A photograph of an offshore oil rig at sea, with a large yellow crane and a derrick. The Nexen logo is visible on the derrick. The rig is set against a backdrop of a cloudy sky and the ocean.

Evolution and prospectivity potential of Jurassic pre- to syn-rift sequences of the western Porcupine Basin margin

Ben Tomsett, Neil Jones, Lucy Slater, Greg Jones (CNOOCNexen, Uxbridge, UK)

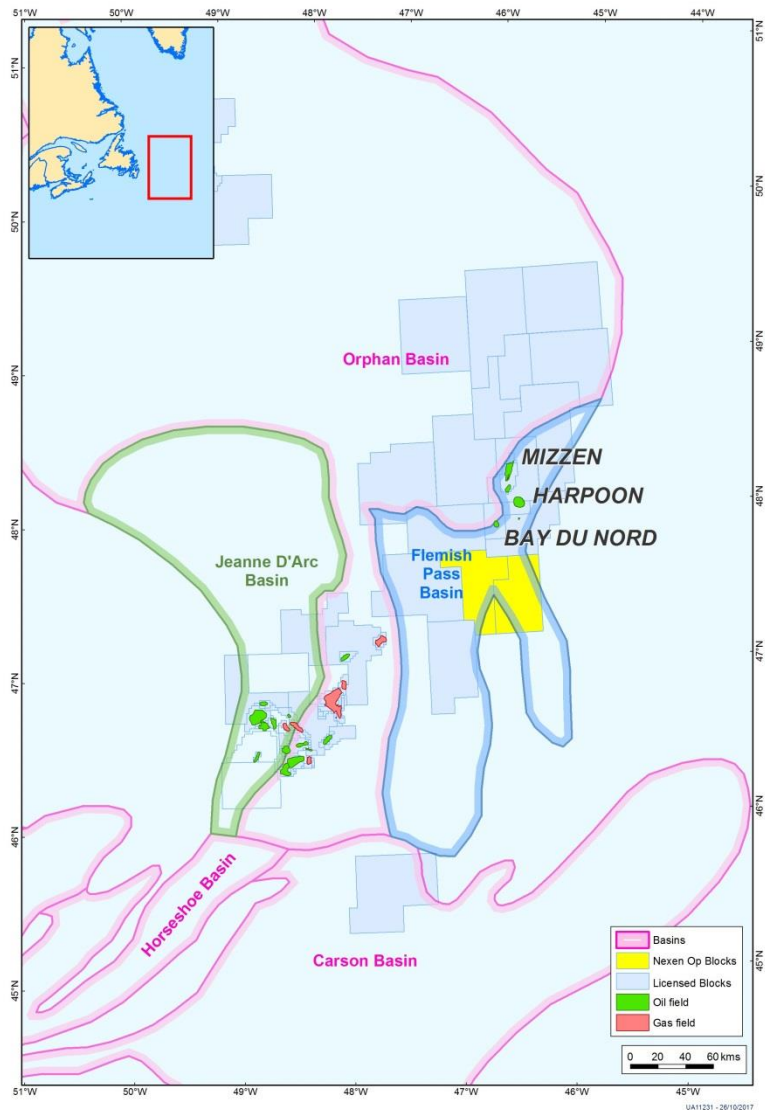


A New Energy

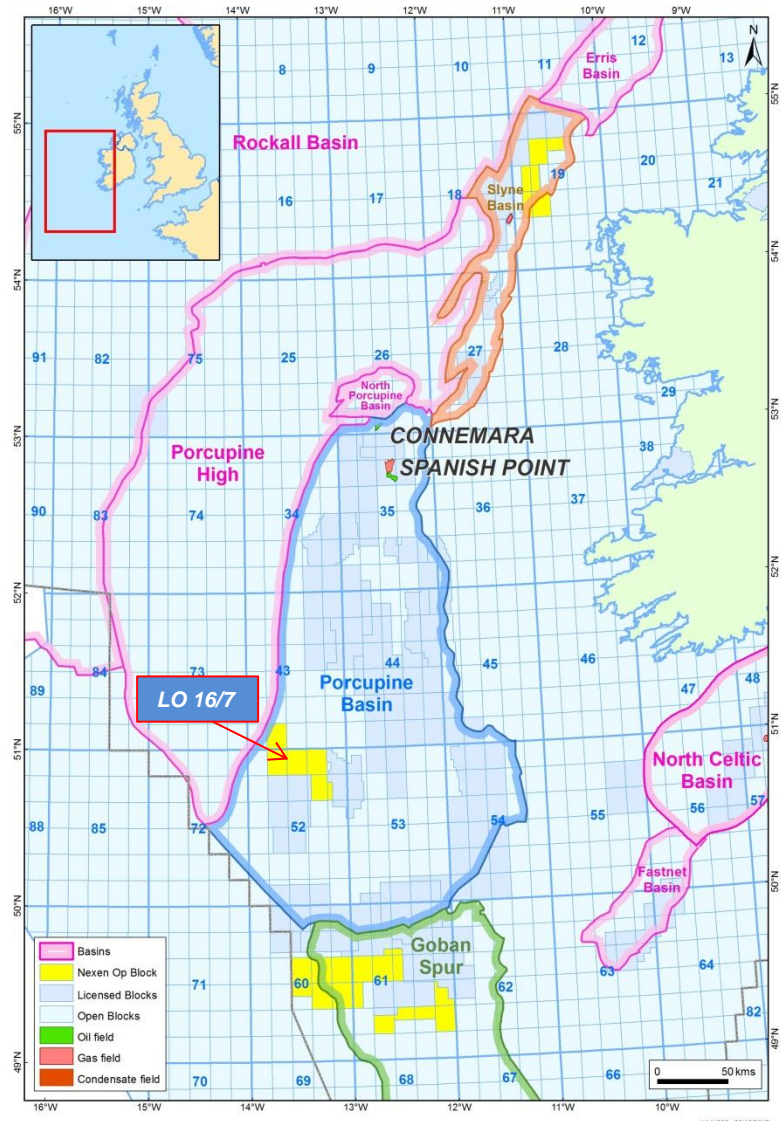
Location and database



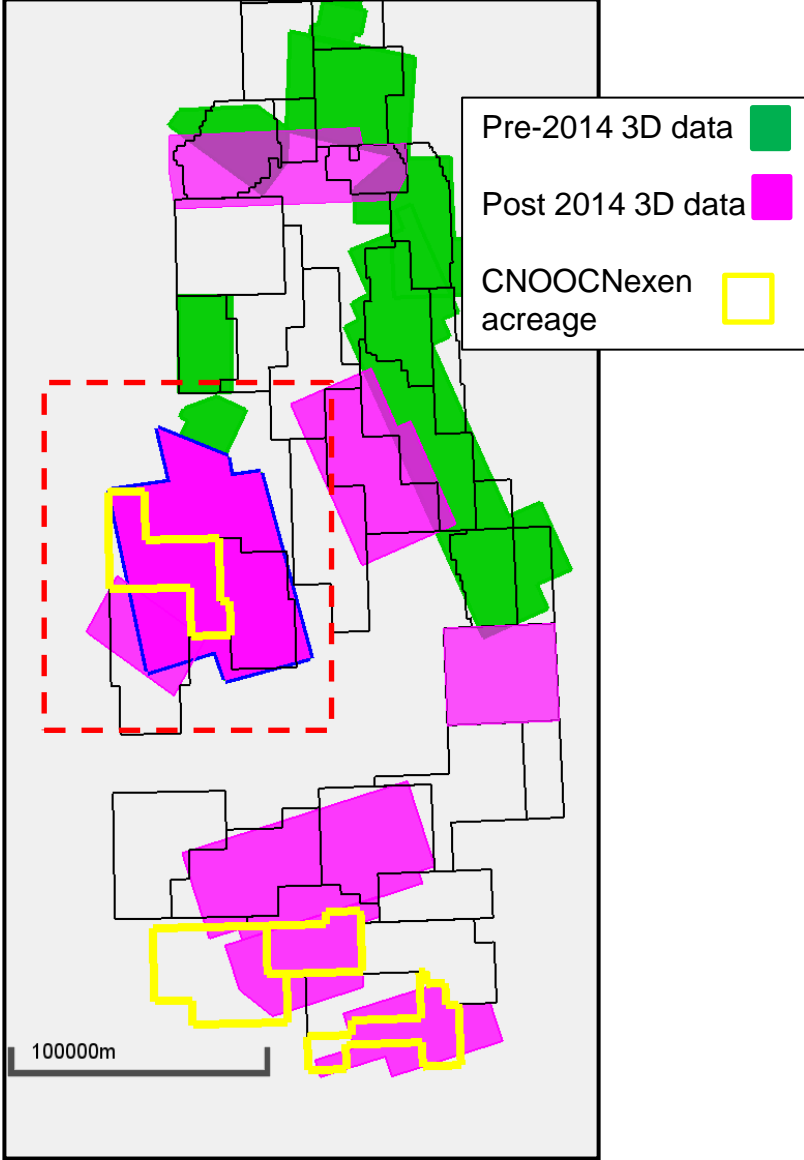
Canadian Conjugate margin



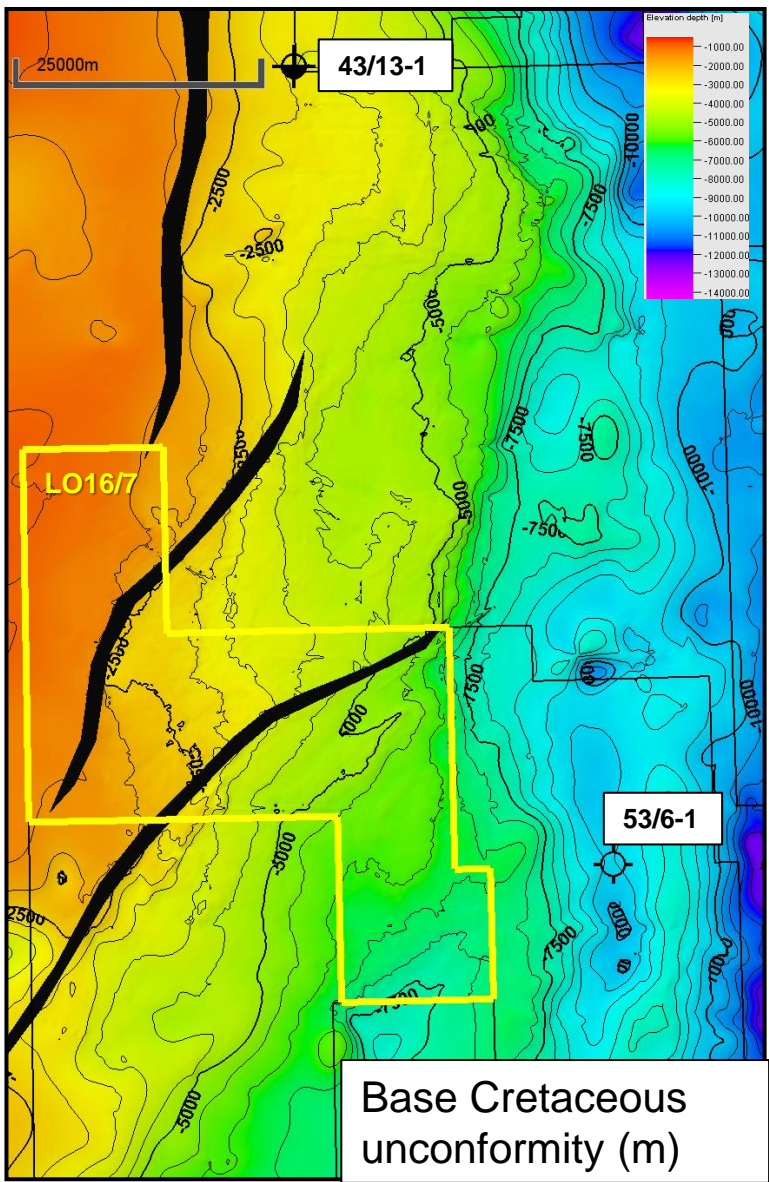
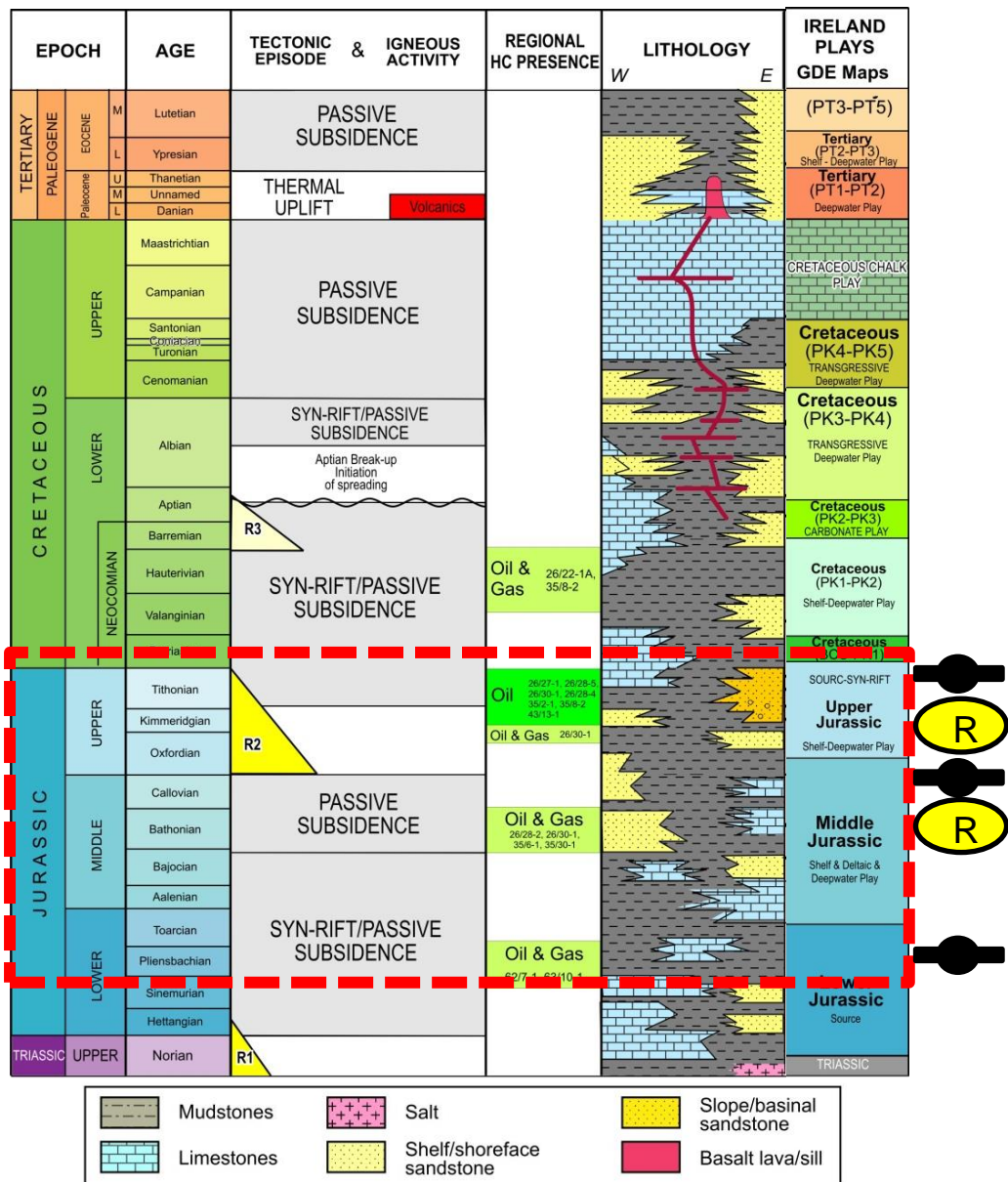
Atlantic Ireland



