



Perspectives from Offshore Argentina

A Prospectivity Overview

spectrumgeo.com

Introduction

- Argentina Offshore License Round 1 – 14 blocks Argentina North, 24 Austral-Malvinas
- Offshore Round 2 – Argentina South
- Proven petroleum system along Atlantic margin
- 52,000 km of long offset 2D data acquired 2017-18, PSTM & PSDM

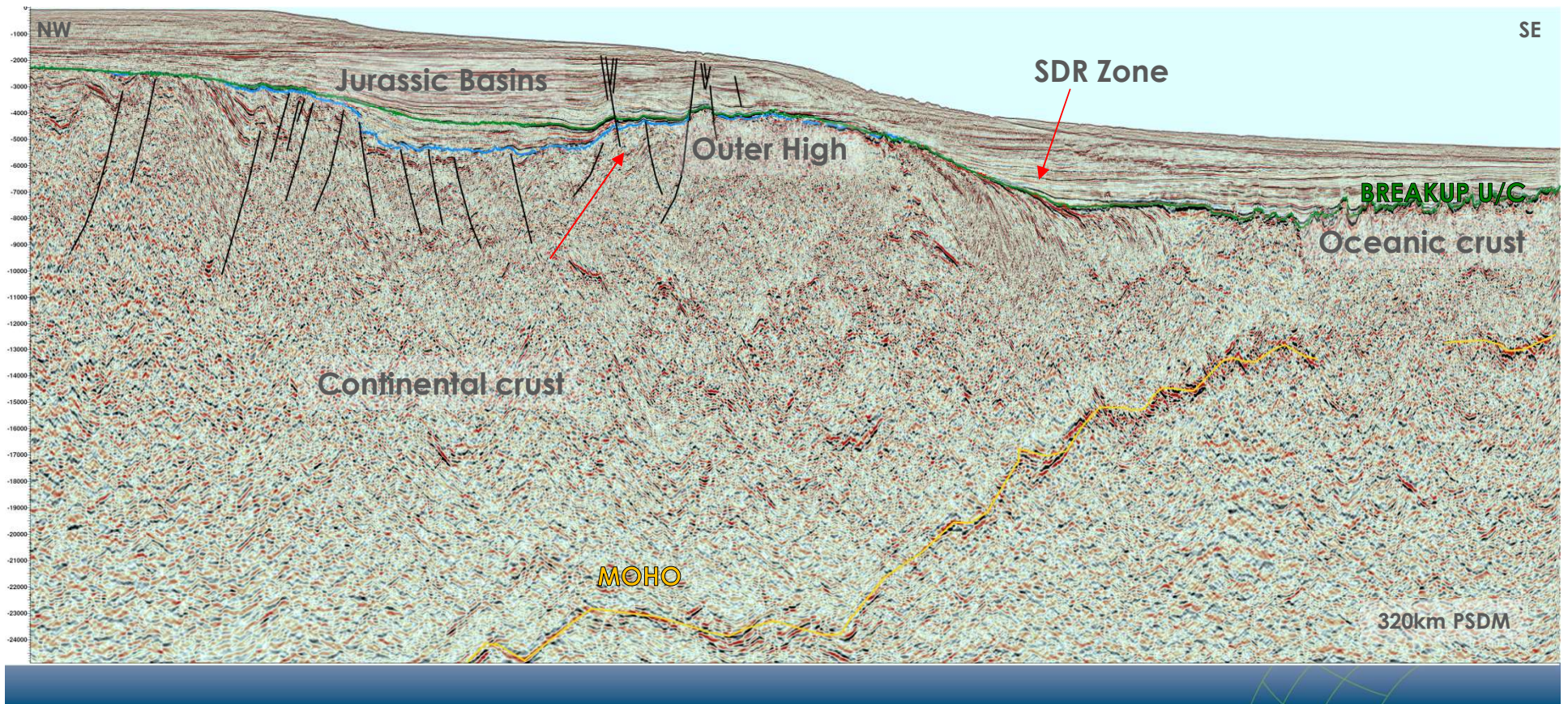


Atlantic Margin Structure

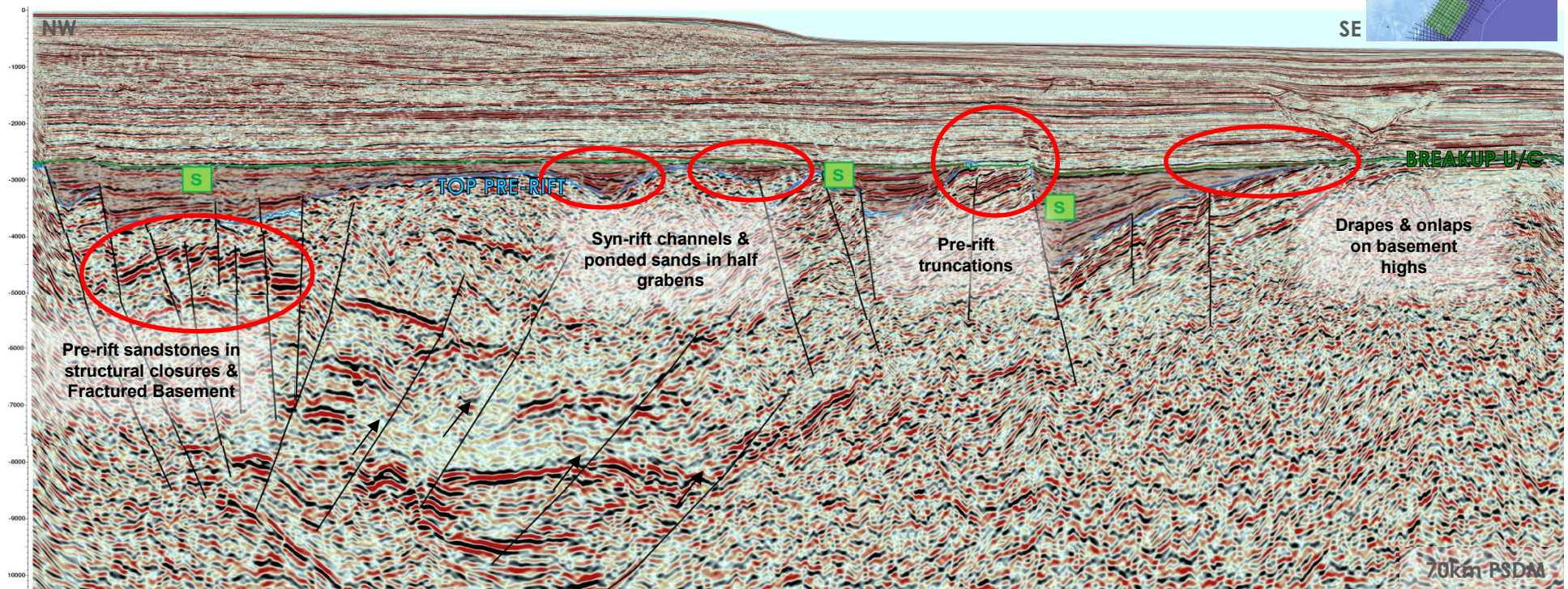
Shelf

Ewing Terrace

