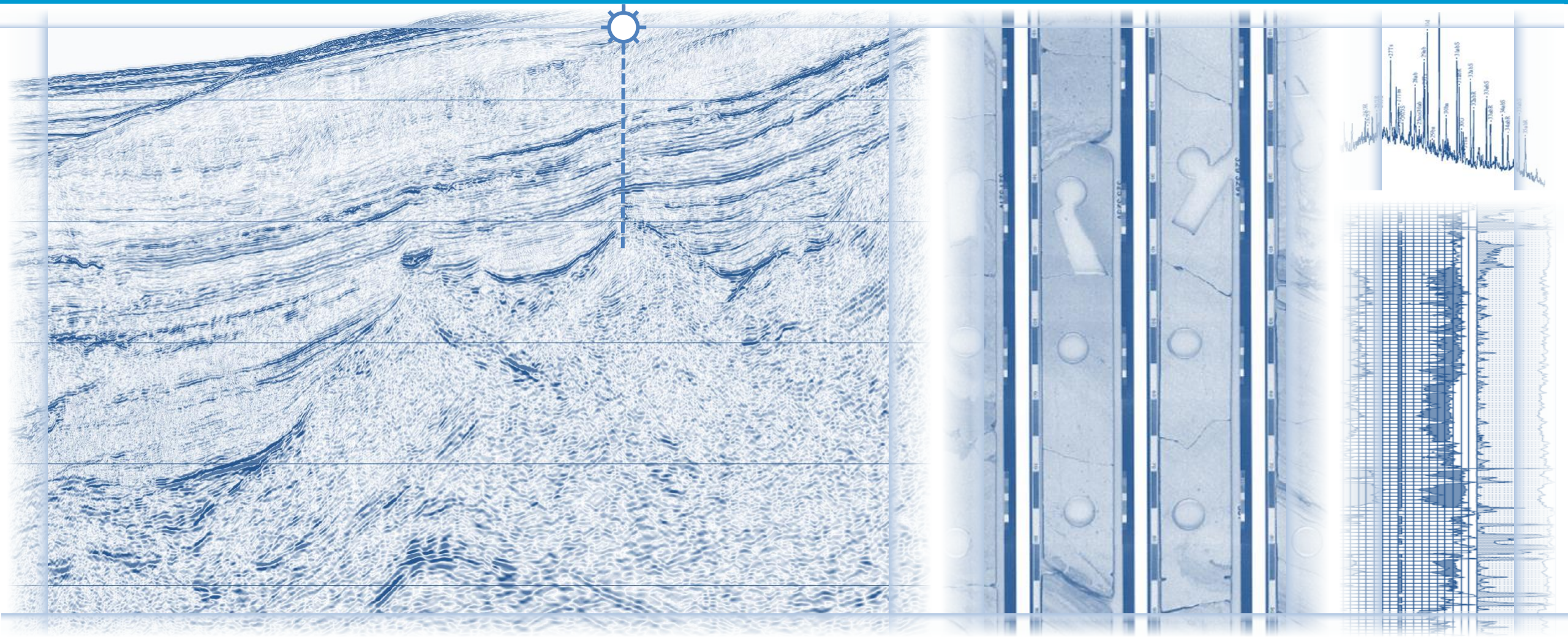
Giant Structural Closures in the Rockall Basin

New Insights into Structures, Reservoirs and Source Rocks



Atlantic Ireland Conference, Dublin

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SERICAENERGY

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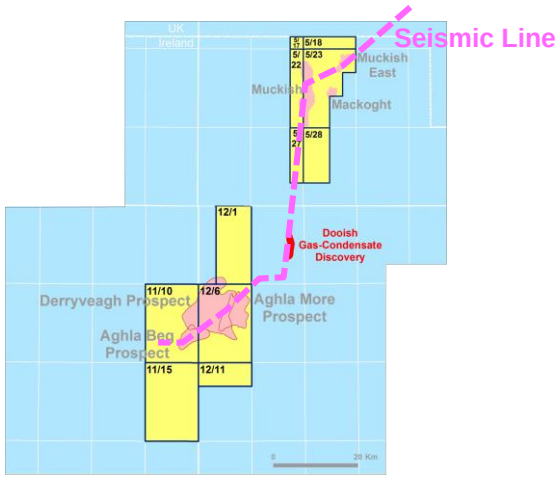
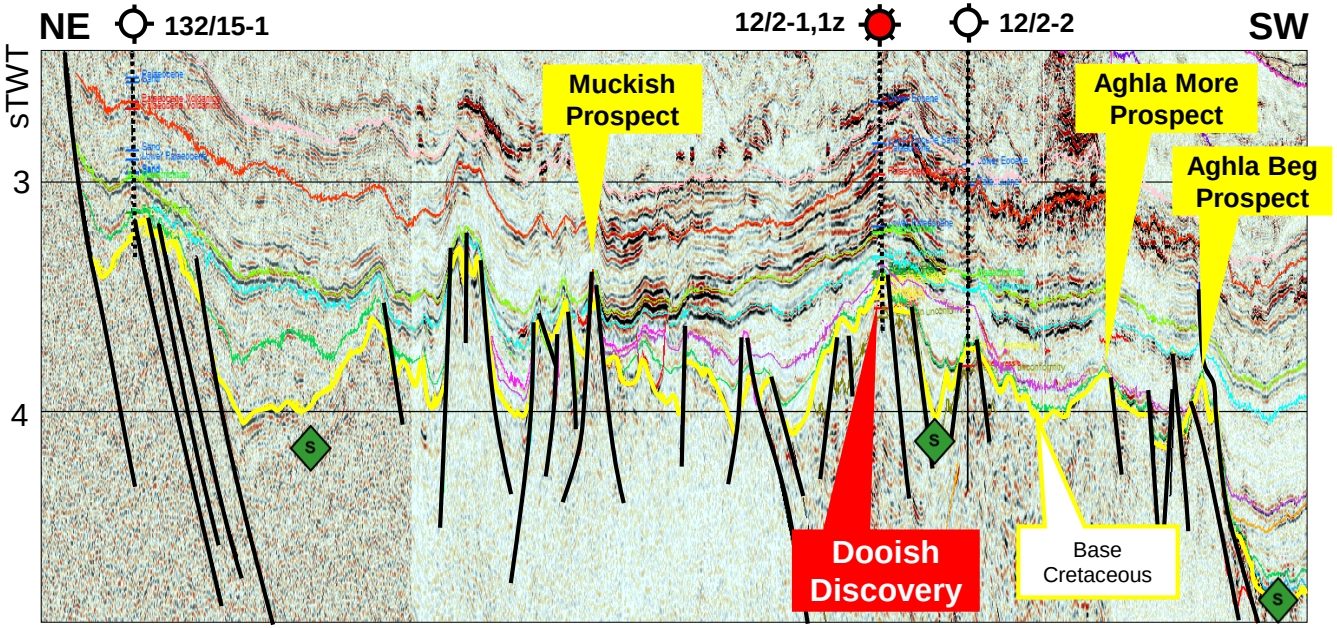
Rockall Basin Introduction