Porcupine 3D coverage



Jurassic stratigraphy and depth structure maps



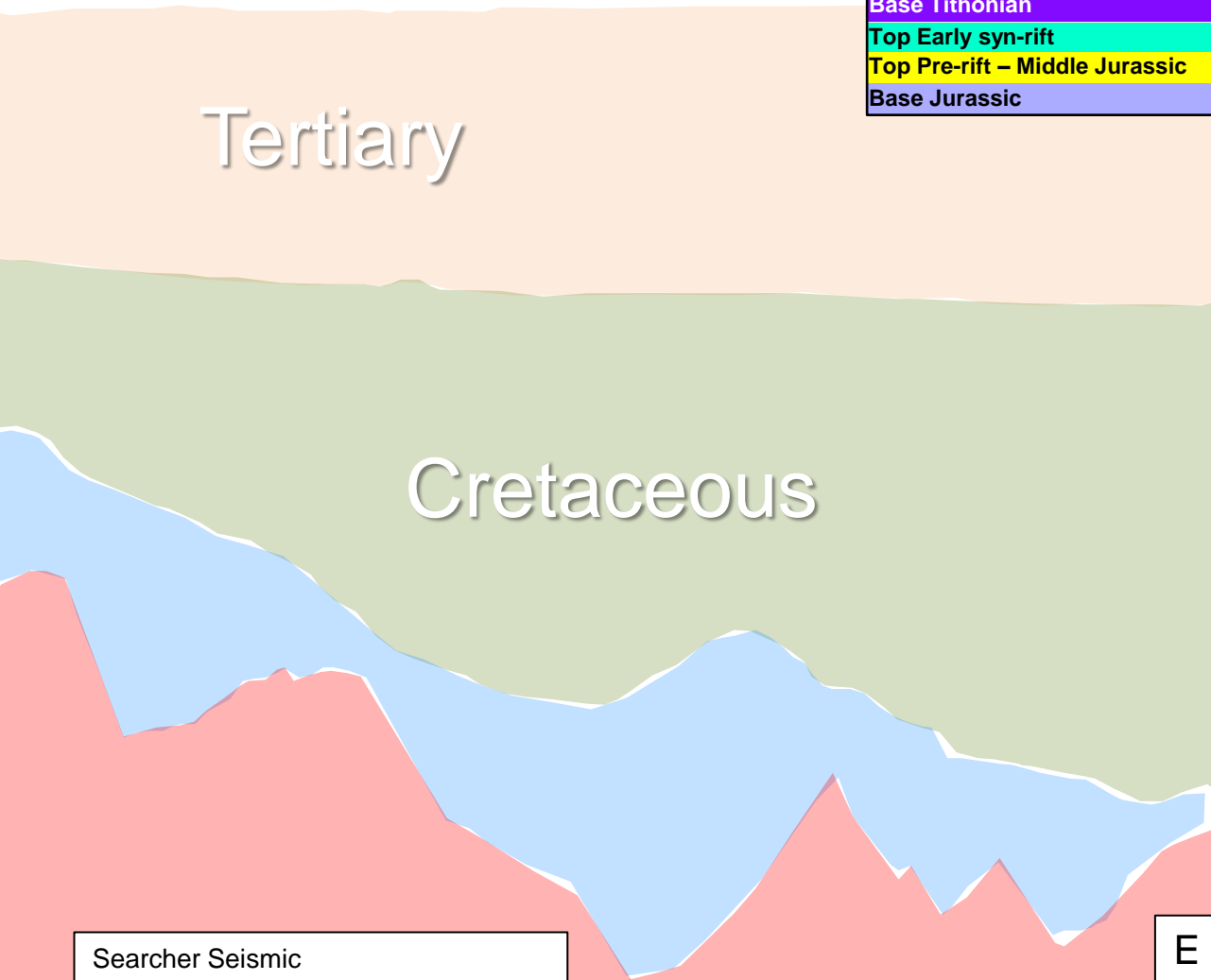
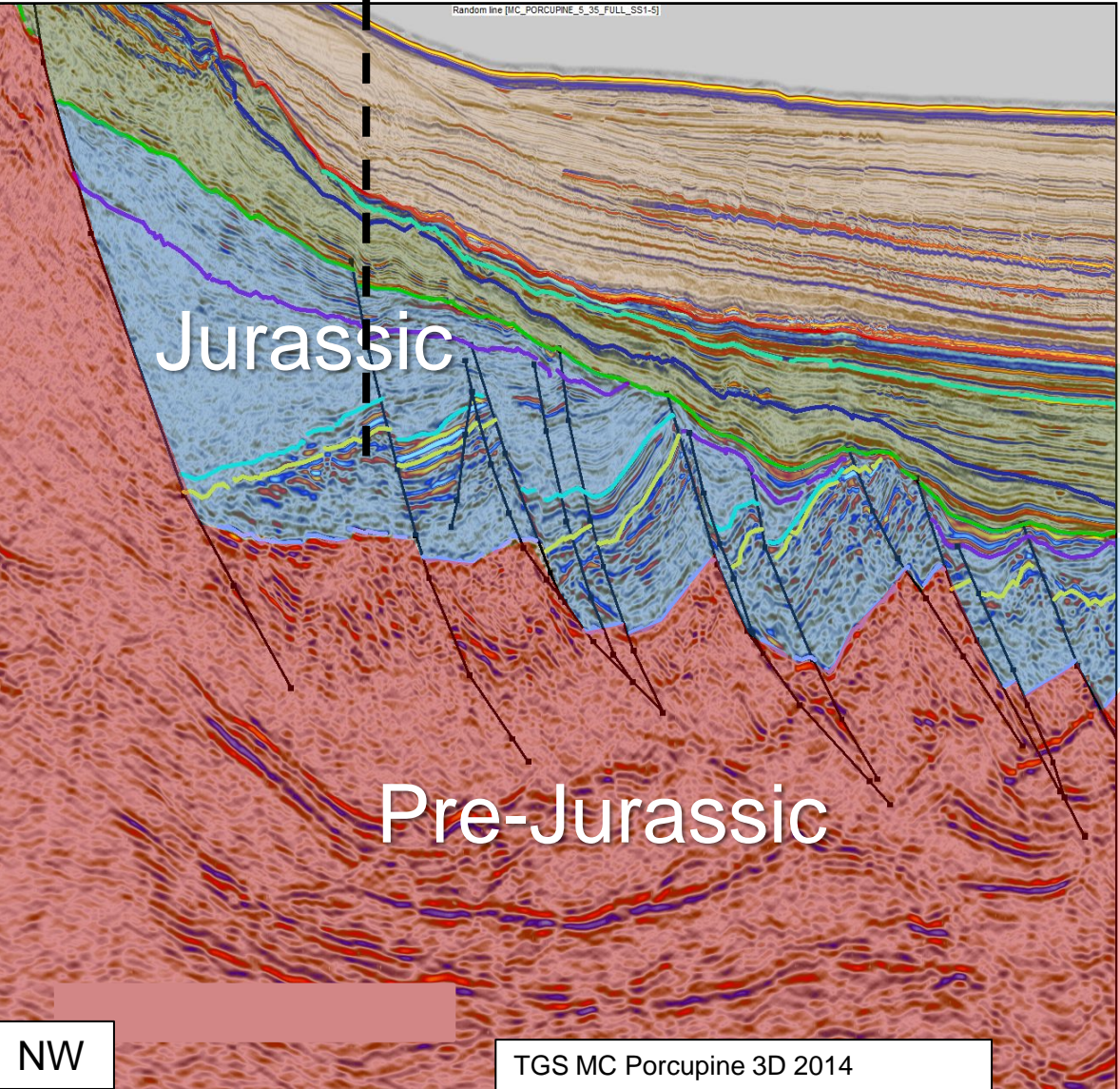
Western Porcupine general stratigraphy



43/13-1
projected

License Option 16/7

- SURFACE**
- Base Tertiary unconformity
 - Base Chalk Group
 - Aptian Unconformity
 - Base Cretaceous Unconformity
 - Base Tithonian
 - Top Early syn-rift
 - Top Pre-rift – Middle Jurassic
 - Base Jurassic



