

Exploiting the wiggle!

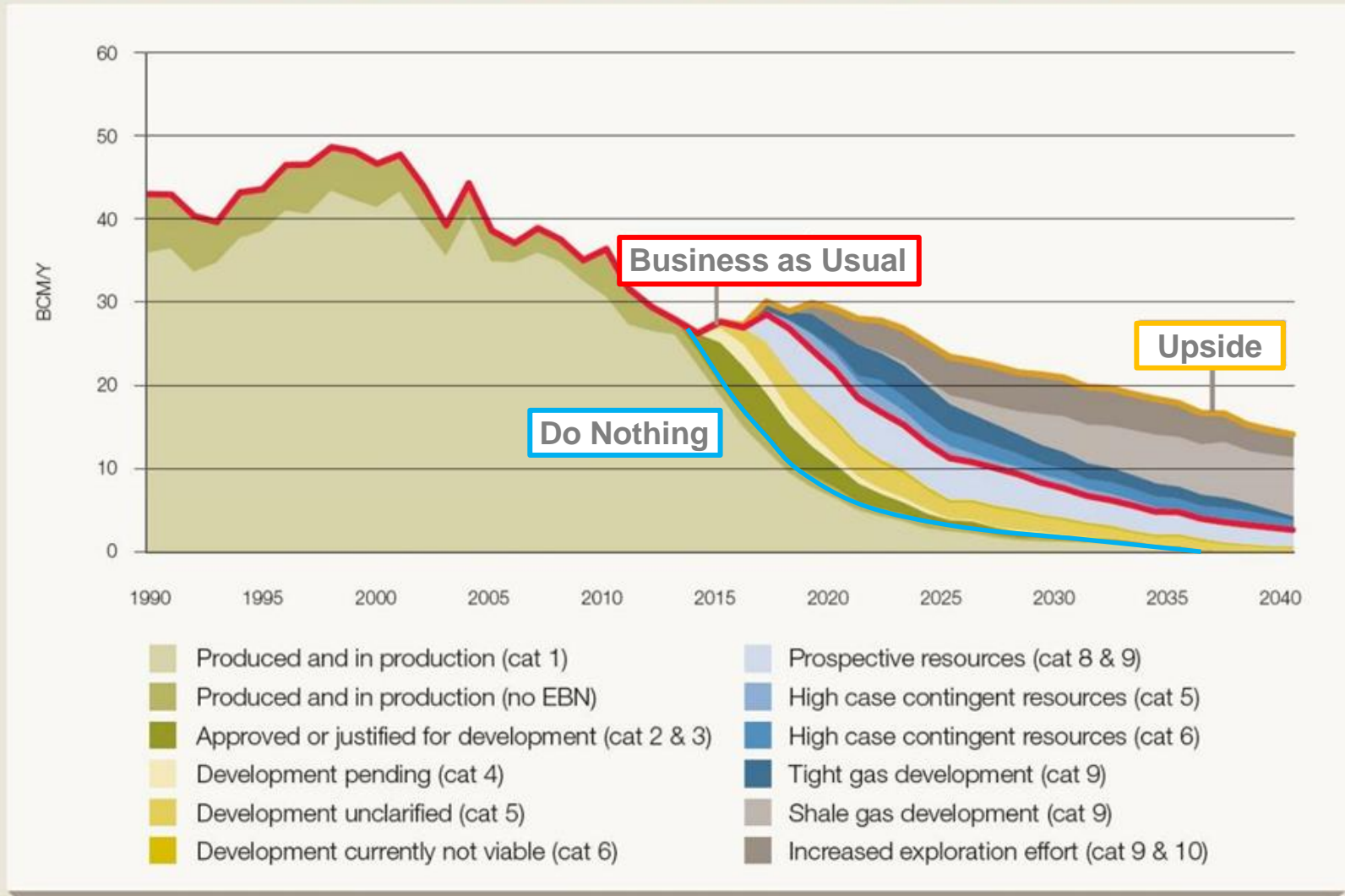
About EBN

- EBN invests in exploration and production of natural gas and oil on behalf of the Dutch State
- All profits of EBN are transferred to the Dutch government
- Number of employees: 80
- Based in the city of Utrecht
- production: ~0.5 million BOE/d
- State revenues 2014: ~€ 5 mrd