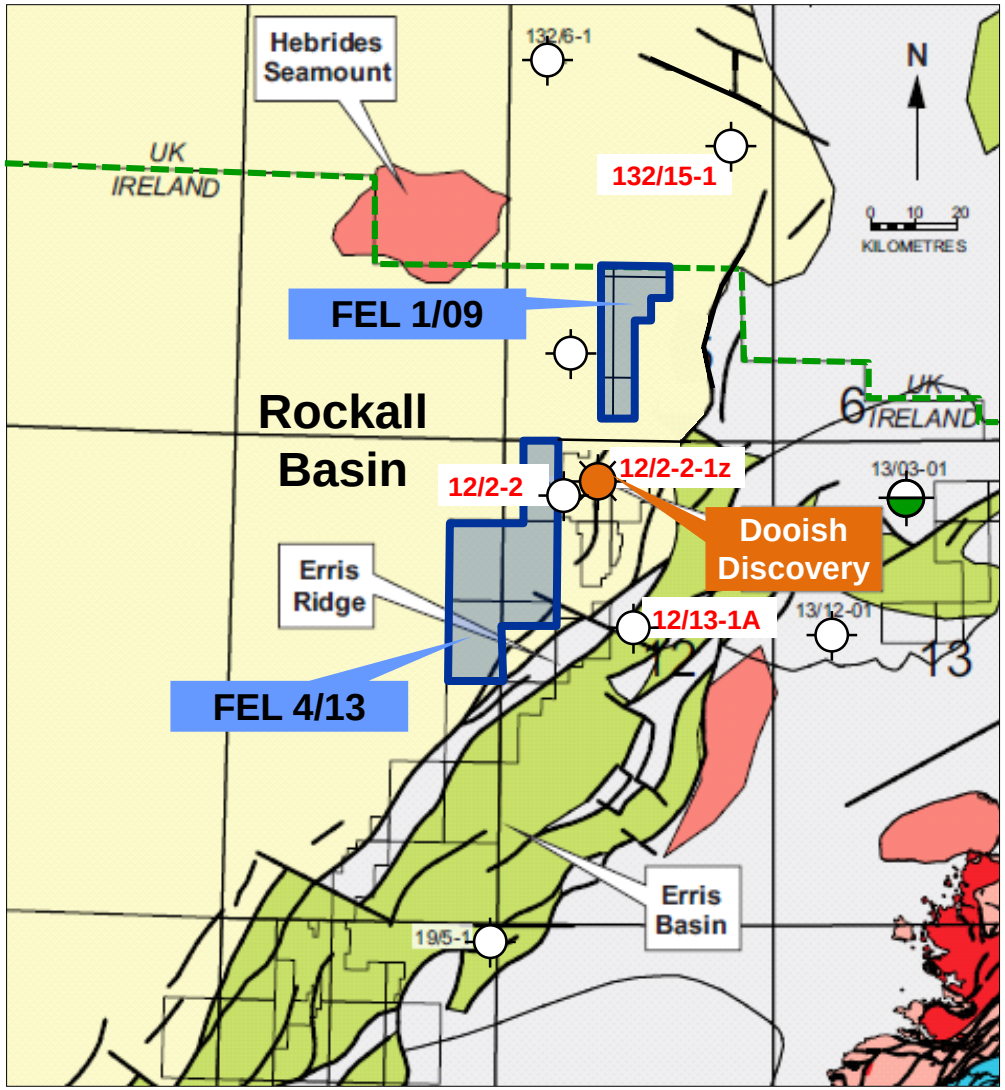


Regional 3D Seismic Line

- Giant, well-defined fault and dip-closed structural prospects
- Proven hydrocarbon Potential – the Dooish Discovery
- Known high-quality sandstone reservoirs
- Newly-recognised fractured basement play
- Late Jurassic oil source rock now proven
- Stratigraphic post-rift upside
- Material drilling opportunities