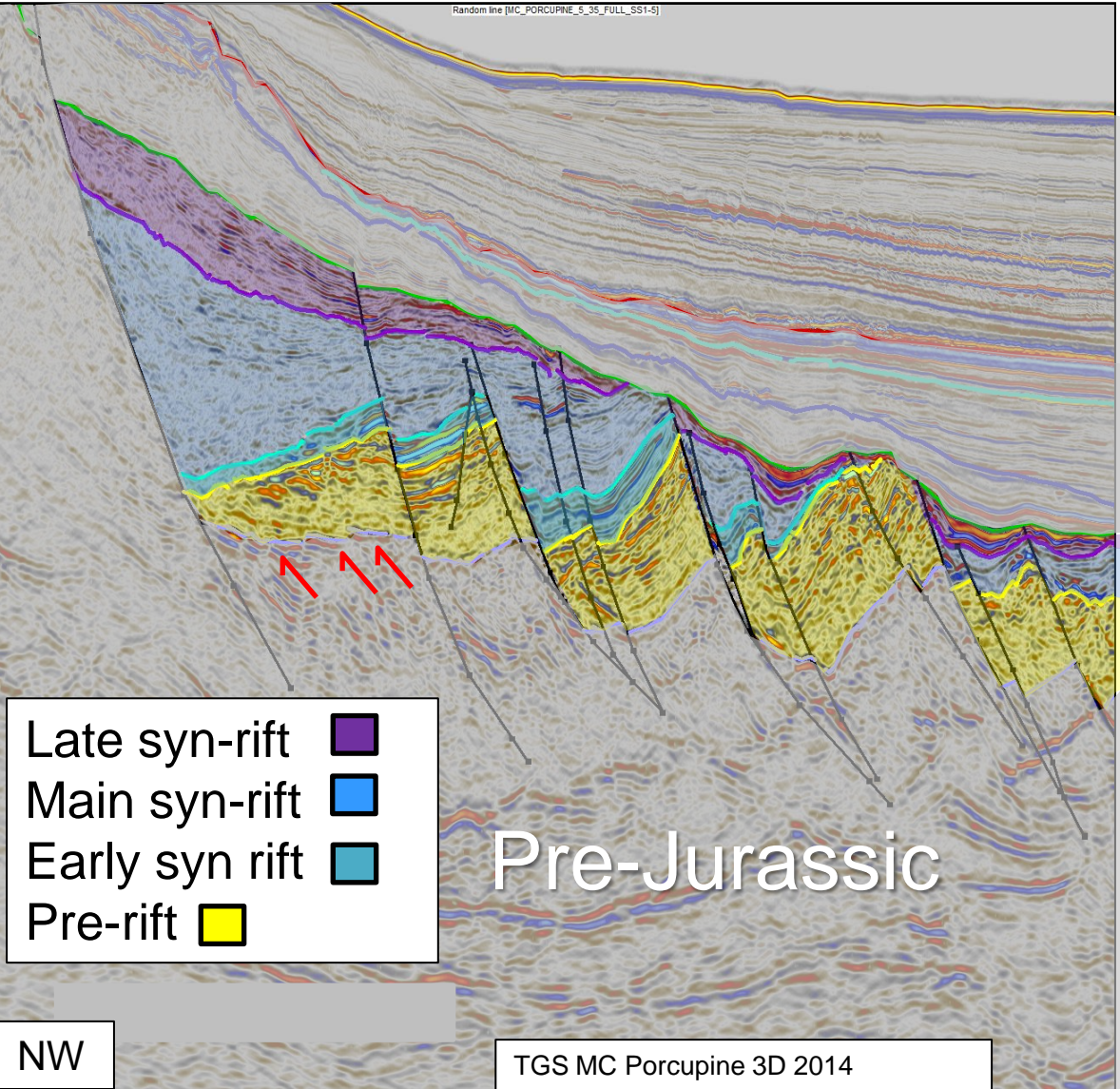
TGS MC Porcupine 3D 2014

Searcher Seismic

Jurassic Tectono stratigraphy



License Option 16/7



SURFACE	
Base Tertiary unconformity	
Base Chalk Group	
Aptian Unconformity	
Base Cretaceous Unconformity	
Base Tithonian	
Top Early syn-rift	
Top Pre-rift – Middle Jurassic	
Base Jurassic	

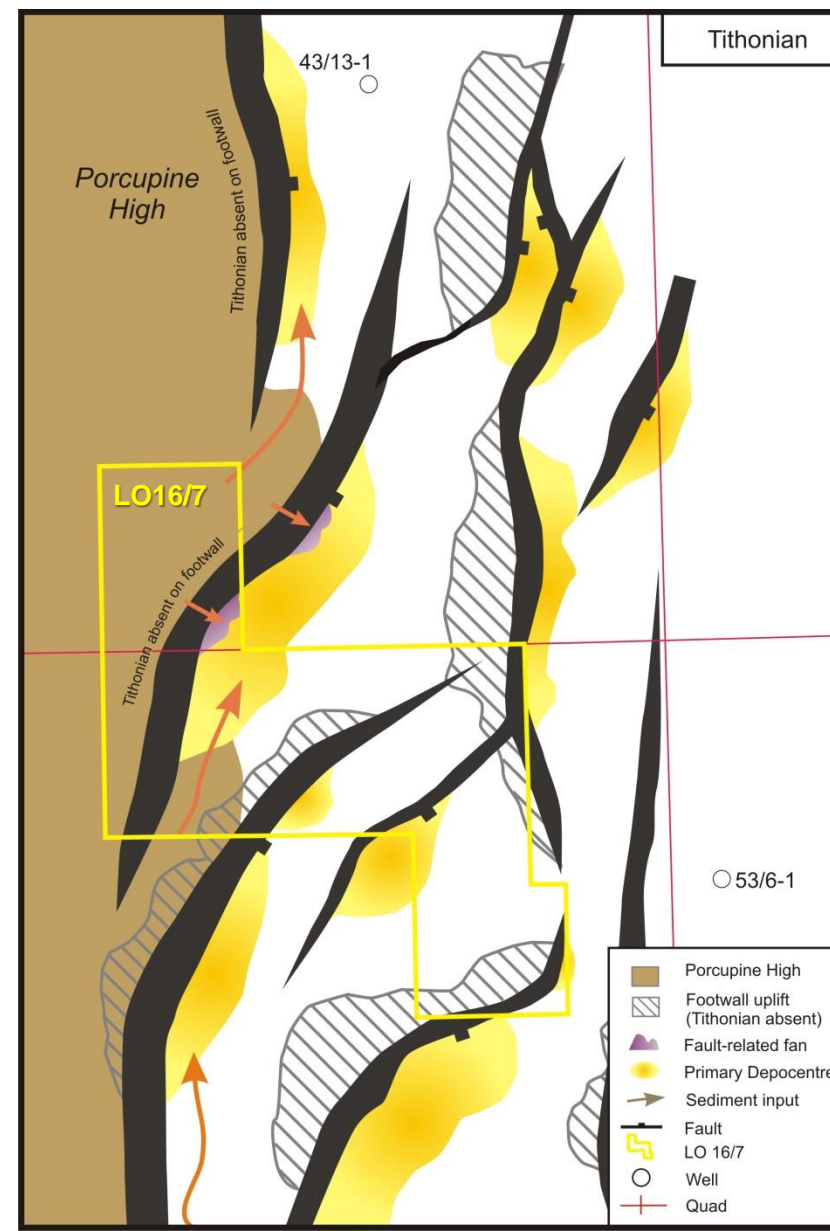
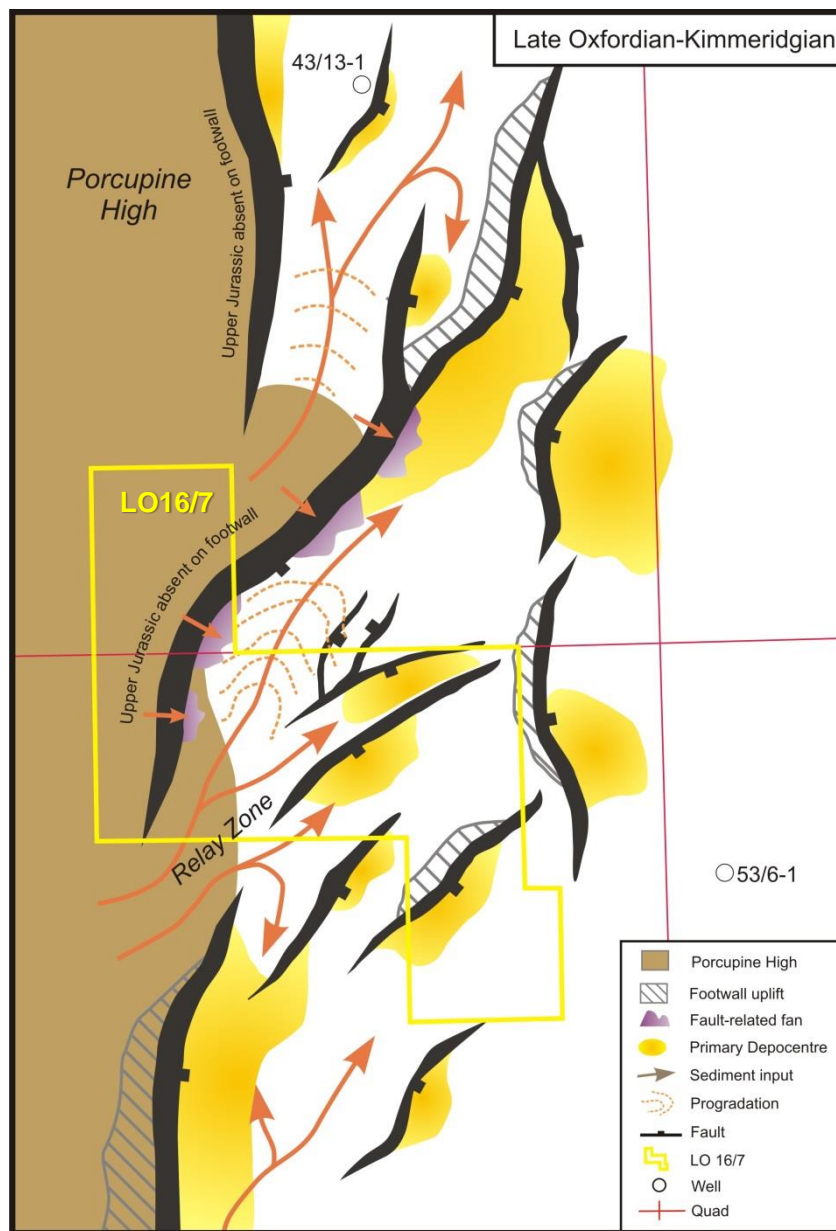
Tertiary