EBN Ambition: sustained production

Scenario-based risked production forecast small fields gas production

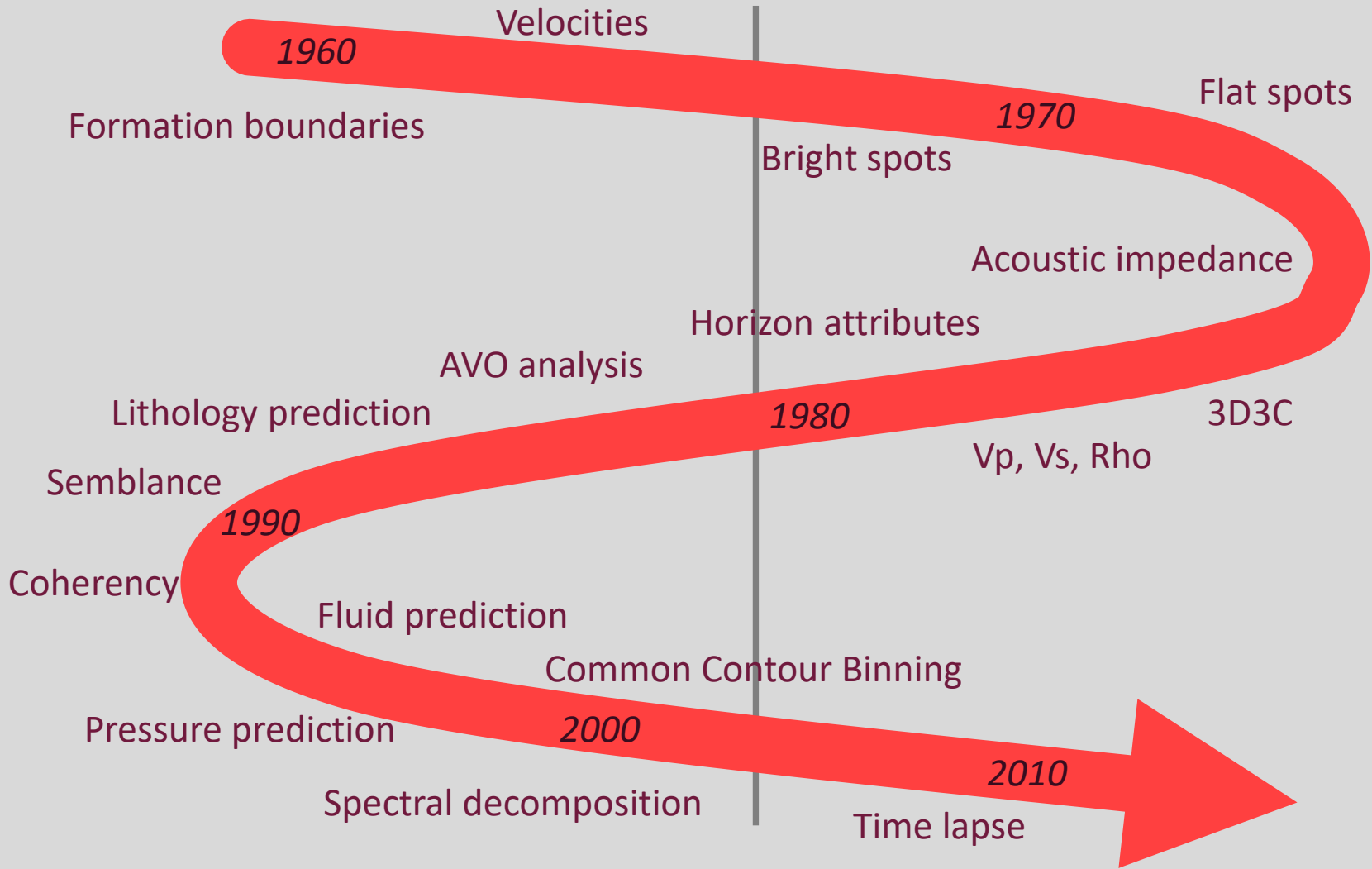




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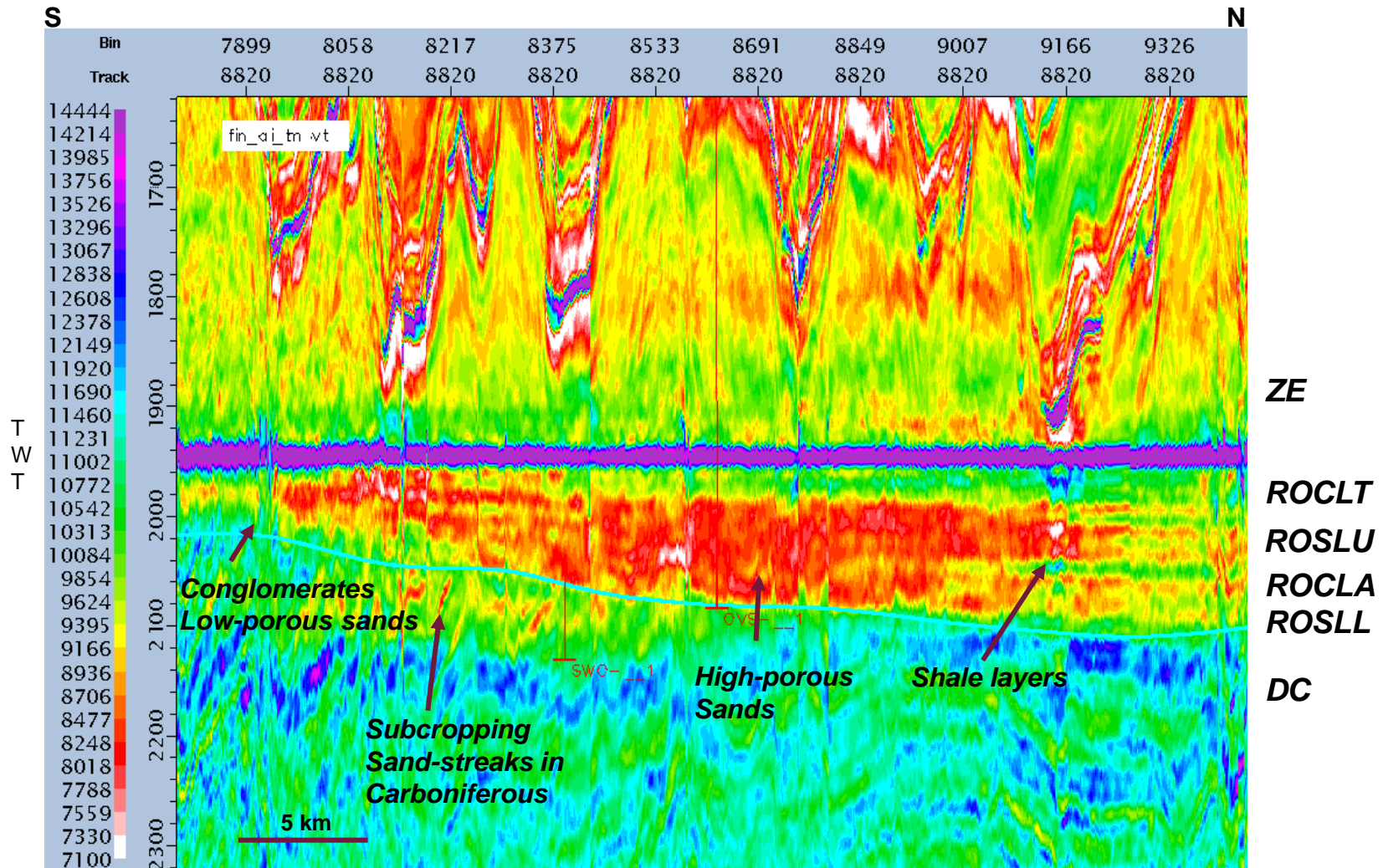