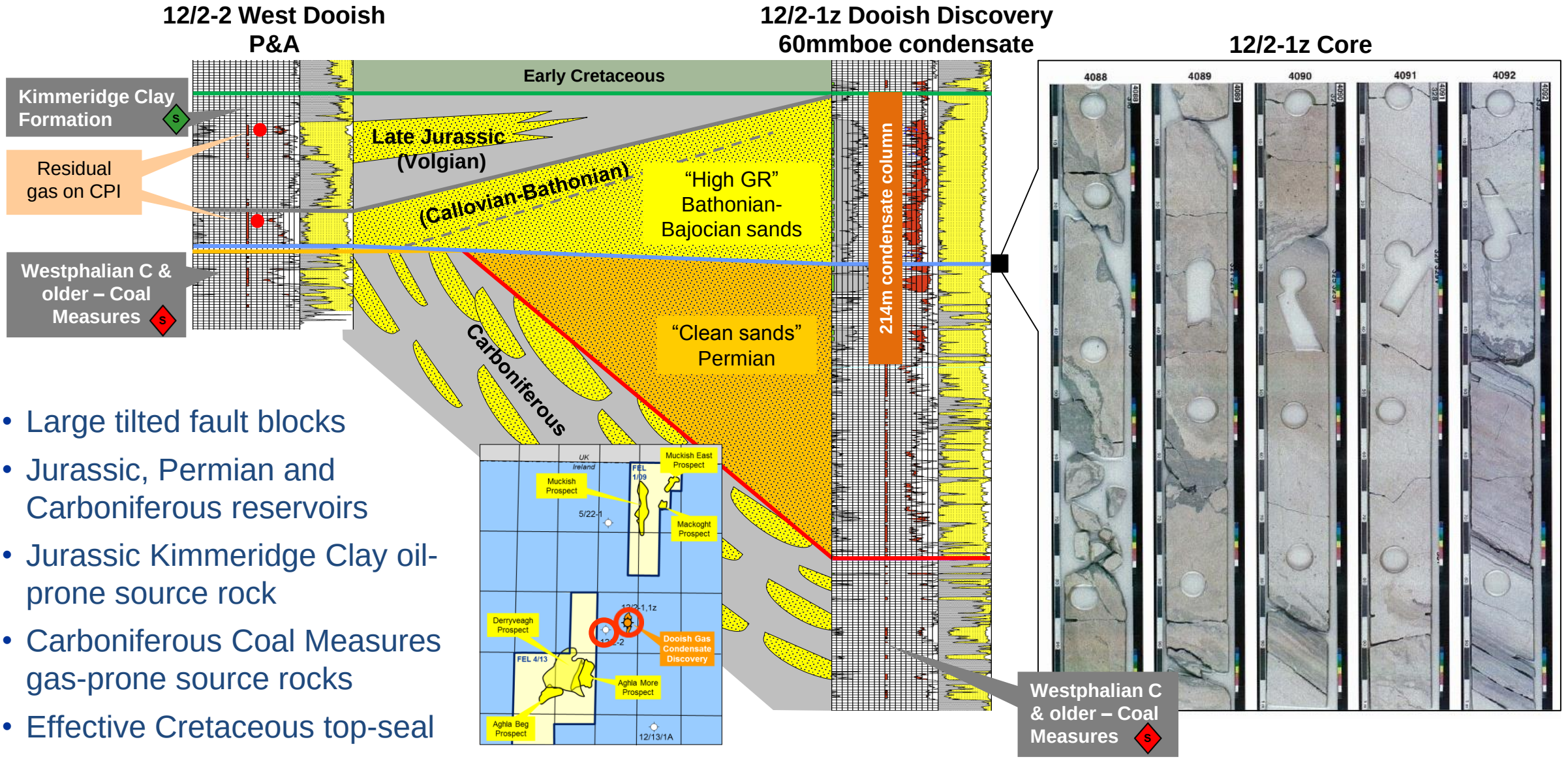
Rockall Basin

Proven Reservoirs, Source Rocks and Seals



Stratigraphy	RESERVOIR	SOURCE	SEAL
EOCENE	possible		probable
PALAEOCENE			
UPPER CRETACEOUS			probable
LOWER CRETACEOUS	12/13-1A (Erris)	possible	12/2-1,1z
UPPER JURASSIC	12/2-2	12/2-2	12/2-2
MIDDLE JURASSIC	12/2-1,1z, 12/2-2	possible	
LOWER JURASSIC		possible	possible
TRIASSIC	12/13-1A (Erris)		
PERMIAN	12/2-1,1z, 12/13-1A		
CARBONIFEROUS	12/2-1z, 12/2-2, 13/3-1 (Donegal), 19/5-1 (Erris)	12/2-1z, 13/3-1 (Donegal), 19/5-1 (Erris)	
DEVONIAN	19/5-1? (Erris)		
BASEMENT	132/15-1		

The Dooish Discovery and West Dooish Well

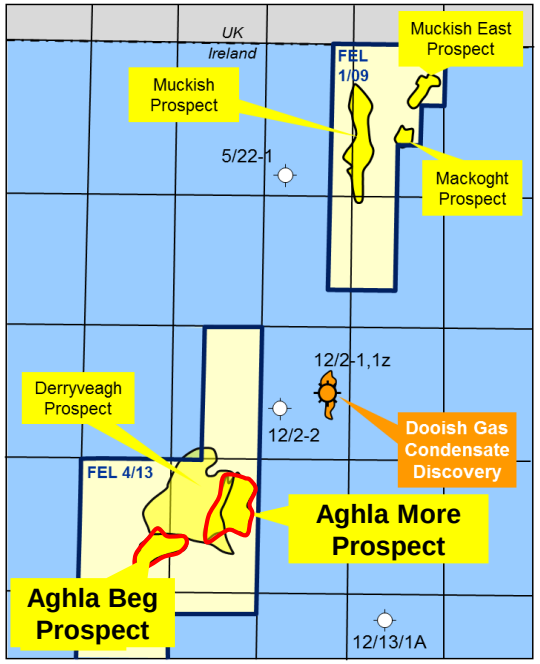


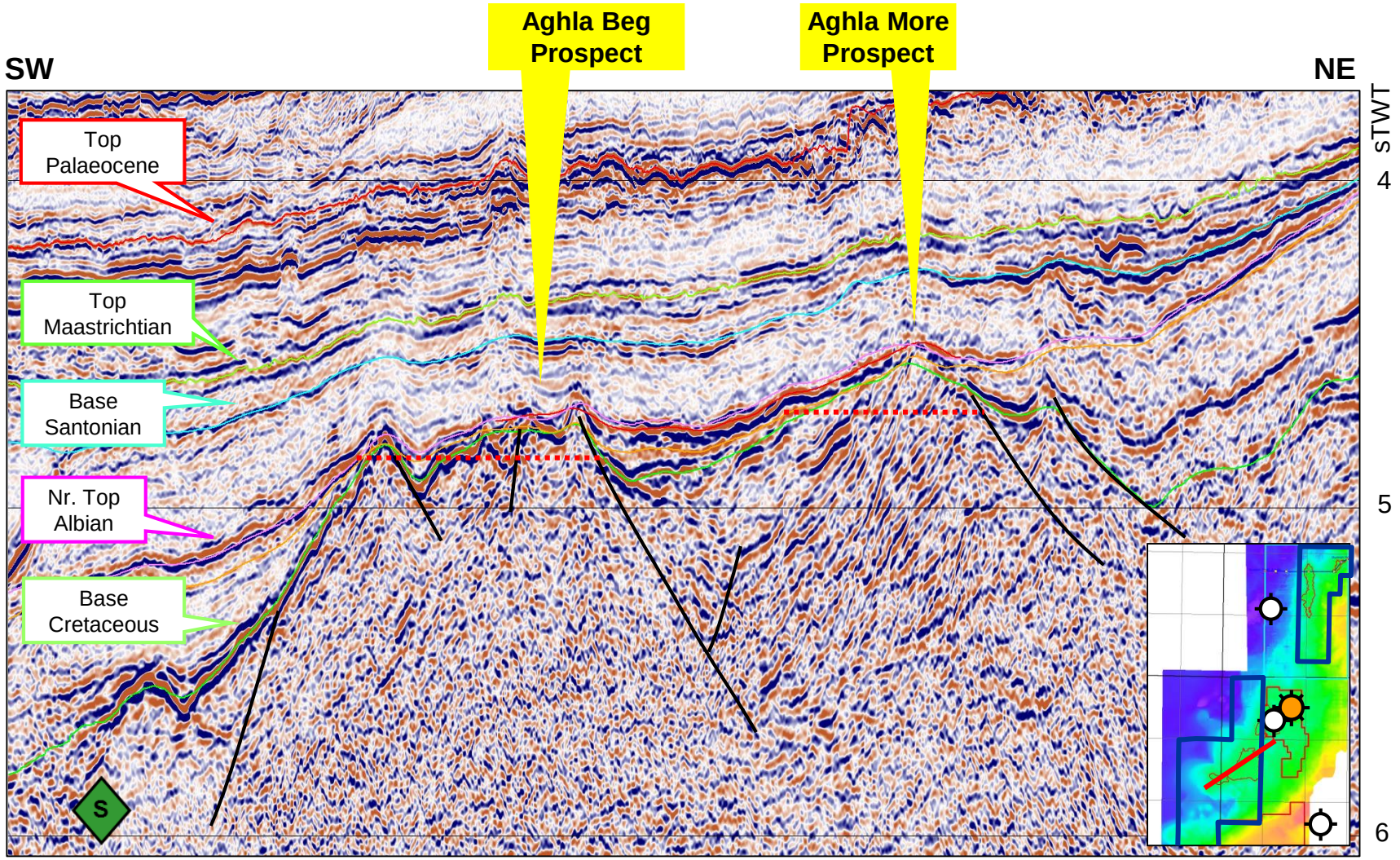
- Large tilted fault blocks
- Jurassic, Permian and Carboniferous reservoirs
- Jurassic Kimmeridge Clay oil-prone source rock
- Carboniferous Coal Measures gas-prone source rocks
- Effective Cretaceous top-seal