Cretaceous

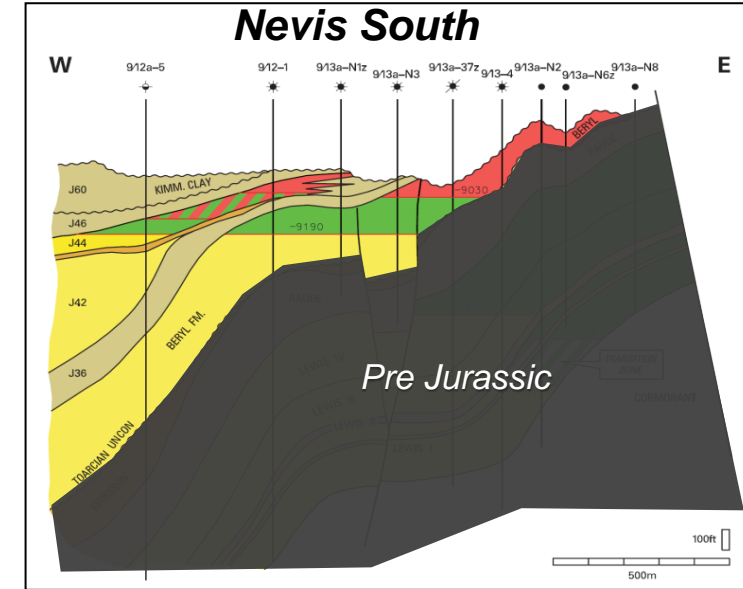
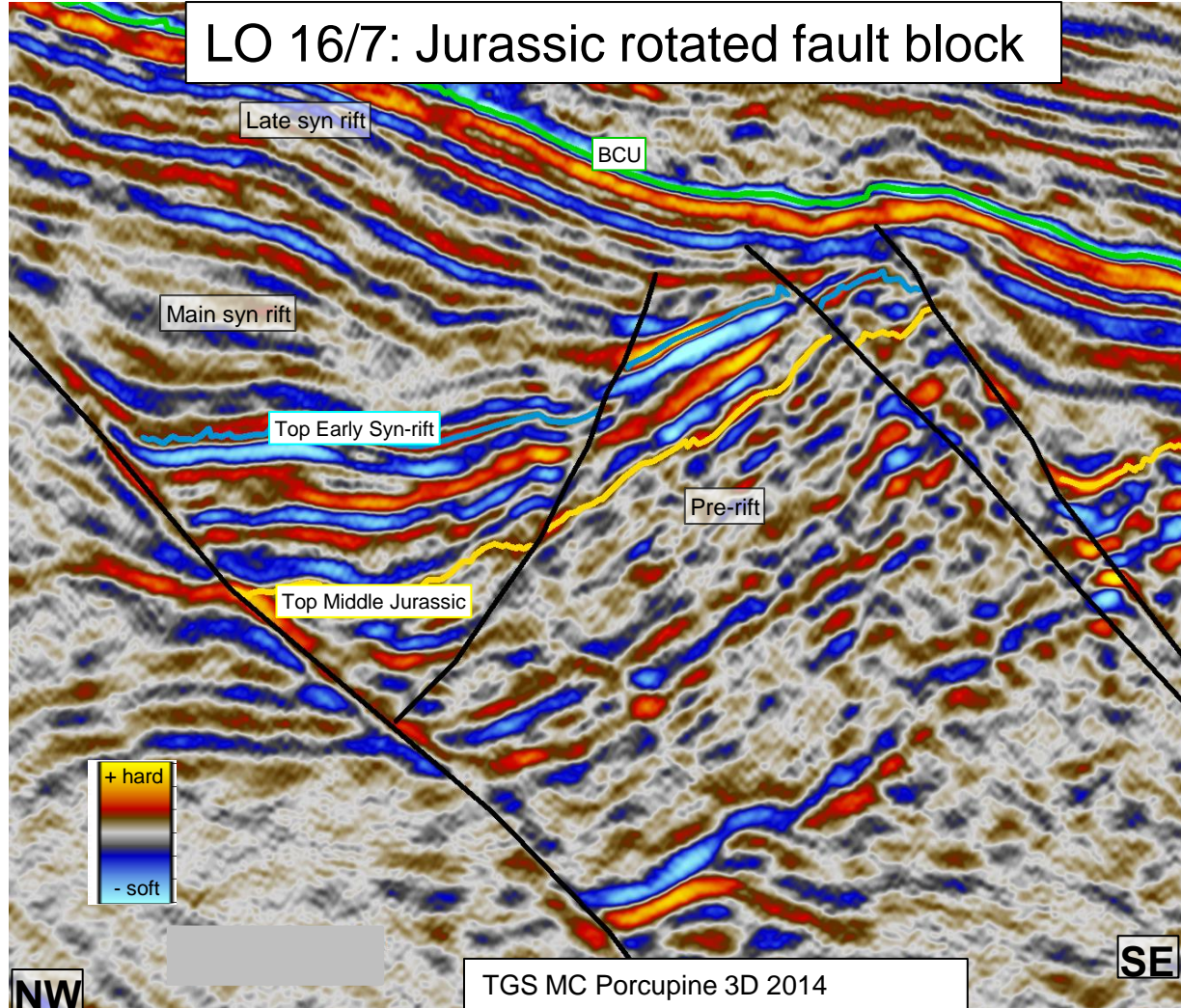
Searcher Seismic