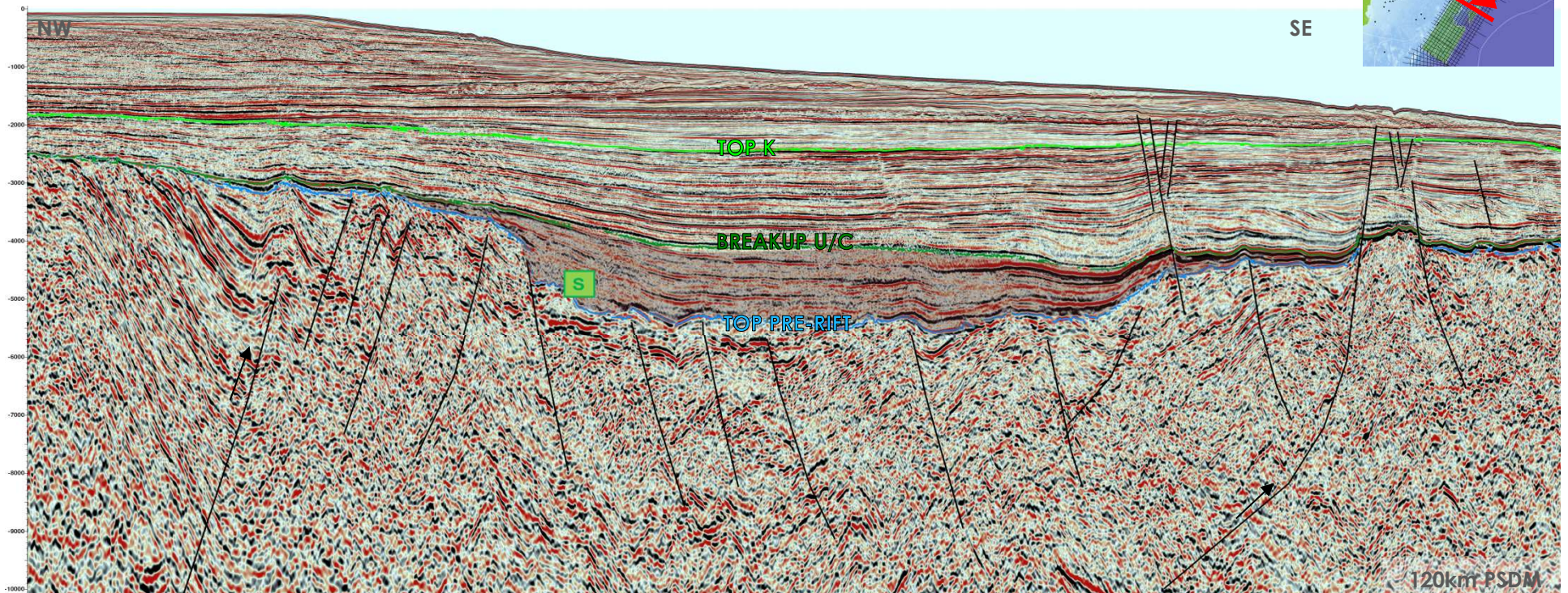
Deep Basin



Shelf – Rio Salado Basin Play Types



Slope – Ewing Terrace & Outer High

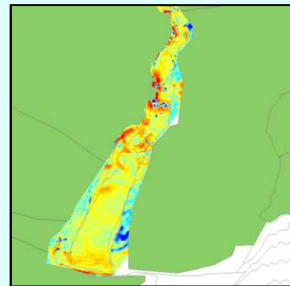


Thickening of Cretaceous sediments associated with Rio Colorado fan

Deep Water – Aptian Source Correlation