The Aghla More and Aghla Beg Prospects

Seismic and Geoseismic Sections

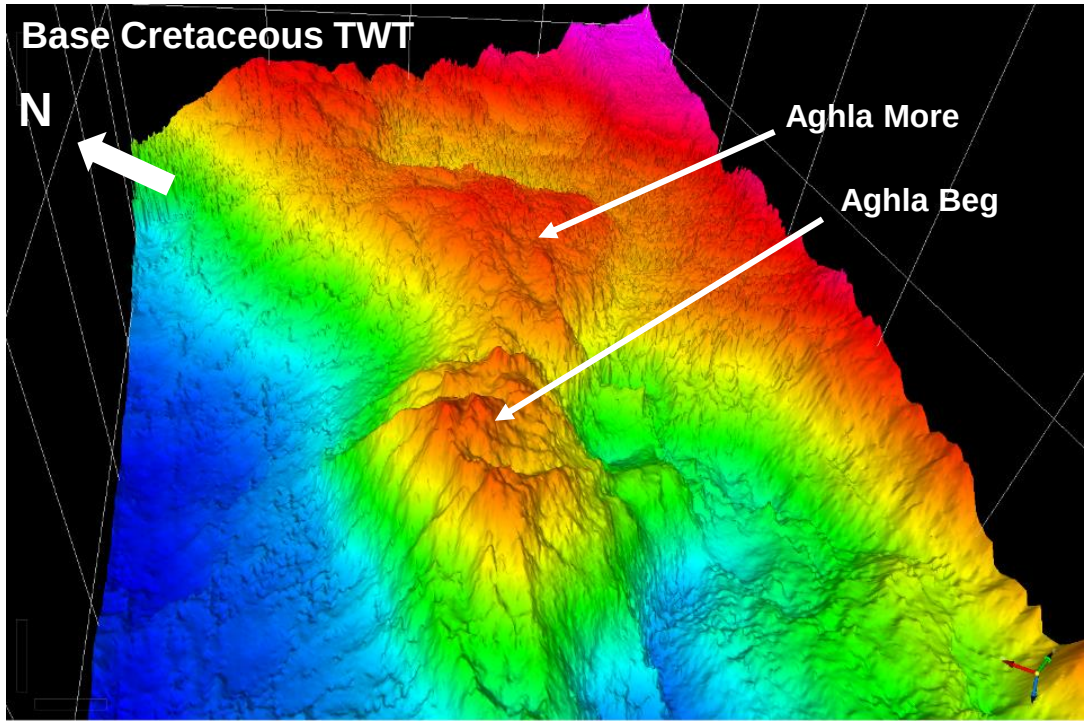
- Aghla More and Aghla Beg are located SW of the Dooish Discovery
- They are two very different prospects

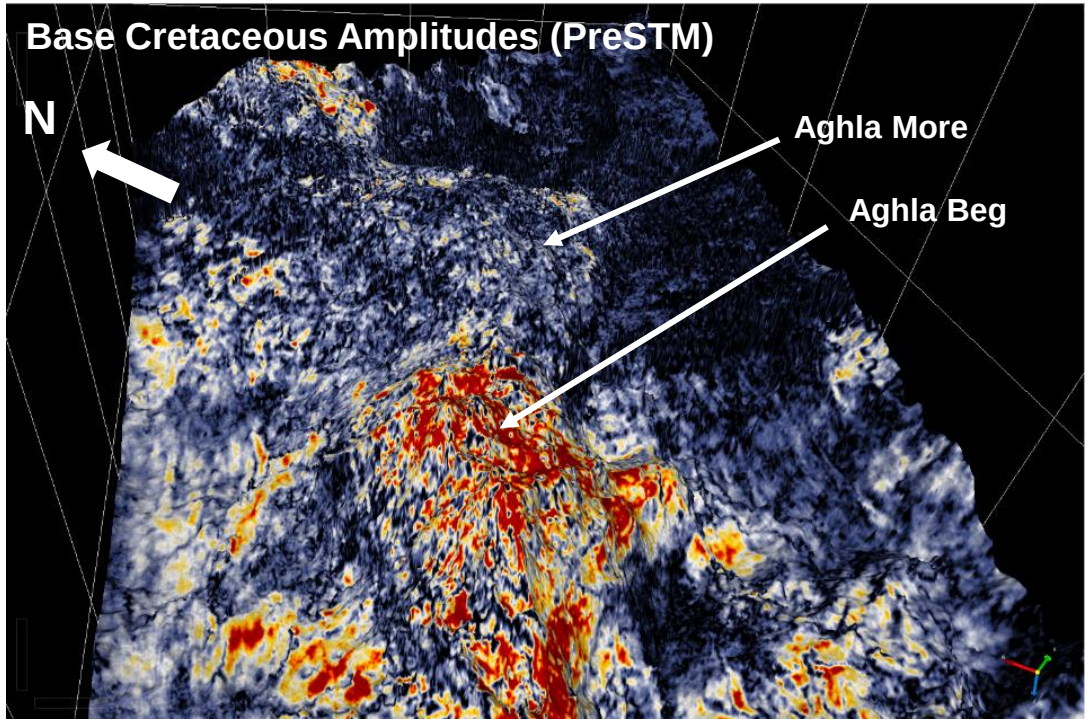




Prospect Reservoir Characterisation
IKON Reservoir Characterisation Study

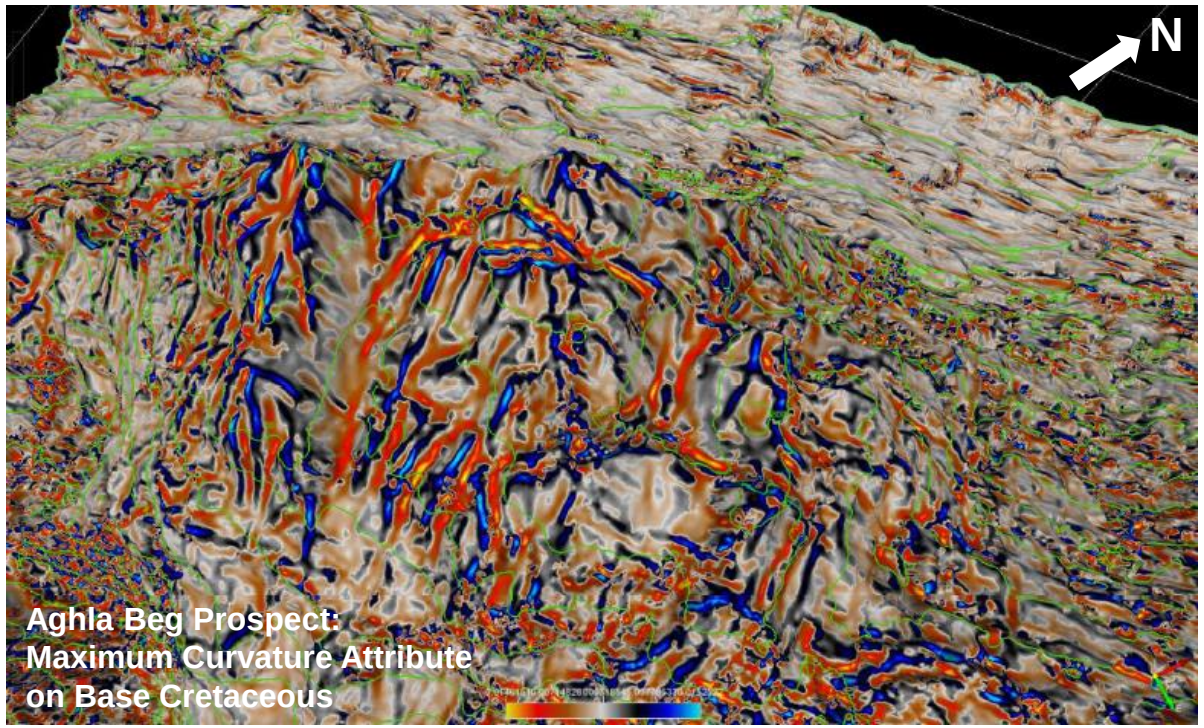
- IKON study was undertaken to further investigate the differences between the Aghla More and Aghla Beg prospects
- **Aghla More Prospect:** Low relief, low amplitude top, with layered internal seismic character
- **Aghla Beg Prospect:** High relief, with high amplitude top and amorphous internal seismic character
- Workflow involved 3D seismic data conditioning, de-noising, discontinuity preservation and re-mapping