Seismic attribute History



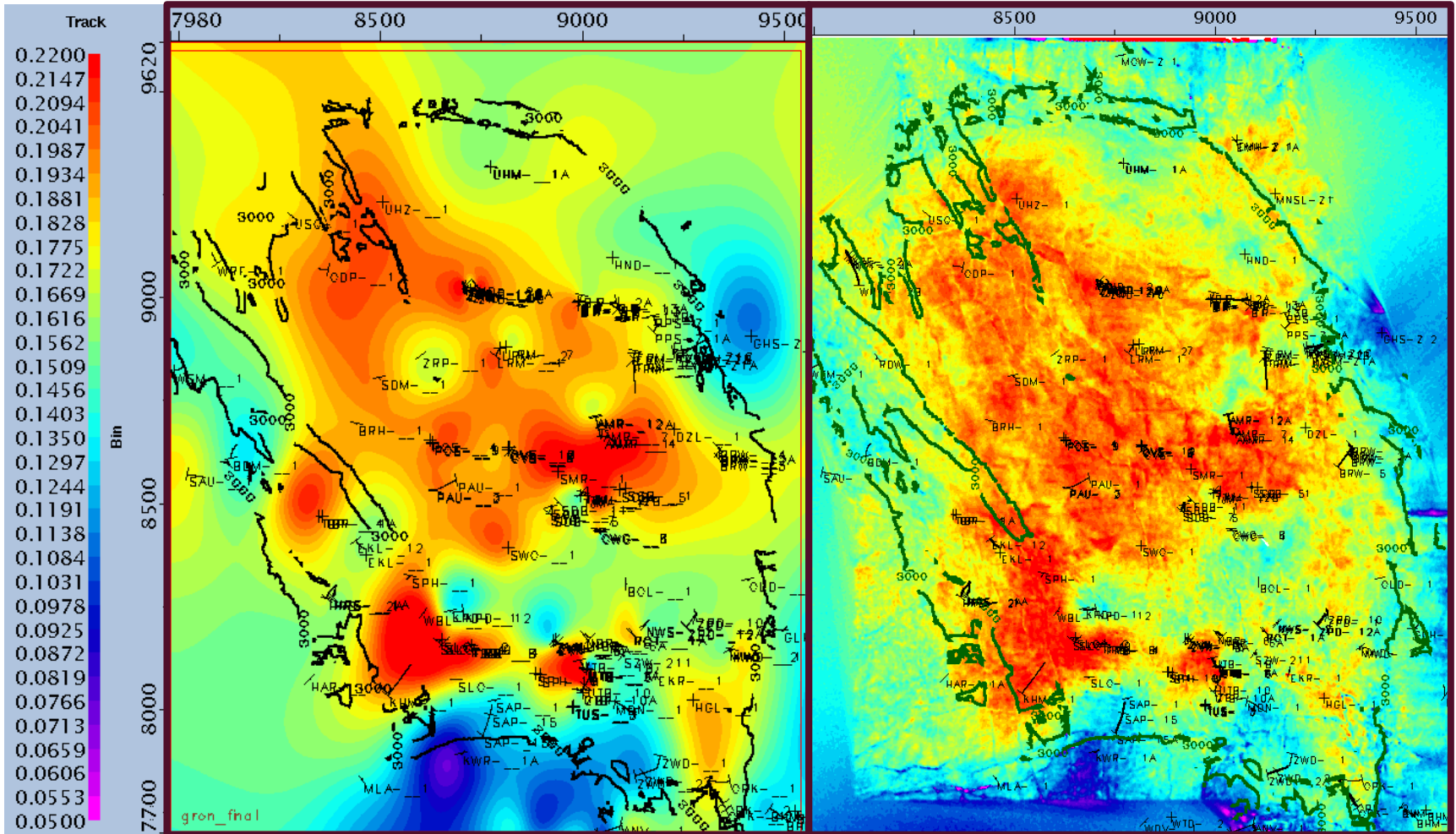
Seismic Inversion:

example Groningen field reservoir architecture



Acoustic impedance (flattened) showing Rotliegend reservoir architecture (courtesy NAM)