Argentina Basin

Aptian source
From seismic character &
correlation with conjugate

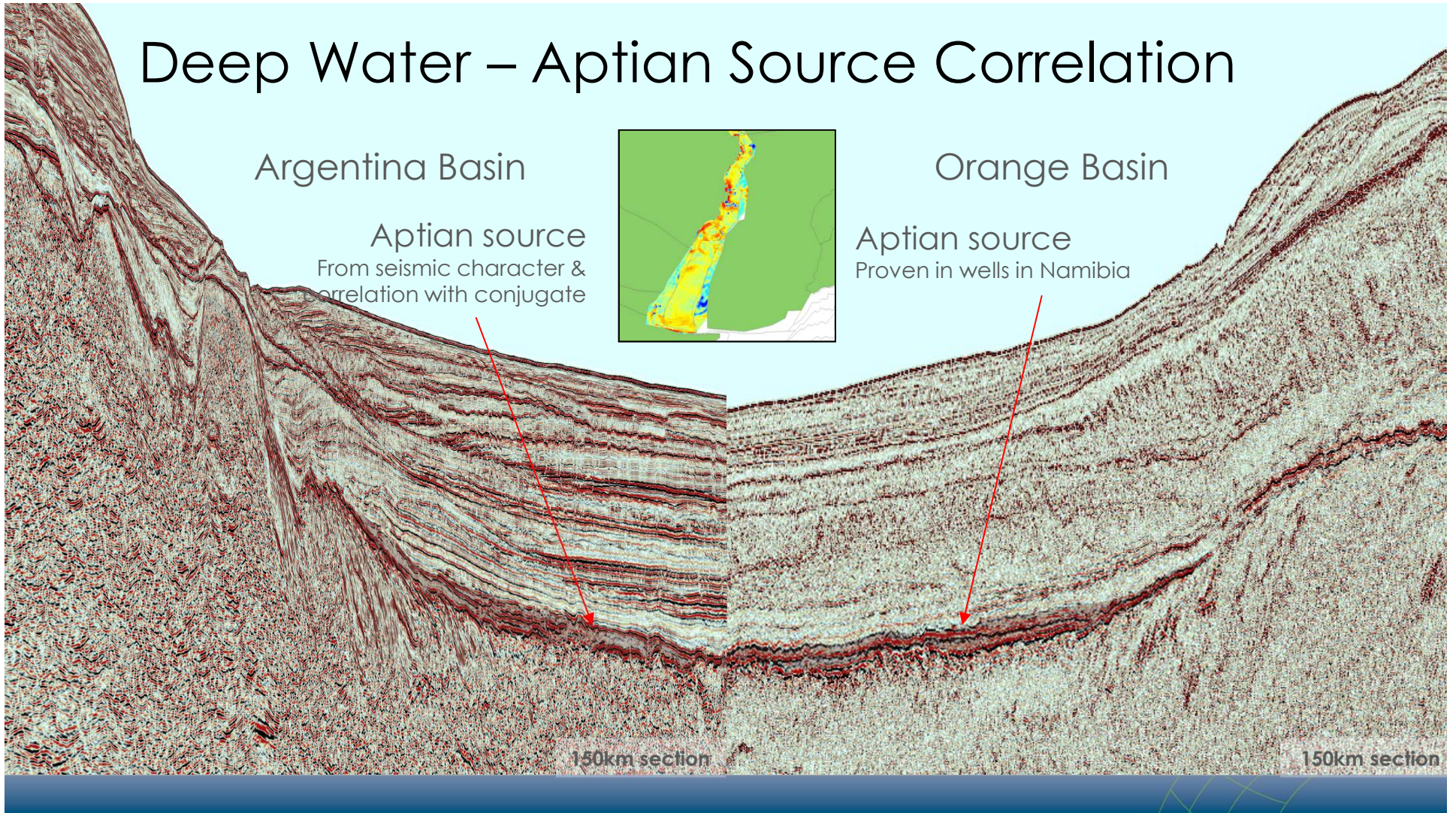


Orange Basin

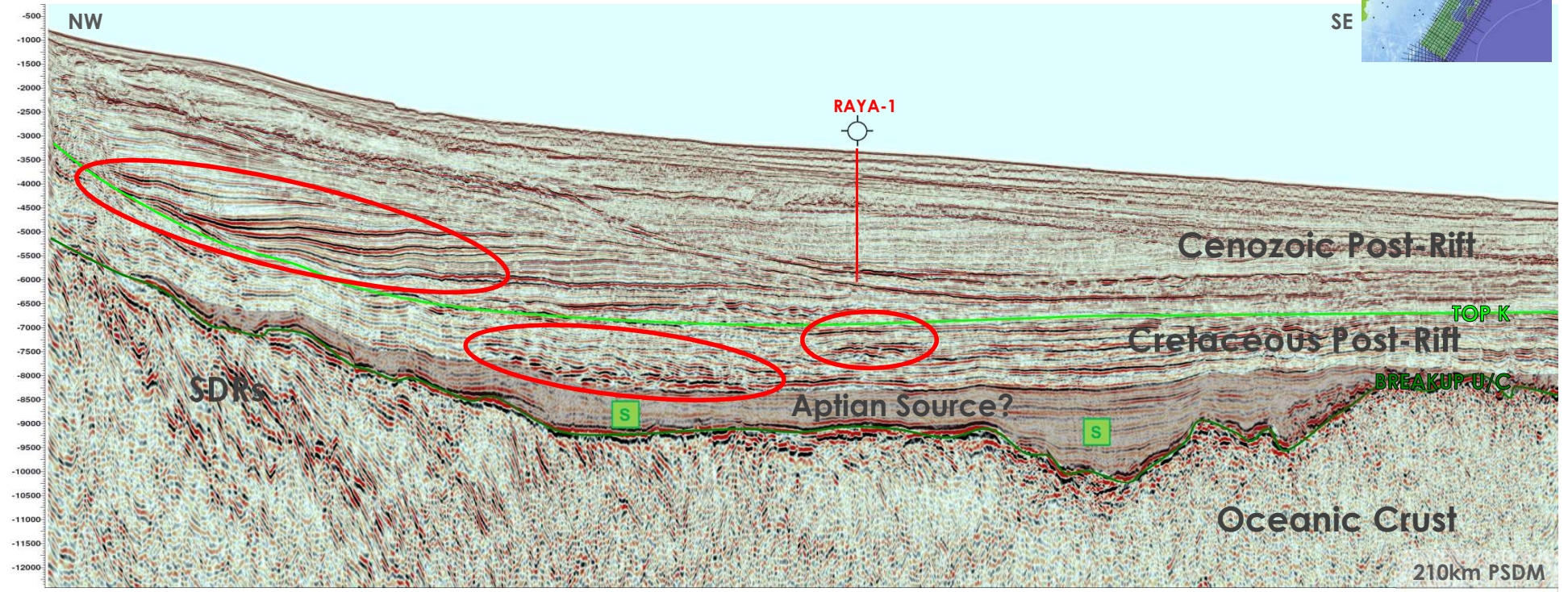
Aptian source
Proven in wells in Namibia