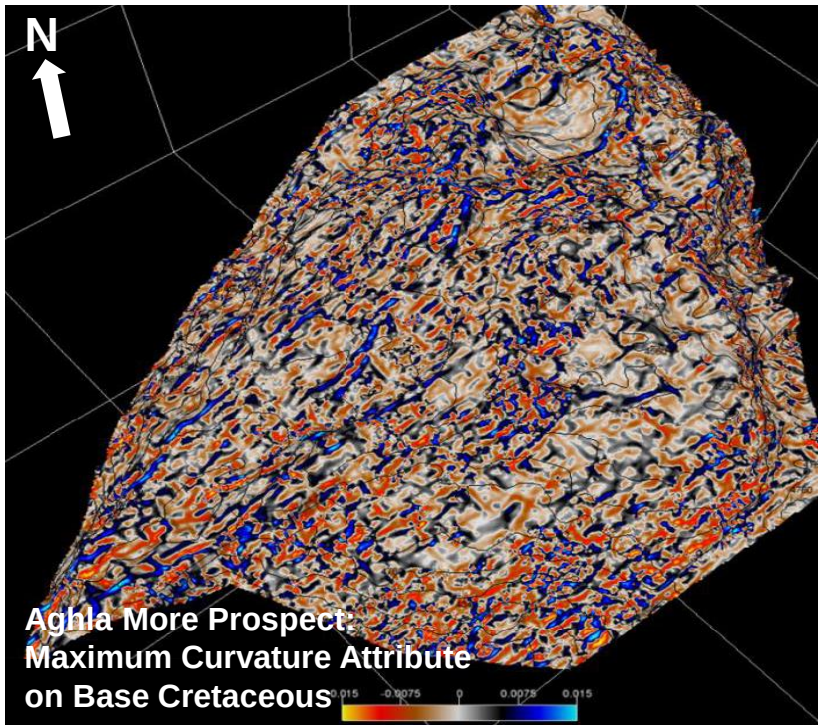




Prospect Reservoir Characterisation
IKON Fractured Basement Study

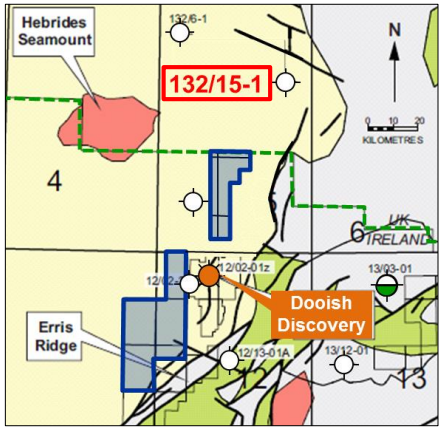
- The study revealed a pervasively faulted and fractured basement play beneath the B.C.U. in the Aghla Beg Prospect
- Aghla More is less faulted and fractured, consistent with interpretation as a conventional structural trap with layered reservoir

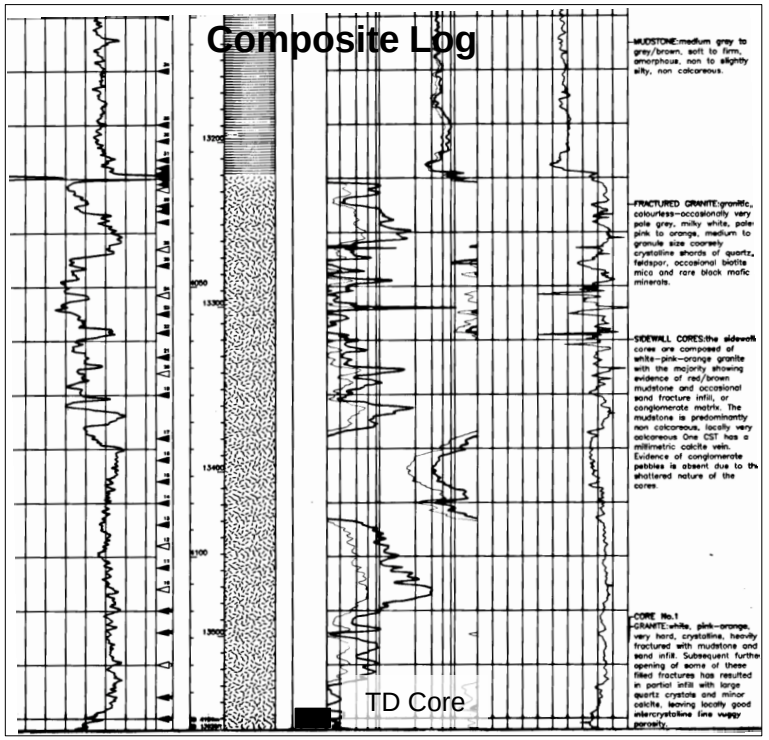


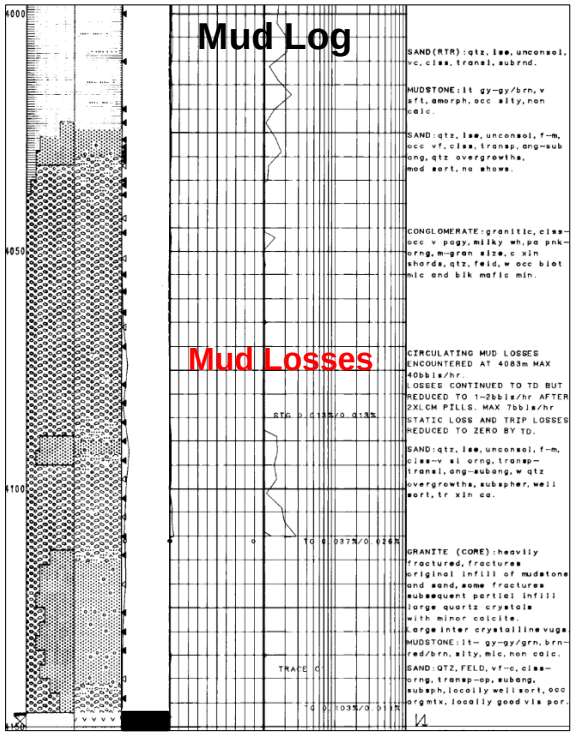


Fractured Basement Proof of Concept

UK132/15-1 Well: Granitic conglomerate and weathered granite







- 200m weathered granite and/or conglomerate and fractured granite
- Fractures are open
- TD core: Partial sandy or crystalline fracture infill; inter-crystalline fracture porosity and vuggy porosity