Rotliegend Porosity

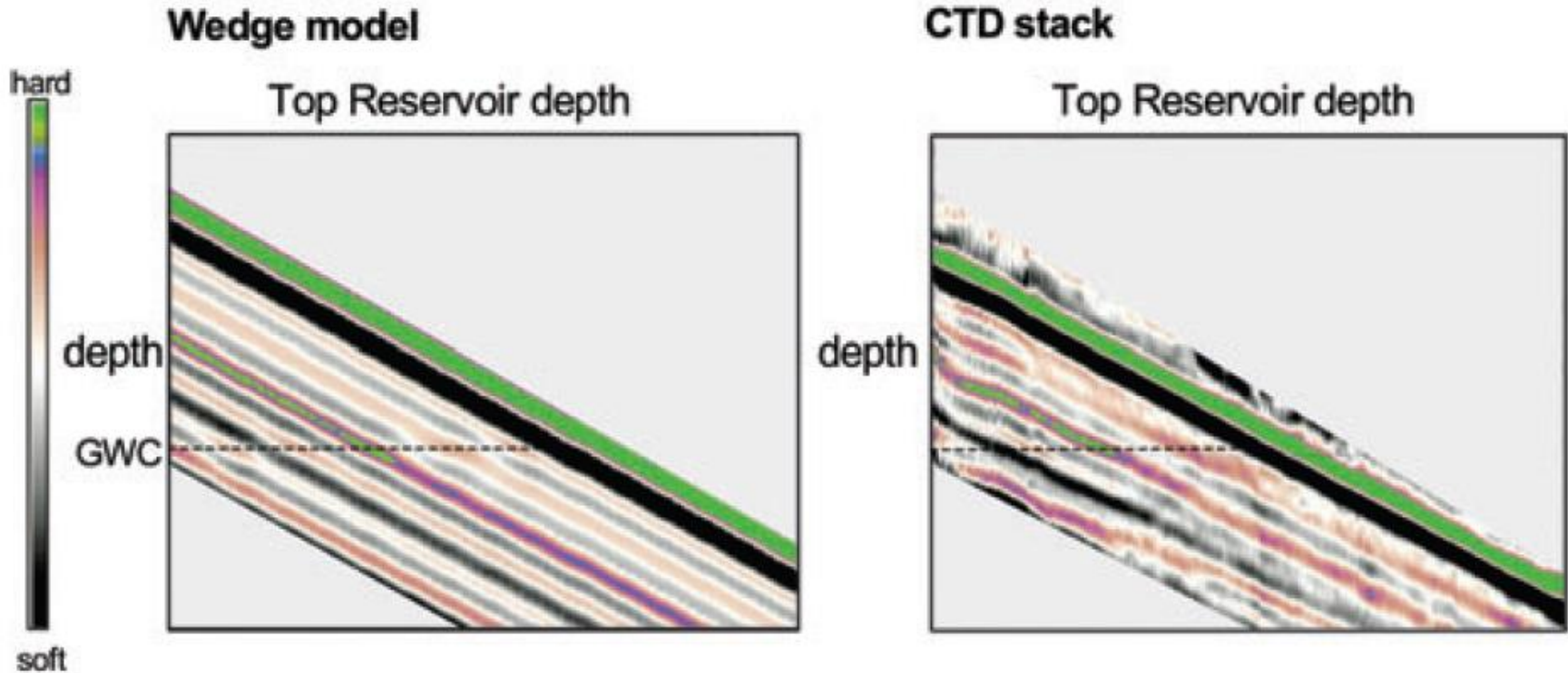


well porosities (gridded)

