

# Irish Atlantic Margin

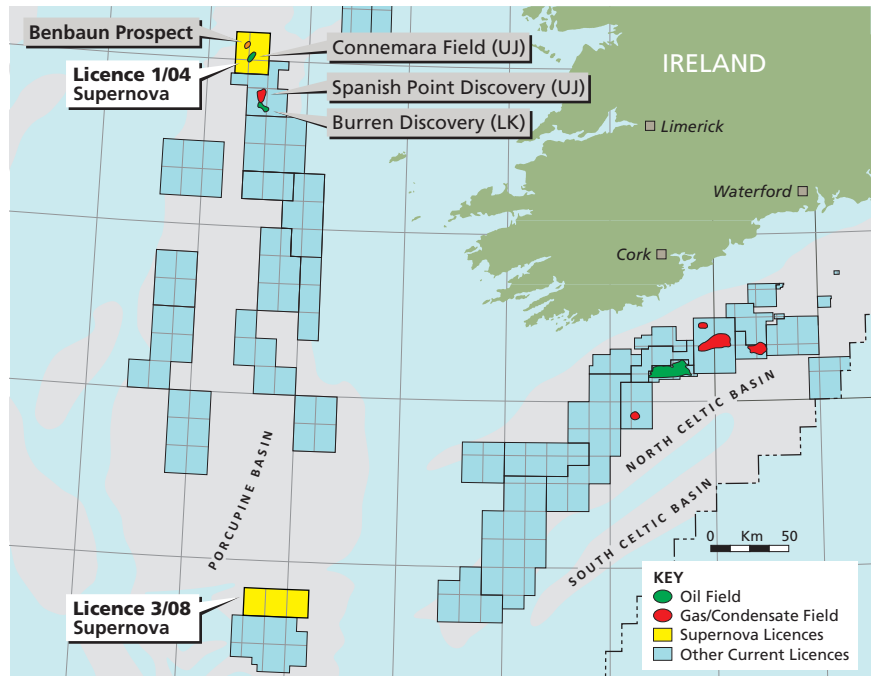
## North Porcupine Basin Licence 1/04 Farm-in Opportunity



### Introduction

Supernova Energy is offering companies the opportunity to participate in Atlantic Margin Licence 1/04. The licence, which is located at the Northern limit of the North Porcupine Basin is comprised of part blocks 26/27, 26/28, 35/2 and 35/3.

Supernova has 20% WI in Block 1/04 and 50% WI in Block 3/08.

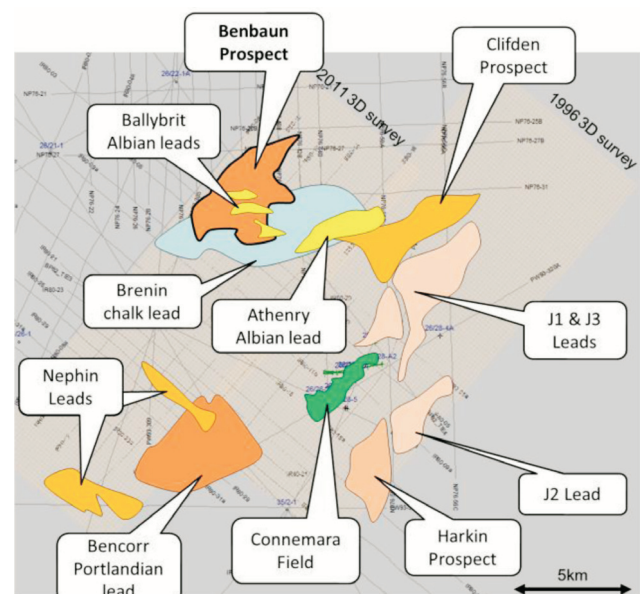


The Benbaun prospect, a combined structural - stratigraphic Upper Jurassic prospect is very analogous to the Buzzard field of the UK Moray Firth. There are proven reservoirs and source rocks in the adjacent Connemara field, discovered by BP in 1982. This field is also within the licence area and adds up to 16 mmbbls of discovered reserves to the attractive newly found prospect.