150km section

150km section



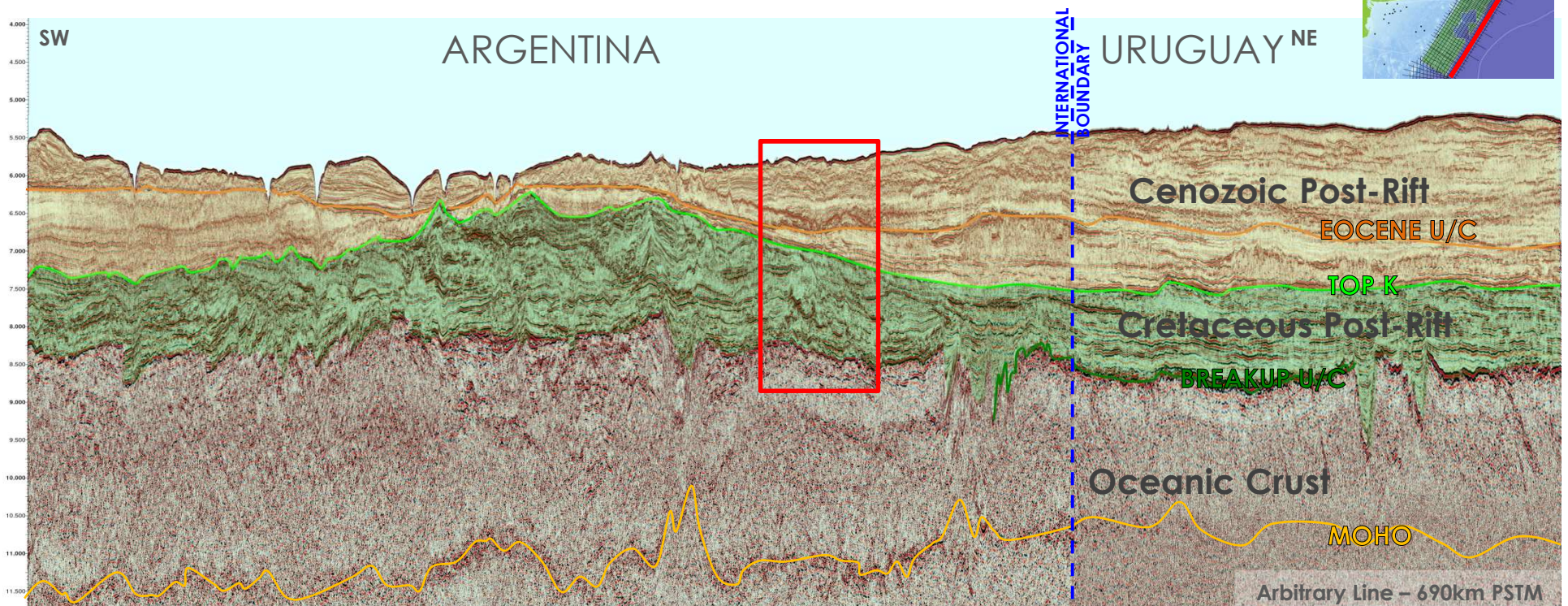
Deep Water – Uruguay



Excellent reservoir quality