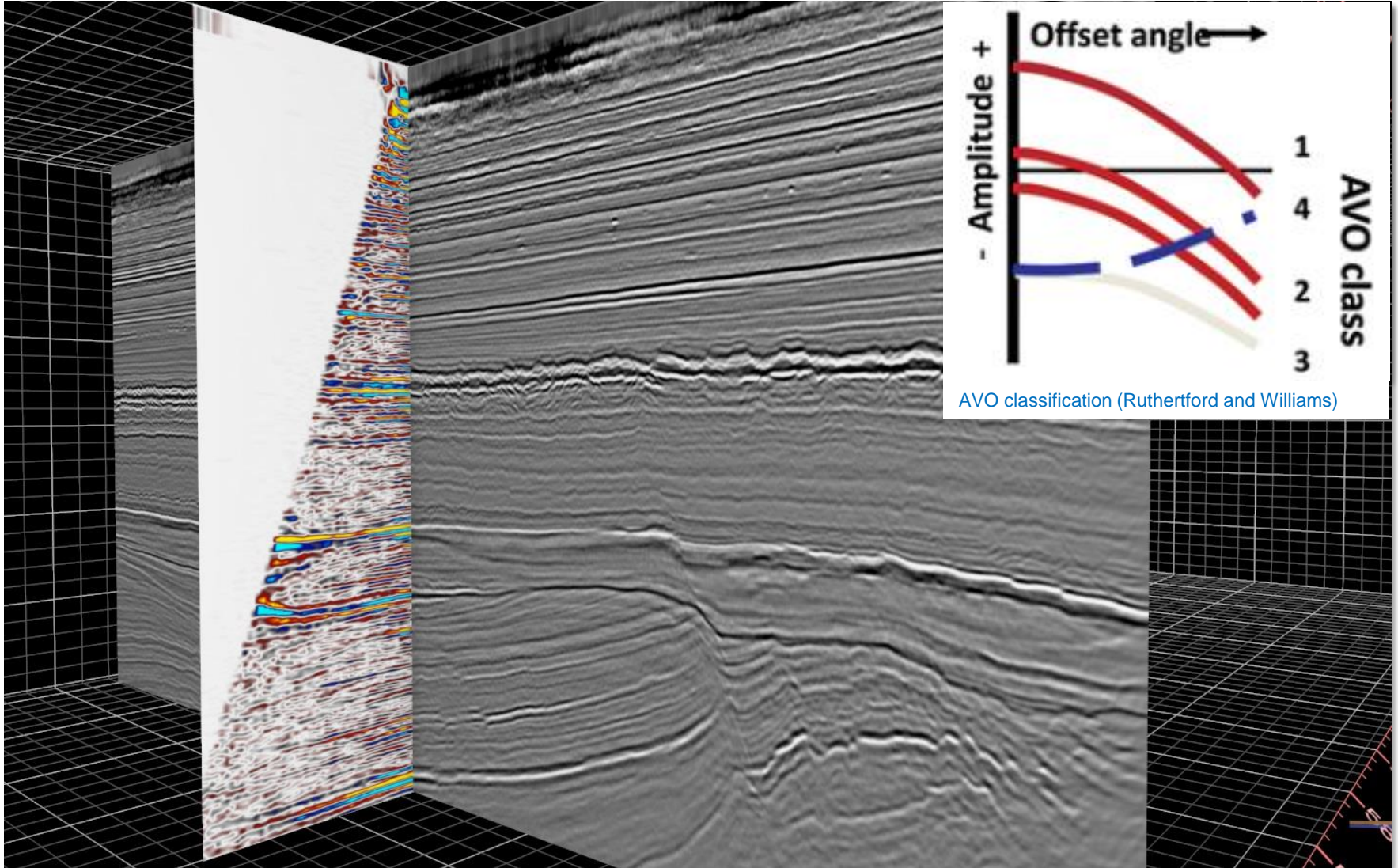
seismic-derived porosities (QI)