The Benbaun prospect is a newly identified feature recognized on a high quality 3D seismic dataset, acquired in 2011. This is the first time this prospect has been presented in full and represents a unique opportunity to find significant liquid hydrocarbons in a very generous fiscal regime.

The current phase of the Licence requires a well commitment to move to the next stage of licensing. However a license extension has been applied for by the operating group. The Benbaun prospect

has an obvious 4-way closure within the larger stratigraphic trap, therefore the most likely location to test the opportunity has already been defined. Water depths are up to 400m, with a well TD of 3,000m (Top Reservoir being at 2250m TVDSS).



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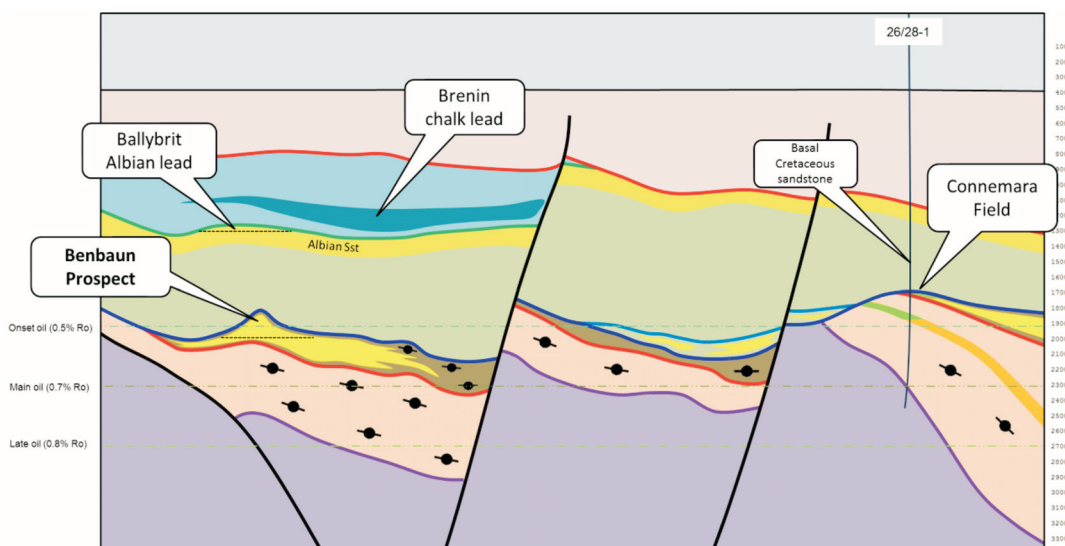
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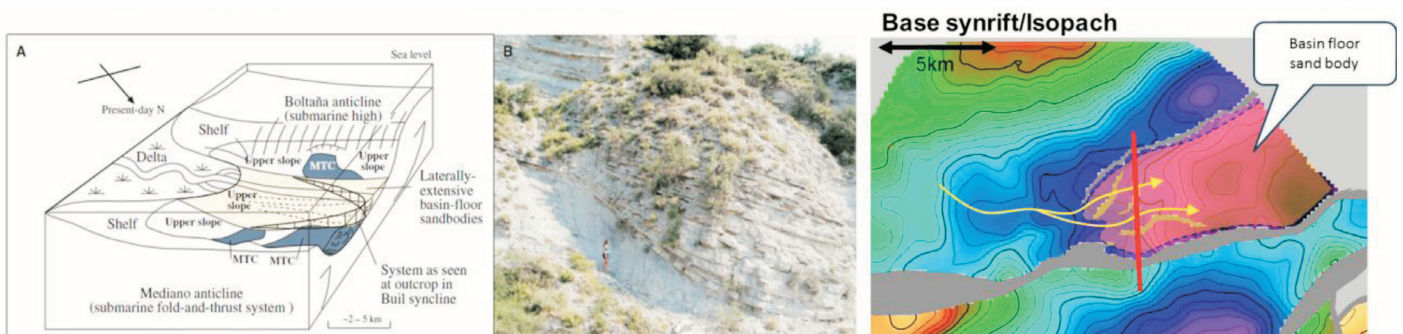
## Benbaun prospect – A Buzzard analogue

The UK Buzzard field is a large stratigraphic trap that represented a game changer for the exploration of stratigraphic traps. With a pre-drill COS of just 12%, the discovery wells found a 30km<sup>2</sup> field with a 1,400' oil column, holding nearly 2 billion barrels of oil in place. This field has a 3-way stratigraphic seal, with dip closure to the east. The field is charged from the west by Kimmeridgian shales, the reservoir being the younger Upper Jurassic Volgian sandstones.