E

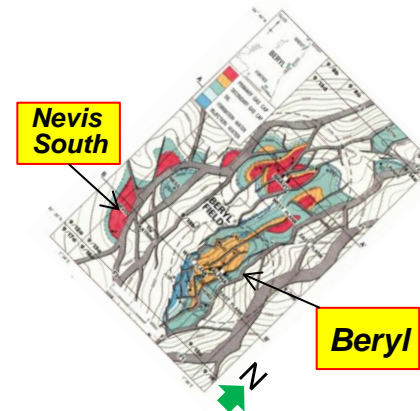
LO16/7 Tectonic evolution



Western Porcupine: N. Sea analogue

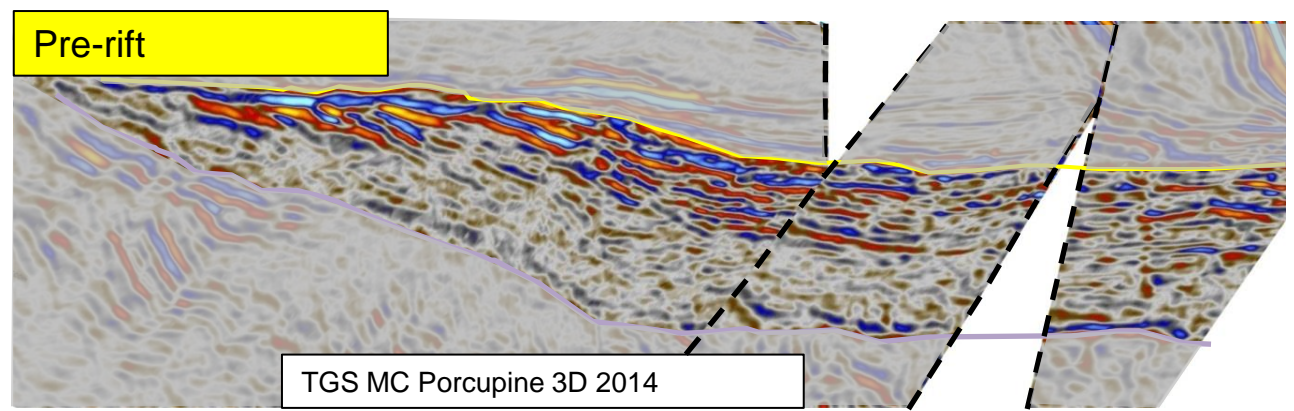
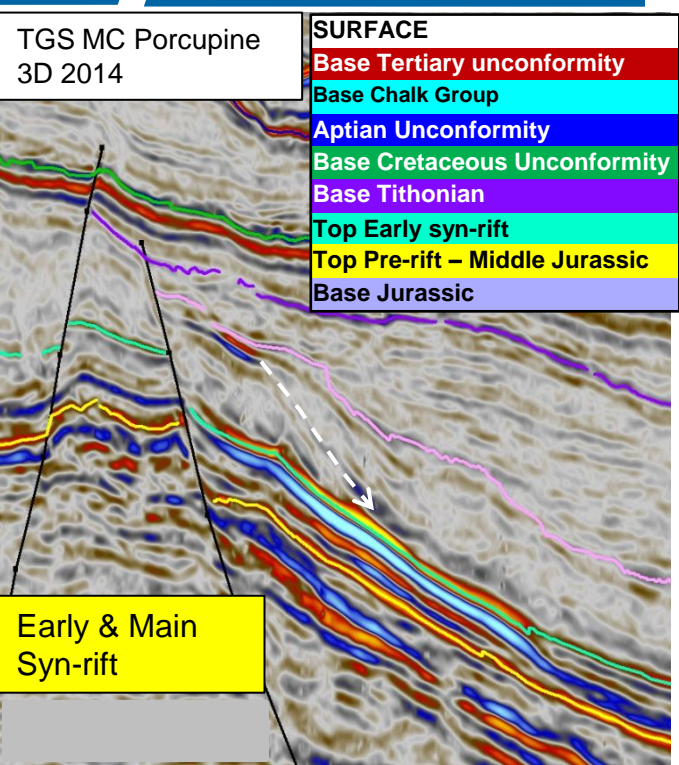
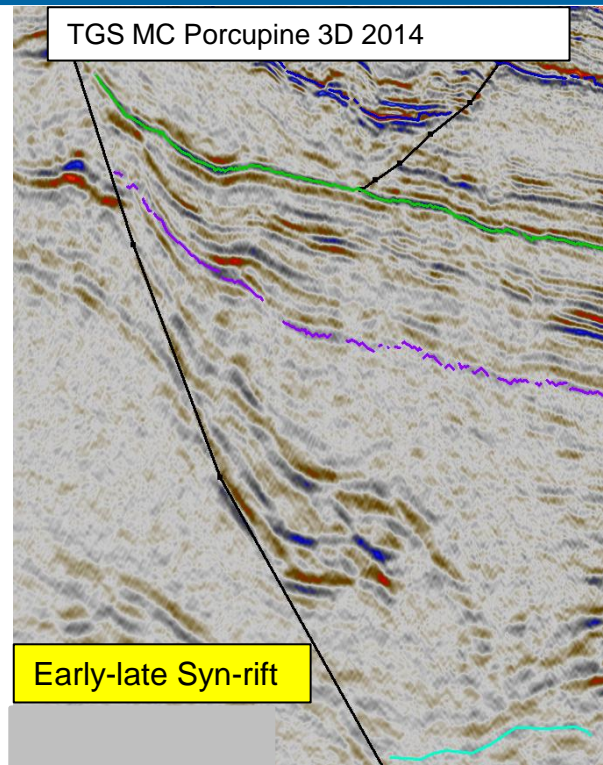
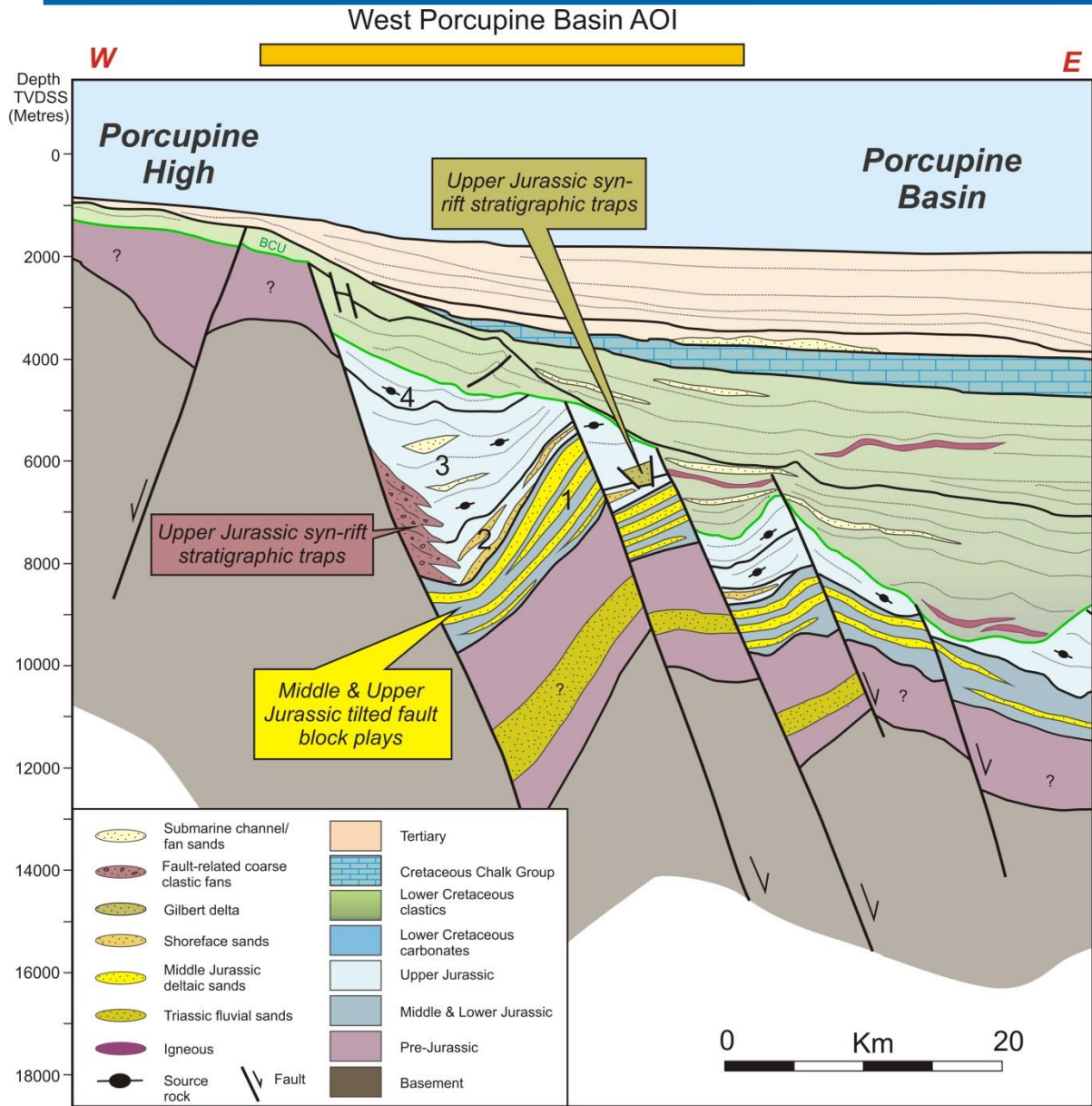


Farquharson, G.W. & Gibson, J. P. C. 2005. A significant satellite: the Nevis South Field in Block 9/13. In: Doré, A. G. & Vinng, B. A. (eds) *Petroleum Geology: North-West Europe and Global Perspectives*, Proceedings of the 6th Petroleum Geology Conference, 389–403. © Petroleum Geology Conferences Ltd. Published by the Geological Society, London.