in Cenozoic sandstones, but no charge

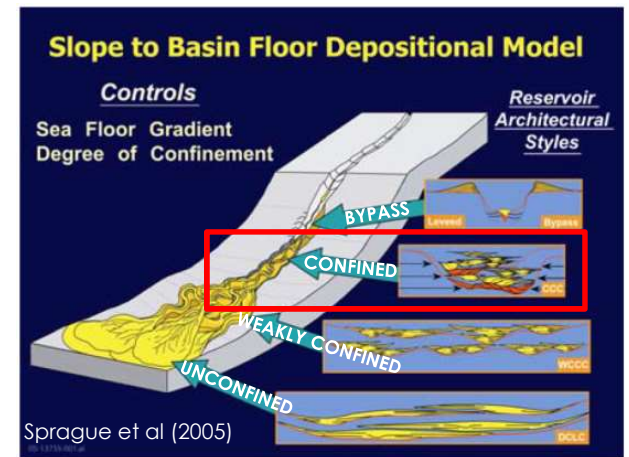
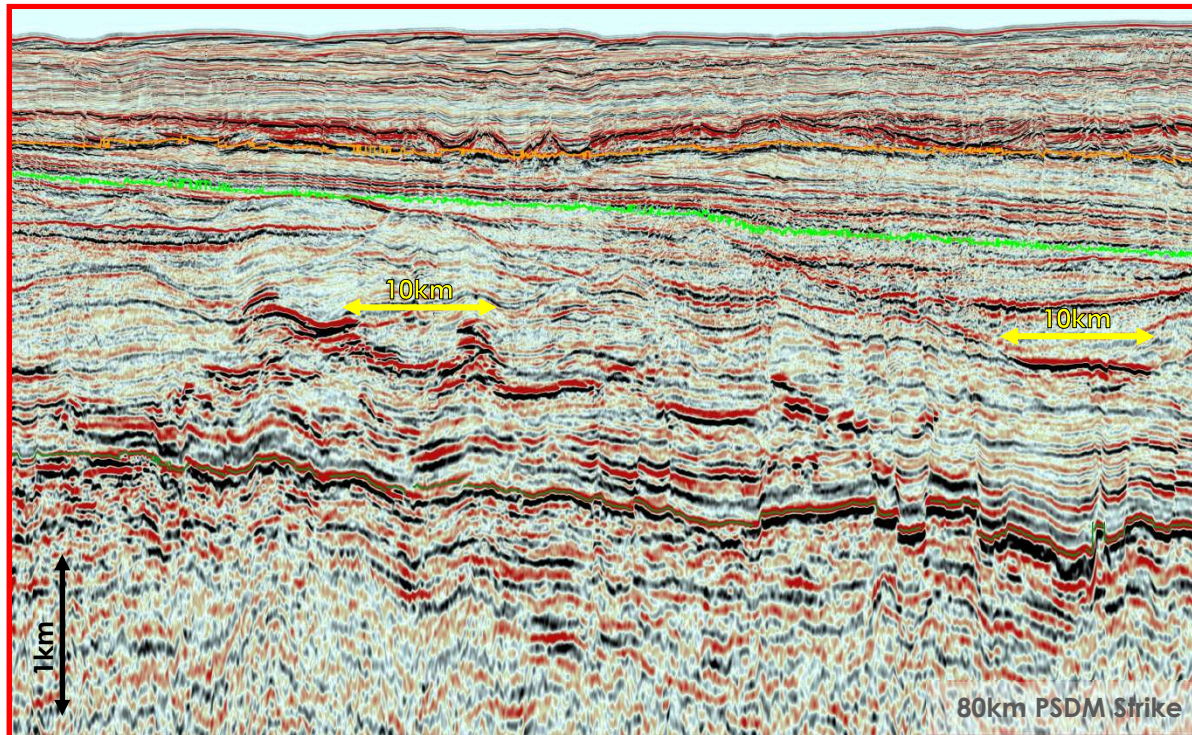