The Benbaun prospect shares many elements with the Buzzard field; the reservoir is thought to be a slightly younger Upper Jurassic submarine fan sandstone reservoir, but is charged in the same way from a deeper Jurassic kitchen, and is trapped in a similar stratigraphic manner, as shown on the geoseismic time section below. Reservoir thicknesses are comparable with gross section of up to 300m. Reservoirs are predicted to have porosities in excess of 25%.



Reservoir rocks are sourced from the adjacent Porcupine high and deposited in a local syncline adjacent to the Finnian's spur fault block. Wells updip from this area have this reservoir aged section missing. One well (26/21-1) encountered Berriasian aged conglomerates, supporting the interpretation of this area as a clastic provenance for the reservoir sands of the Benbaun prospect.

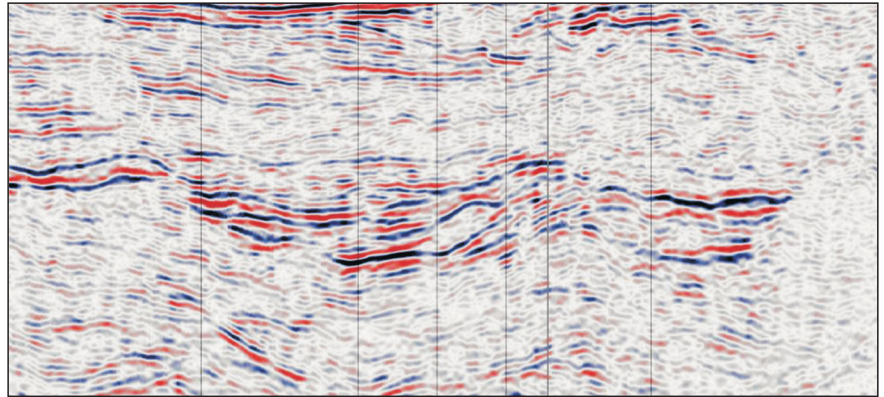


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The seismic section illustrates the clearly observed Upper Jurassic synrift seismic facies, with high amplitudes, lower frequency content and the potential to interpret individual sand flow units.

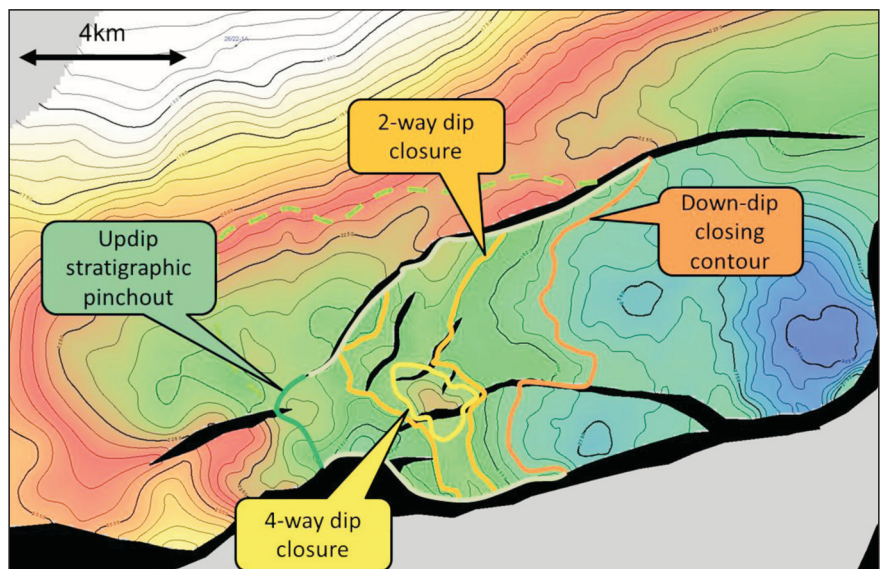


Source rocks have been drilled in many local wells. The Connemara field has proven oils sampled that identify marine source rocks from the Upper and Middle Jurassic section. Lower Jurassic source rocks have also been drilled by well 26/22-1A, updip from the prospect and can clearly be seen to extend beneath the Benbaun structure, offering additional access to a known high TOC source rock.