(courtesy NAM)

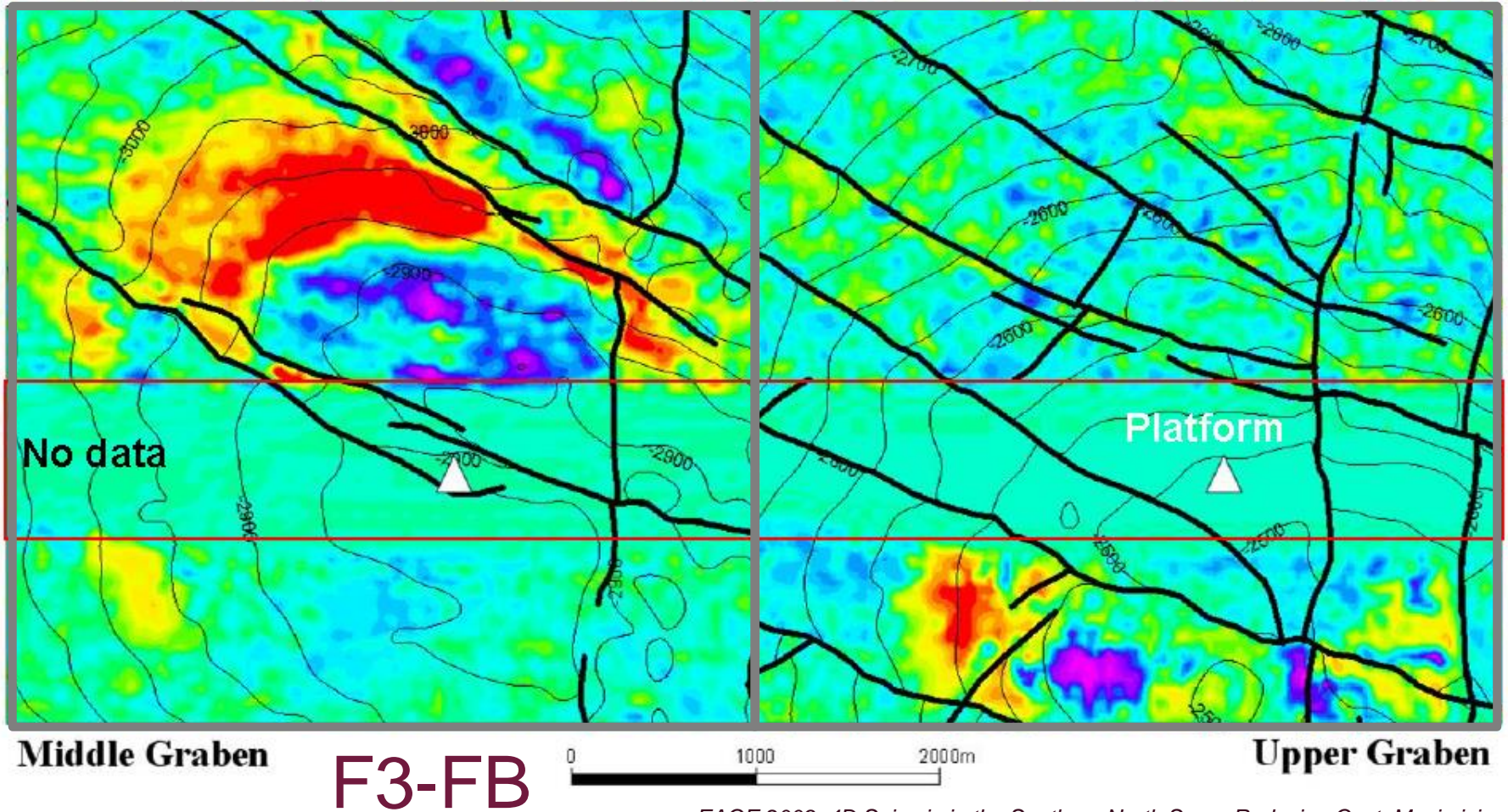
Enhancing Direct Hydrocarbon Indicators



Pre-stack data & AVO

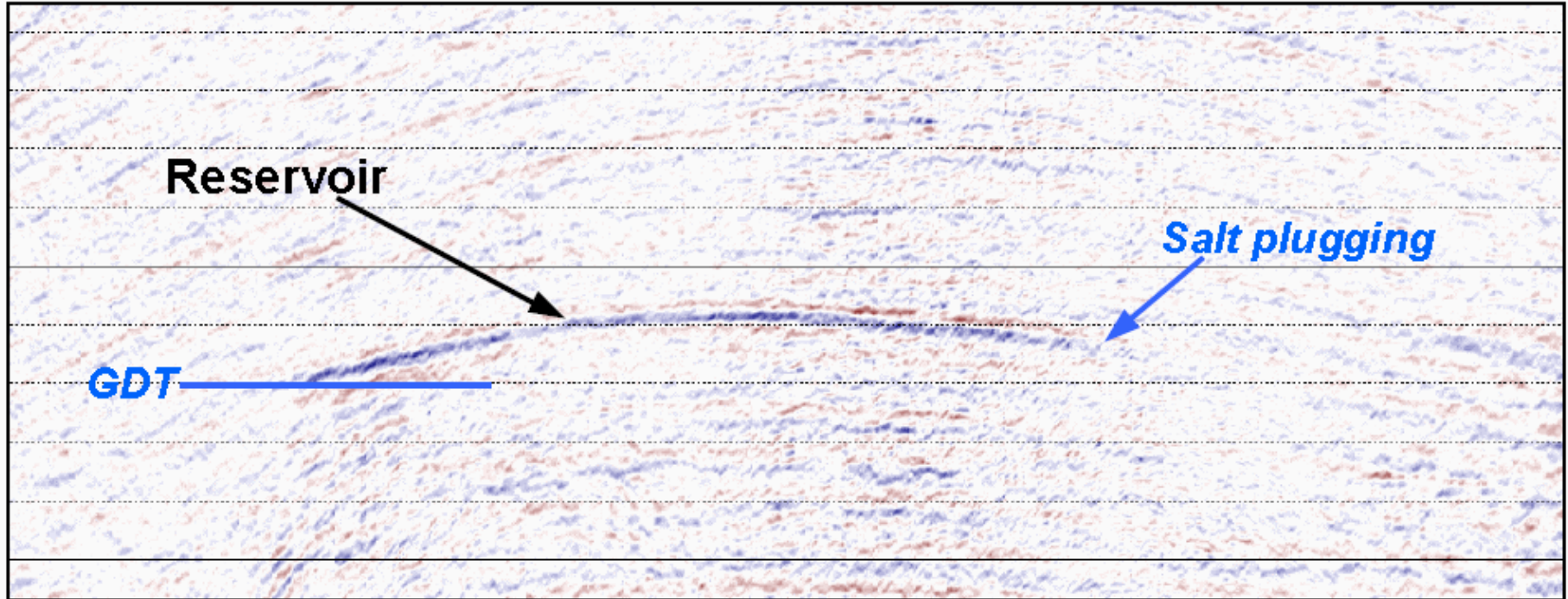


4D difference signal



F3-FB

4D difference signal

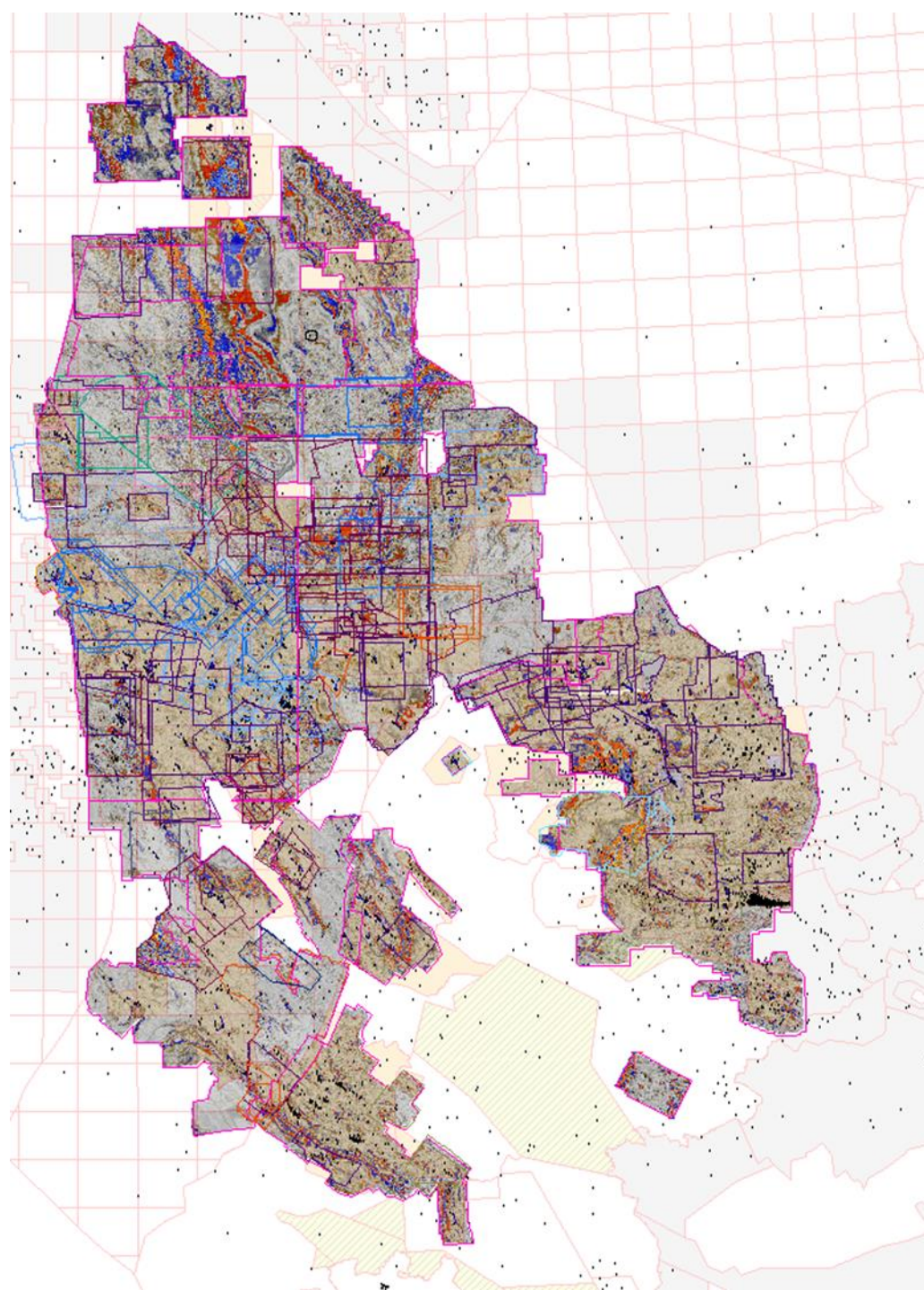


L02-FA Triassic

EAGE 2009 4D Seismic in the Southern North Sea – Reducing Cost, Maximising Value. R. Snee (NAM) & J.P. Brain (Shell UK Ltd)*

3D seismic

A dream come true:
all seismic
at our fingertips...



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