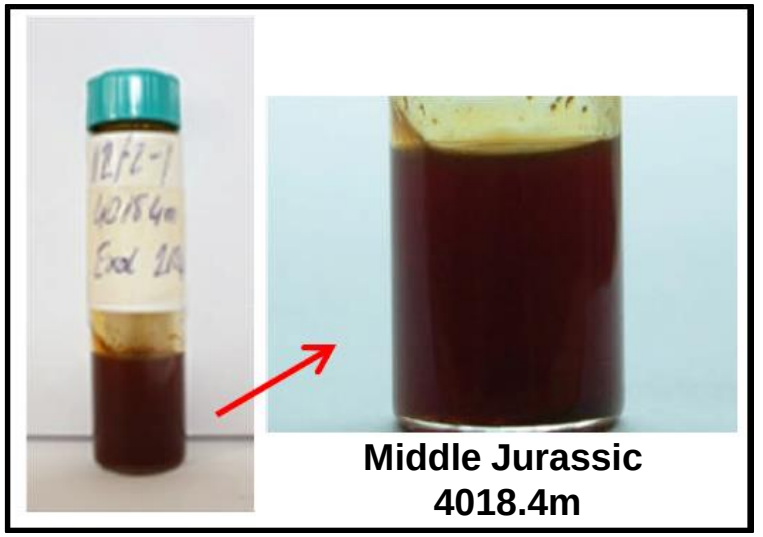
- Significant mud losses 40 bbls/hr (MW 10 lbs/gal)

Source: British Geological Survey

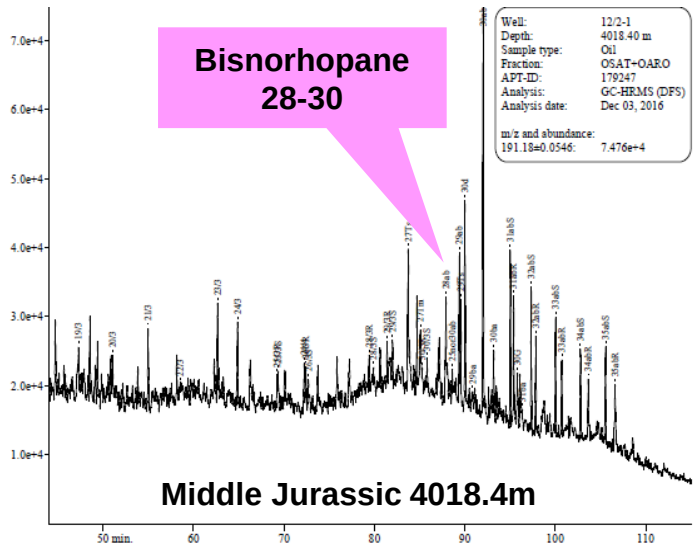
Dooish Condensate Fluid Characterisation

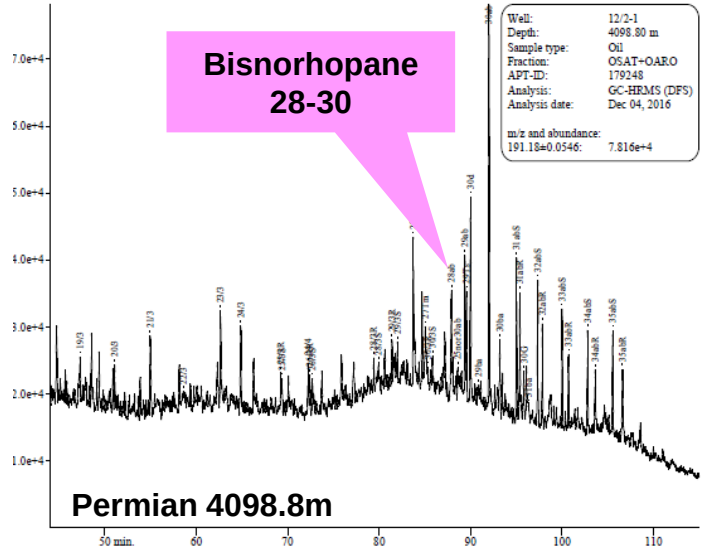
APT (UK) Geochemical Analysis & Results

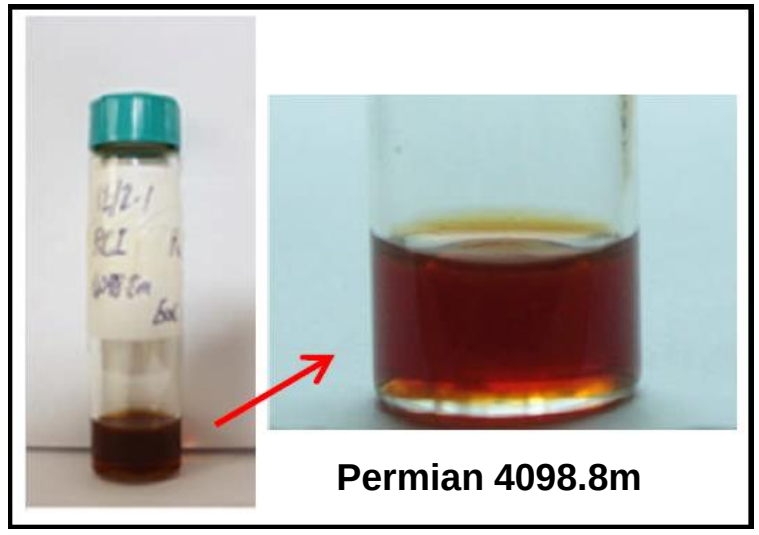
- Robertson Research (2008) biomarker analysis was inconclusive
- Serica commissioned a new analysis of the Dooish fluids
- Gas & liquid chromatography, mass spectroscopy and isotope analysis
  - High source rock maturity Ro +0.9; generation temperature 150°C
  - Terrestrially-influenced marine siliclastic source
  - Significantly high levels of “Bisnorhopane” biomarker