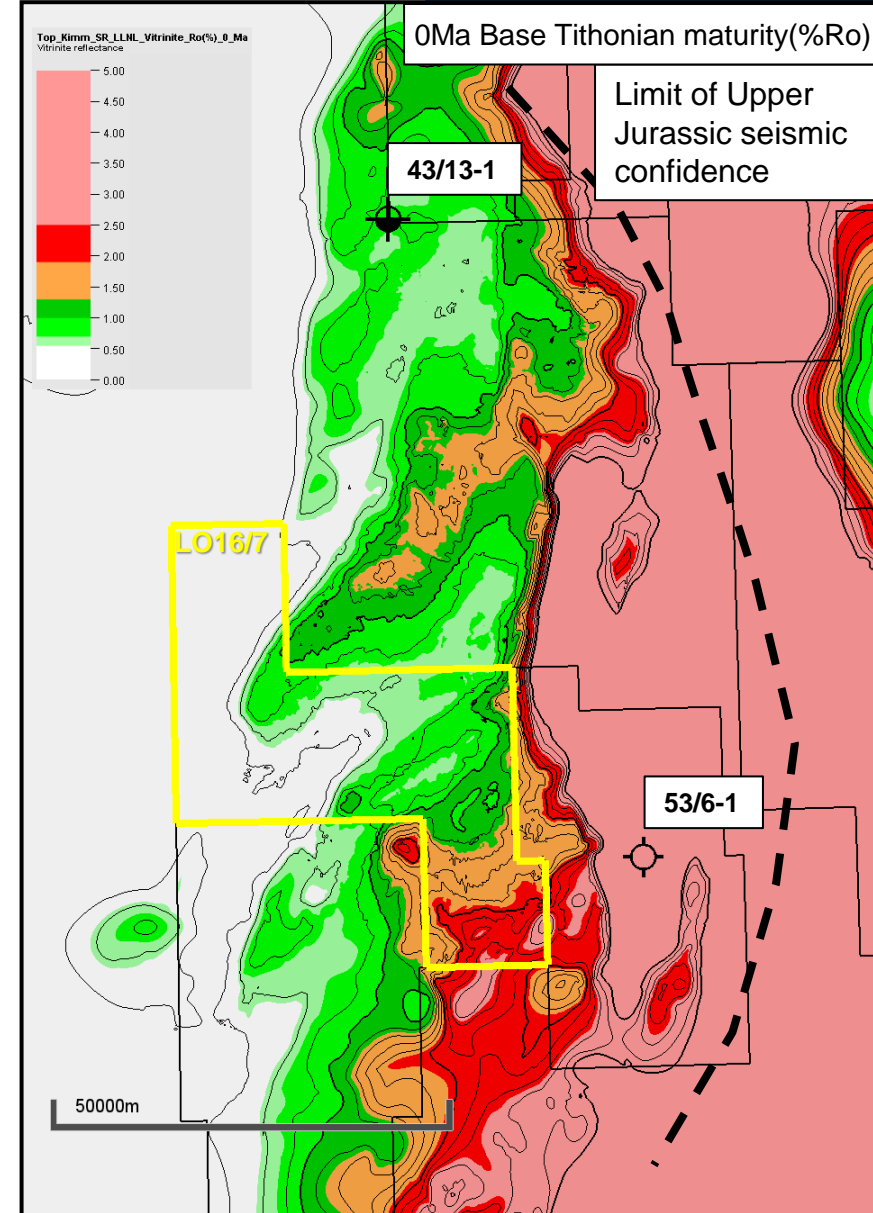
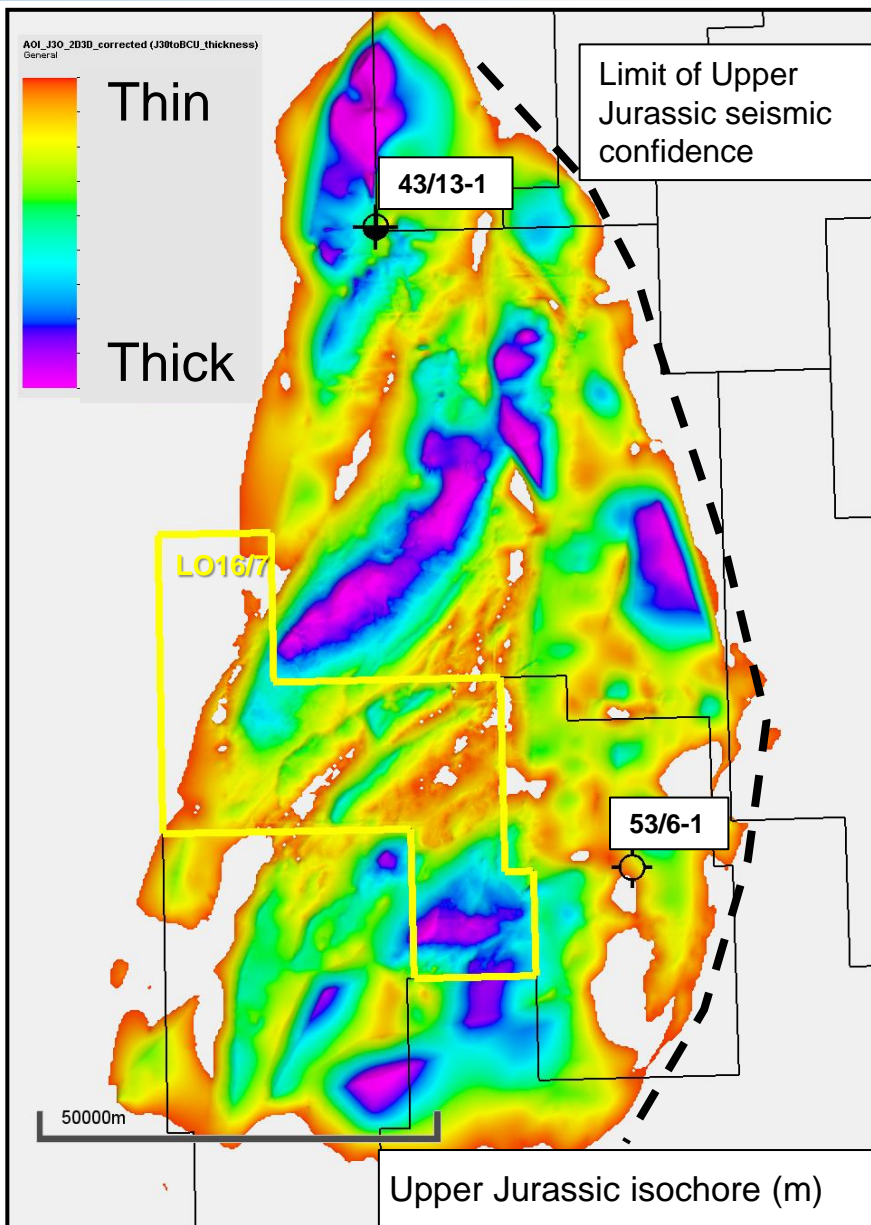
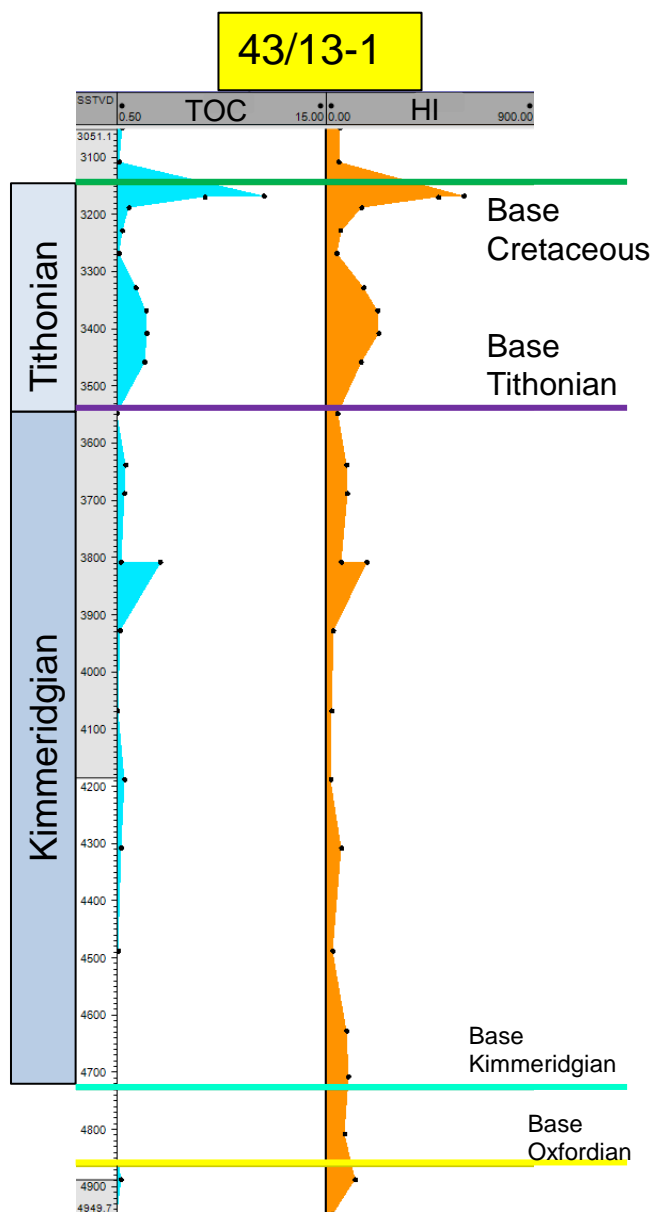


