment of the basin by a consortium of Origin and OMV, who have recently carried out new 2D and 3D seismic surveys. This area links to the northern part of the Taranaki Basin with broadly similar geological sequences.

Nearly 50,000 sq kms of the offshore Northland Basin is being offered by the Crown in six Blocks, three on the immediate shelf and three in intermediate to deep waters. The basin consists of a sedimentary sequence up to 9 kms thick, resulting from a multi-phase series of tectono-stratigraphic events. This sequence is similar to the Taranaki Basin and onshore Northland geology, but is underlain by the Jurassic sequences identified in Waka Nui-1.

Potential petroleum source rocks with significant oil generating capability exist in the Jurassic coaly sediments of the Murihiku Supergroup, Early Cretaceous Taniwha Formation coaly sediments, Late Cretaceous coals of the Rakopi and North Cape Formations and marine shales of the Paleocene Turi and Waipawa Formations. Modelling of just two sources over the basin suggest there is potential for 8.5 mmstb/km<sup>2</sup> oil and 3.8 mmboe/km<sup>2</sup> gas to have been generated in a 100m thick basal section of the Taniwha Formation and 1.3 mmstb/km<sup>2</sup> oil and 0.1 mmboe/km<sup>2</sup> gas for a 50m thick Waipawa Formation which is just reaching the expulsion threshold.

Numerous potential reservoir facies include transgressive coastal sands and conglomerates of Cretaceous and Paleogene ages and turbidite sands of Neogene age.

A large number of structural and stratigraphic traps are recognised from the seismic interpretations recently undertaken and are included with this data package.

A supplementary data pack is now available for the Northland Block Offer. The data was acquired in March 2009 by CGGVeritas as part of a seismic survey over the Reinga Basin, which is contiguous to the Northland Basin. The new data pack contains the Crown owned lines (REI09 12, 20, 28 & STRANSSP 205 & 306).

For more information on the supplementary data [click here](#).

To request a free copy of the supplementary data pack please email [callum.skinner@med.govt.nz](mailto:callum.skinner@med.govt.nz)

To view or print these PDF documents you will require PDF viewing software: [Adobe Acrobat Reader](#).

[Block Offer Notice \[299 kB PDF\]](#)

[Block Offer Map \[8.1 kB PDF\]](#)

[Data Map of 2D Seismic \[3.6 kB PDF\]](#)

[GNS Consultancy Report 2008 \[10.1 MB PDF\]](#)

- [Enclosure 1 \[8.9 MB PDF\]](#)

- [Enclosure 2 \[443 kB PDF\]](#)

- [Enclosure 3 \[443 kB PDF\]](#)

[NPA Satellite Seep Data Used and Results \[12.1 MB PDF\]](#)

[Shape Files \[5.5 MB ZIP\]](#)

If you require a data pack for the Offshore Northland Block Offer, please send your request to [crown.minerals@med.govt.nz](mailto:crown.minerals@med.govt.nz)

For more detailed information please check out the [current permits](#) page and [technical database](#).