Dooish Condensate Alkane GC-MS m/e 191 fragmentograms



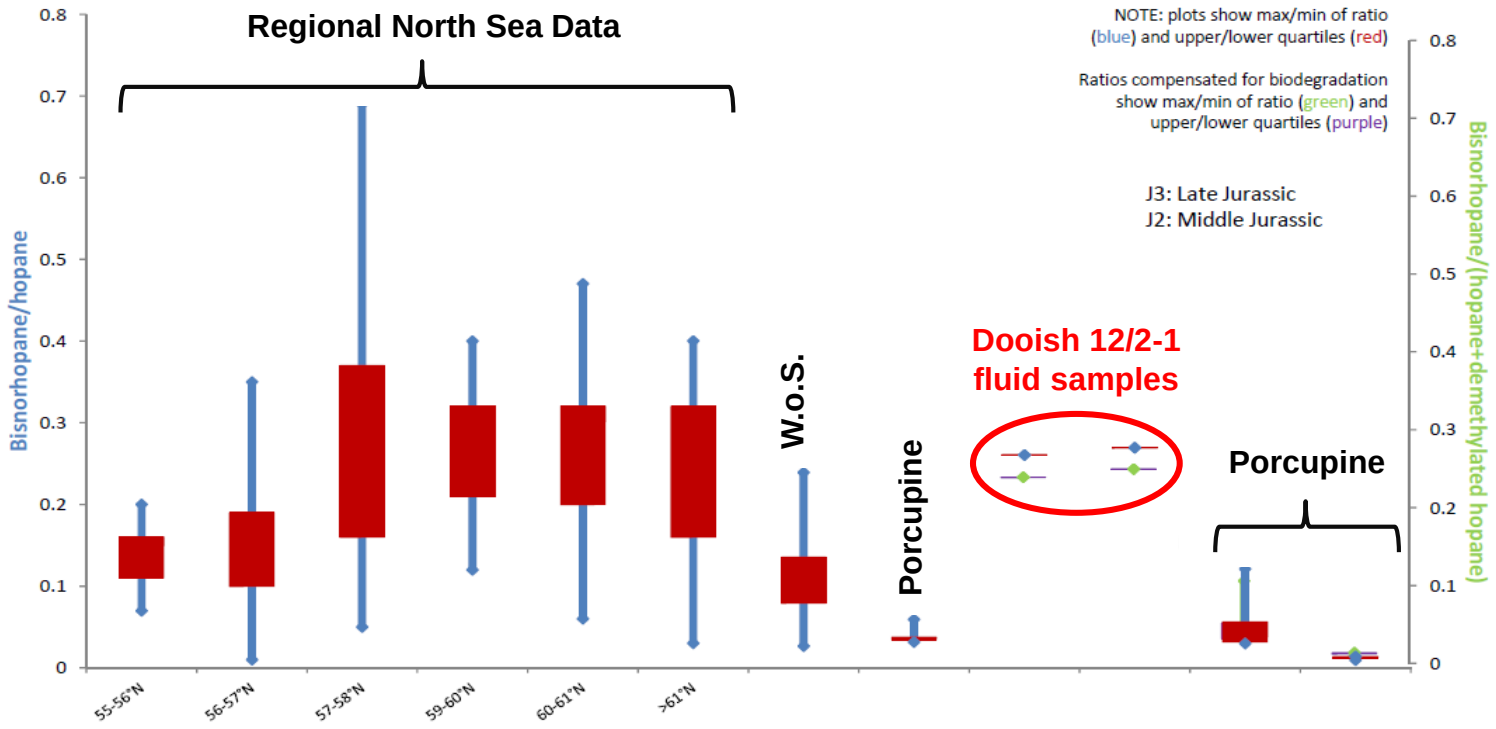




Dooish Condensate Fluid Characterisation
APT (UK) Geochemical Analysis Conclusions

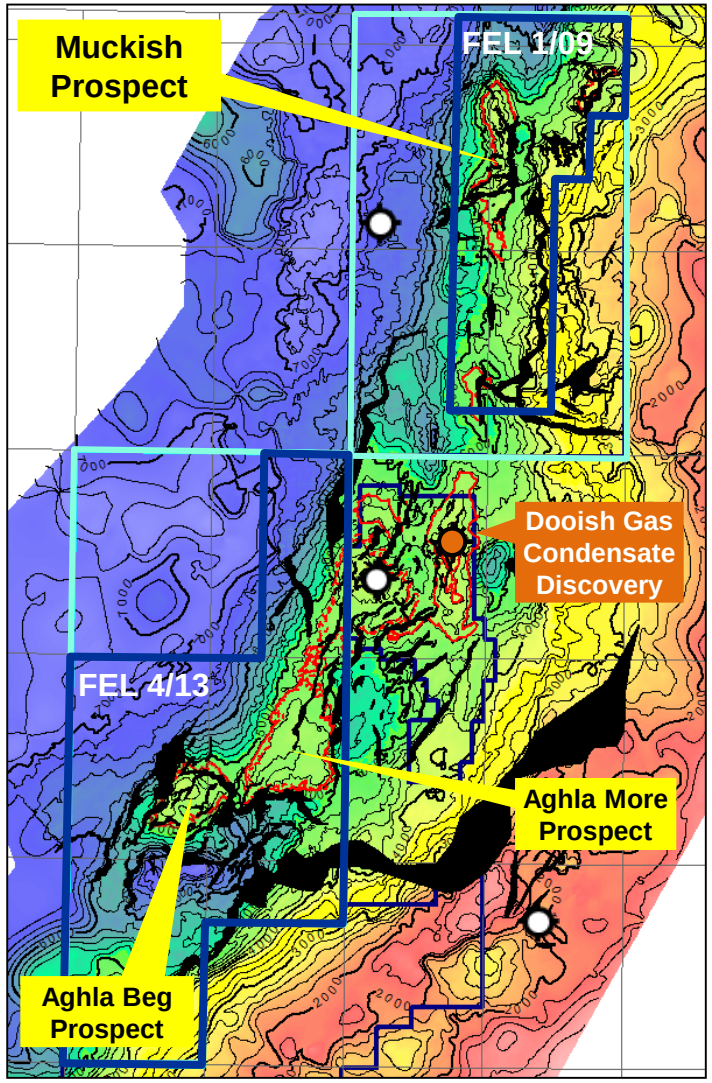
- Bisnorhopane is characteristic of North Sea and West of Shetlands Kimmeridge Clay sourced oils, and is largely absent from Porcupine Basin oils
- Source rocks of “North Sea” affinity have not been recognised from the Irish Atlantic until now
- An Upper Jurassic Kimmeridge Clay type source rock is proven by the 12/2-2 West Dooish well, and now supported by the Dooish condensate analysis
- **Highly significant for the Muckish, Aghla More and Aghla Beg prospects, all of which are onlapped by Upper Jurassic beneath the Base Cretaceous Unconformity**