Deep Water – Argentina Basin



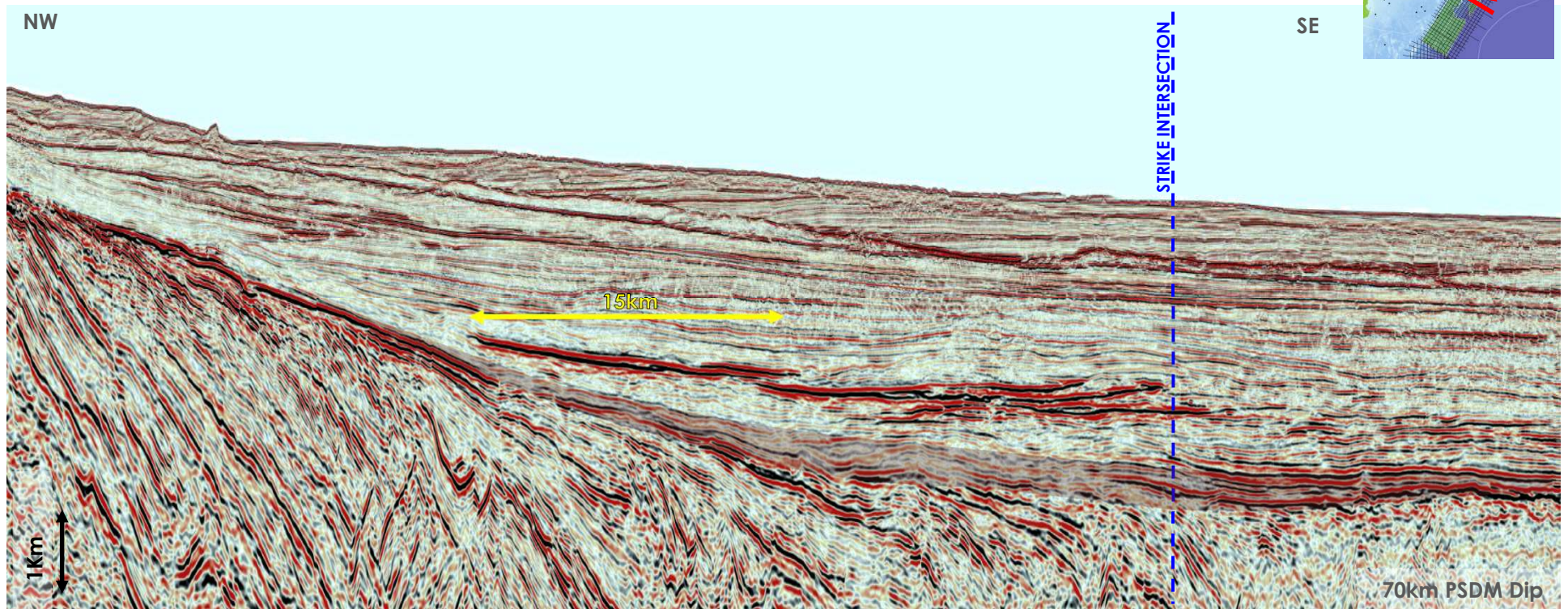
Rio Colorado Fan was a key sediment source in Cretaceous in Argentina