**Beryl Embayment, UK
Northern North Sea**

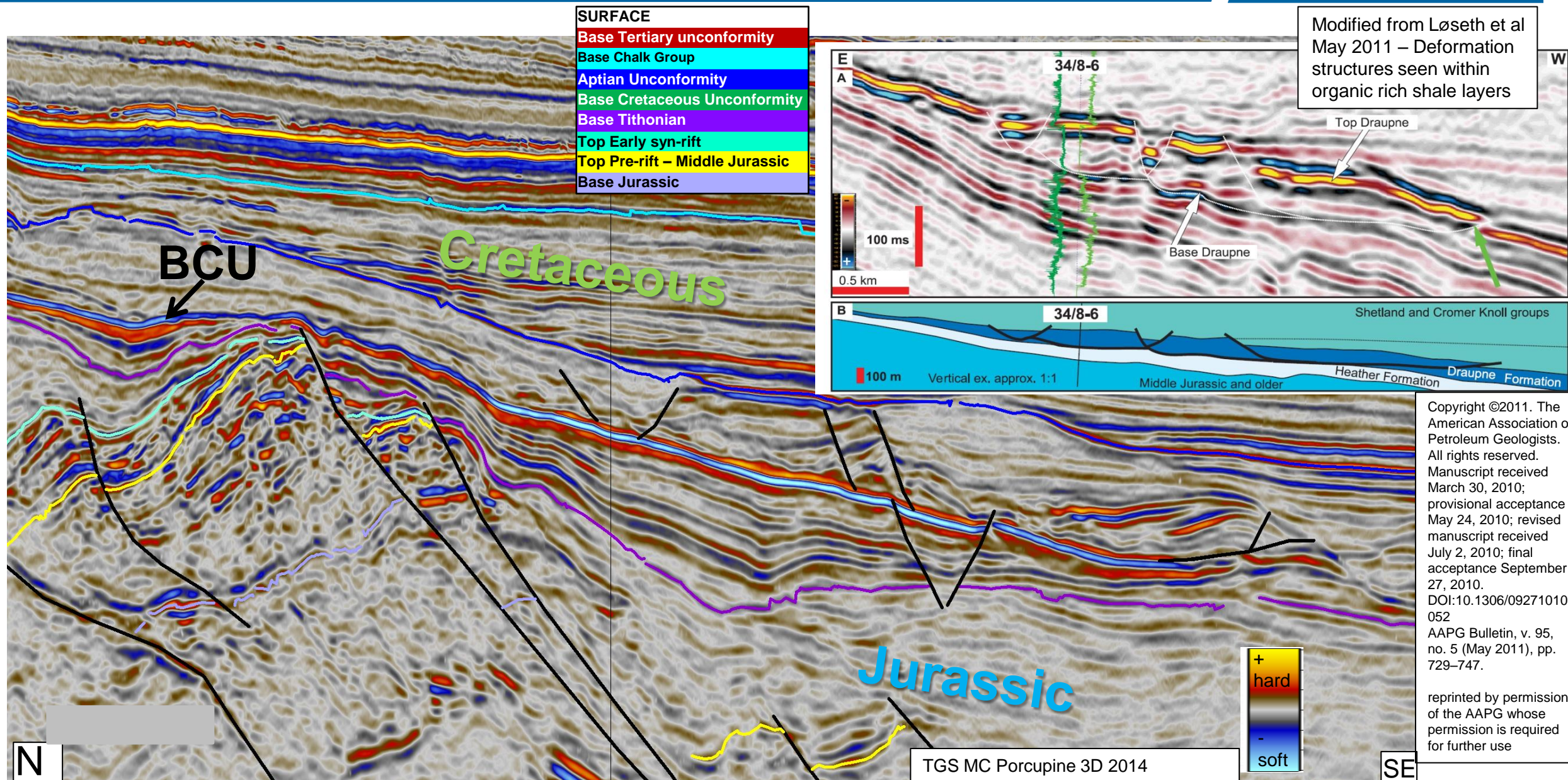
Jurassic depositional features



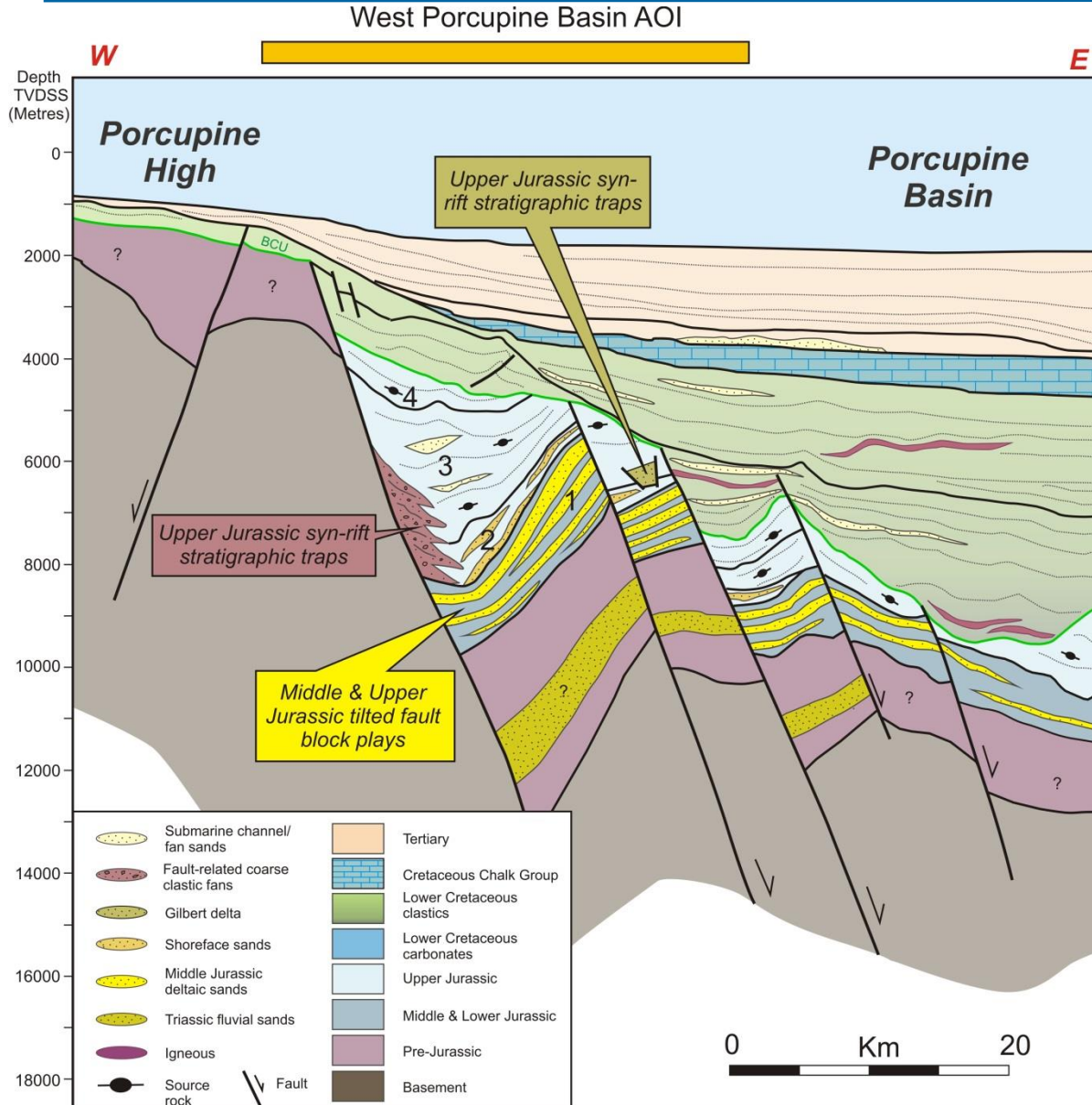
Upper Jurassic source potential



Seismic evidence for source rocks



Summary



- A “North Sea style” Jurassic petroleum system is interpreted to be present on the west flank of the Porcupine Basin in LO16/7 and surrounds
- Large Jurassic structural prospects identified are oil mature and adjacent to proven regional source rocks
- High quality 2D and 3D data coverage is rapidly transforming understanding of Porcupine Basin evolution and the related prospectivity

- TGS for allowing the MC Porcupine 3D images to be shown
- Searcher Seismic for allowing the 2D data from the 2015 Echidna survey to be shown
- My colleagues and fellow authors Neil Jones, Lucy Slater and Greg Jones

References

- Farquharson, G.W. & Gibson, J. P. C. **2005**. A significant satellite: the Nevis South Field in Block 9/13. In: Doré, A. G.& Vining, B. A. (eds.) *Petroleum Geology: North-West Europe and Global Perspectives, Proceedings of the 6th Petroleum Geology Conference*, 389–403. *Petroleum Geology Conferences Ltd. Published by the Geological Society, London*.
- Løseth, H., Wensaas, L. & Gading, M. ©2011. Deformation structures in organic-rich shales. *American Association of Petroleum Geologists Bulletin*, **95 v5 (May 2011)**, 729-747.