Geochemical analysis and basin modelling in the area has indicated the top of the oil window to be at 2,400m SS, putting the downdip area of the play into the oil generation zone at the Kimmeridgian level. A similar model of migration is proven at the Connemara field. Expelled volumes are well in excess of the  $P_{10}$  volumetric in place estimate.

### Prospect mapping

The Benbaun prospect trap is bound by faults to the north and south that had a role in controlling and constraining the sand deposition at the time. The Benbaun prospect is covered by modern 3D seismic data, acquired in 2011. Offset stacks are available and analysis of these data has highlighted the potential for a possible amplitude anomaly over a crestal part of the structure.



Volumetric analysis is based on a robust 4-way closure approximating to the  $P_{90}$  estimate and a 2-way trap, with juxtaposition against tight Carboniferous section across the bounding faults, as seen in Buzzard. The  $P_{10}$  estimates and above rely on an updip stratigraphic component, with resulting volumes approaching 1 billion barrels in place.



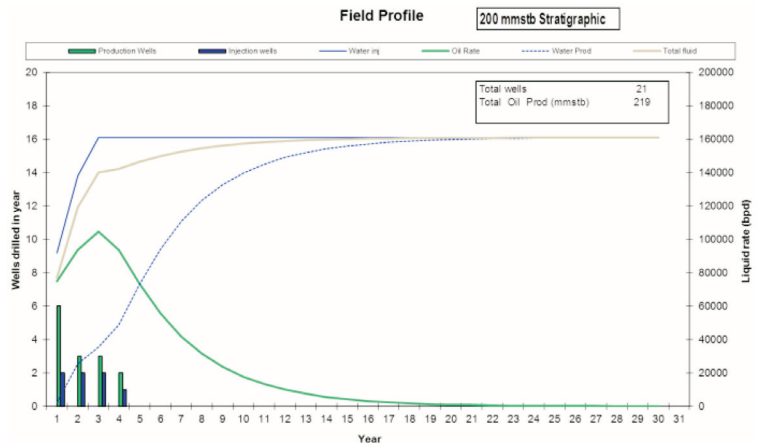
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## Commercial

Fiscal terms are very attractive in Ireland. This licence is subject to the Irish "Licensing Terms for Offshore Oil and Gas Exploration and Development 1992". Tax on net profits is fixed at 25% while 100% allowances are granted for exploration, development and production expenditure. There is no royalty, production sharing or state participation.



The Benbaun prospect mean case reserves of 180 mmbbls show very attractive economic indicators while the P<sub>90</sub> reserve estimate of 23 mmbbls is also robust. P<sub>10</sub> recoverable resources have been calculated as 450 mmbbls. Upside can be added by co-developing the existing and proven Connemara oil field within the block, particularly in the P<sub>90</sub> case.

Development scenarios have been estimated using conservative production profiles based on the Connemara parameters and the Buzzard analogue. The 180 mmbbls mean case reserves forecast gives a maximum rate of 85,000 bbls/day from 14 producers and 7 injectors, with a recovery per well of nearly 13 mmbbls.

An FPSO has been assumed in the development scenario. Supernova, one of the licensees, is a subsidiary of Bluewater, a leading provider and operator of tanker-based production and storage systems.

## Offering

This is an opportunity to participate in a high impact exploration programme where interested parties can earn Working Interest by funding a disproportionate part of the exploration well costs and contributing to back costs. Having signed a confidentiality agreement, interested parties will be offered a management presentation and the opportunity to view the new seismic data. The data room is now open in London.

## Contact

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