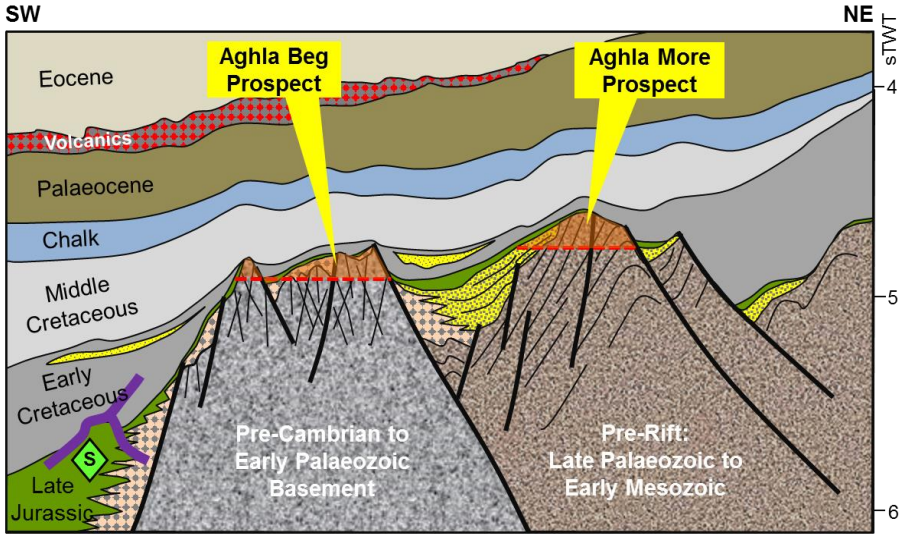
Regional Comparison of Bisnorhopane / Hopane Ratio

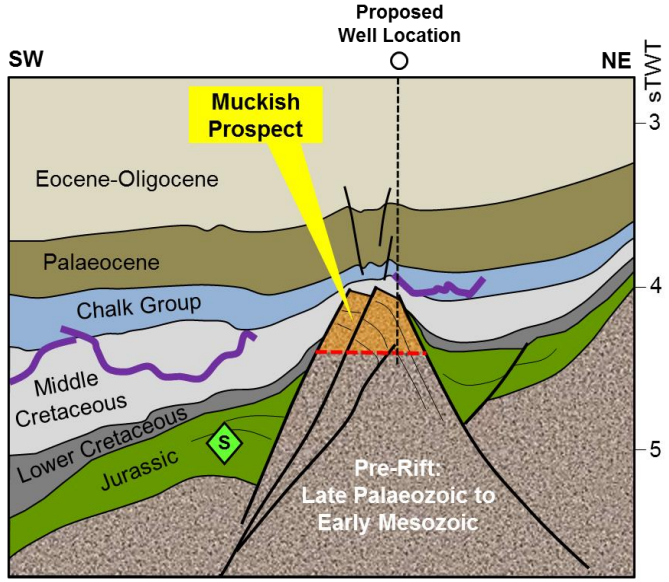


Serica FEL 4/13 and FEL 1/09 Licences

Summary of Key Structural Prospects





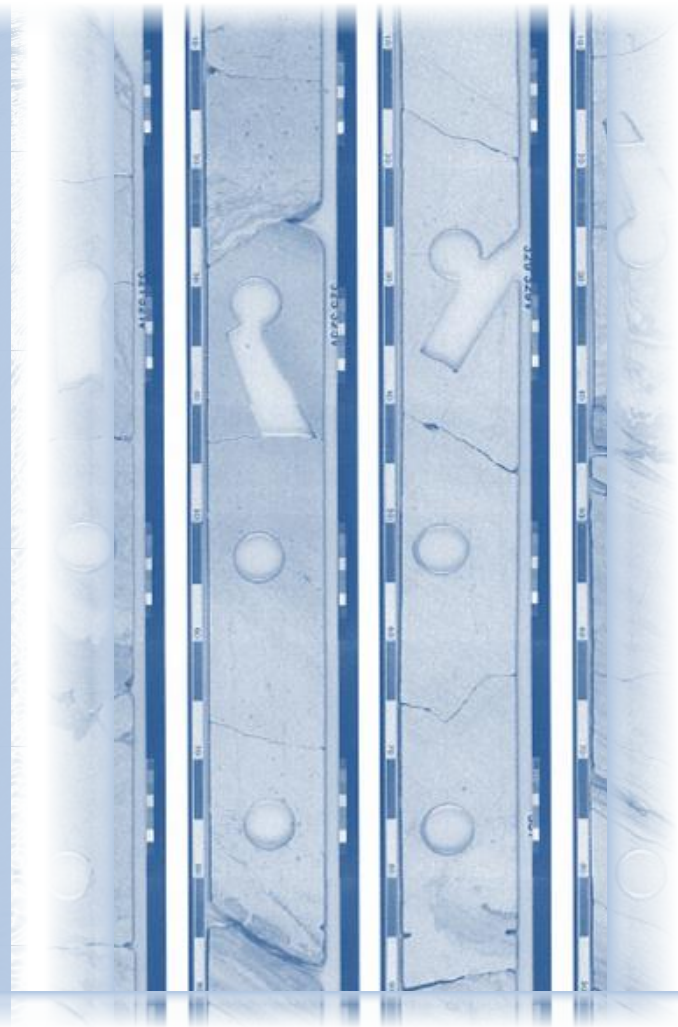


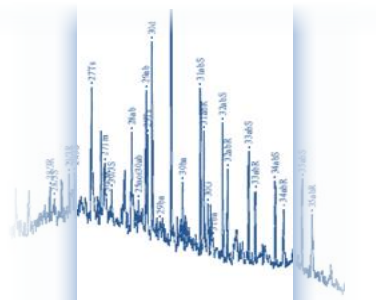
Resources	Licence	Reservoir	P_{90}	P_{50}	mean	P_{10}	
Muckish	FEL 1/09	Pre-Rift	63	299	381	801	mmboe
Aghla More	FEL 4/13	Pre-Rift	68	333	443	945	mmboe
Aghla Beg	FEL 4/13	Basement	53	177	191	346	mmboe

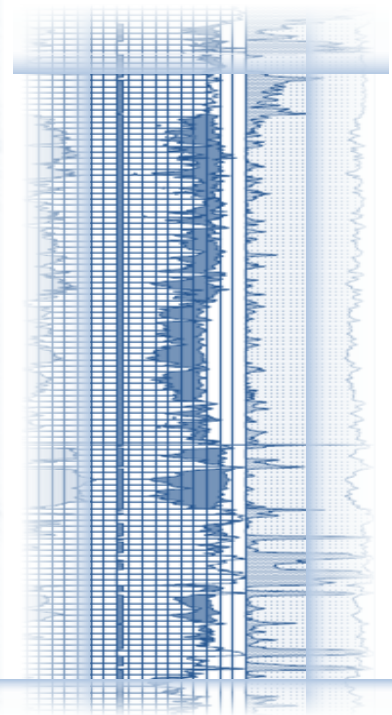
Giant Structural Closures in the Rockall Basin

New Insights into Structures, Reservoirs and Source Rocks

- Proven hydrocarbon system
- Giant, well-defined structures
- High-quality sandstone reservoirs
- Exciting new basement play
- Stratigraphic post-rift upside
- Proven Late Jurassic oil source rock
- Material drilling opportunities
- Historically low rig rates







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