Argentina Basin – Play Example

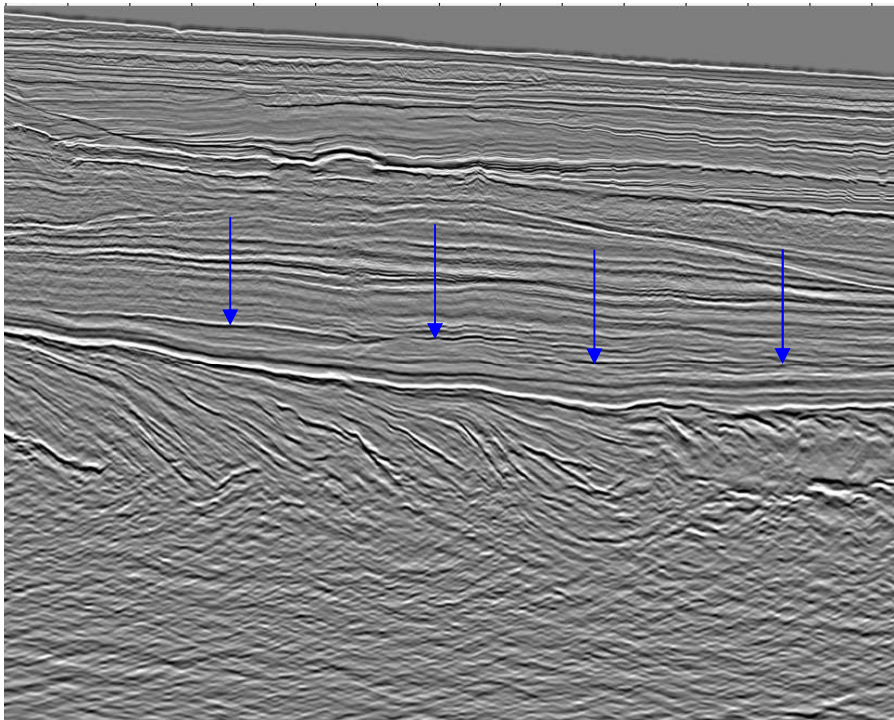


- Coarse-grained channels & fine-grained contourite drift mounds formed by deep water processes
- Well-sorted, clean sandstone reservoirs predicted by model

Argentina Basin – Play Example

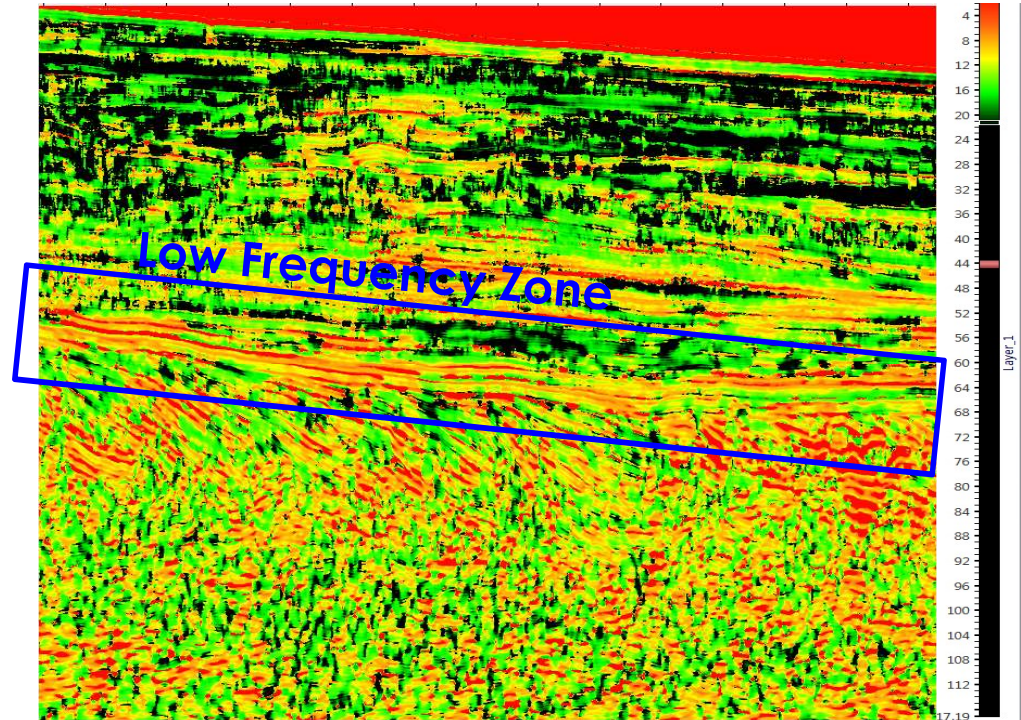


Argentina Aptian Source



Final PSTM

Type 4 AVO anomaly

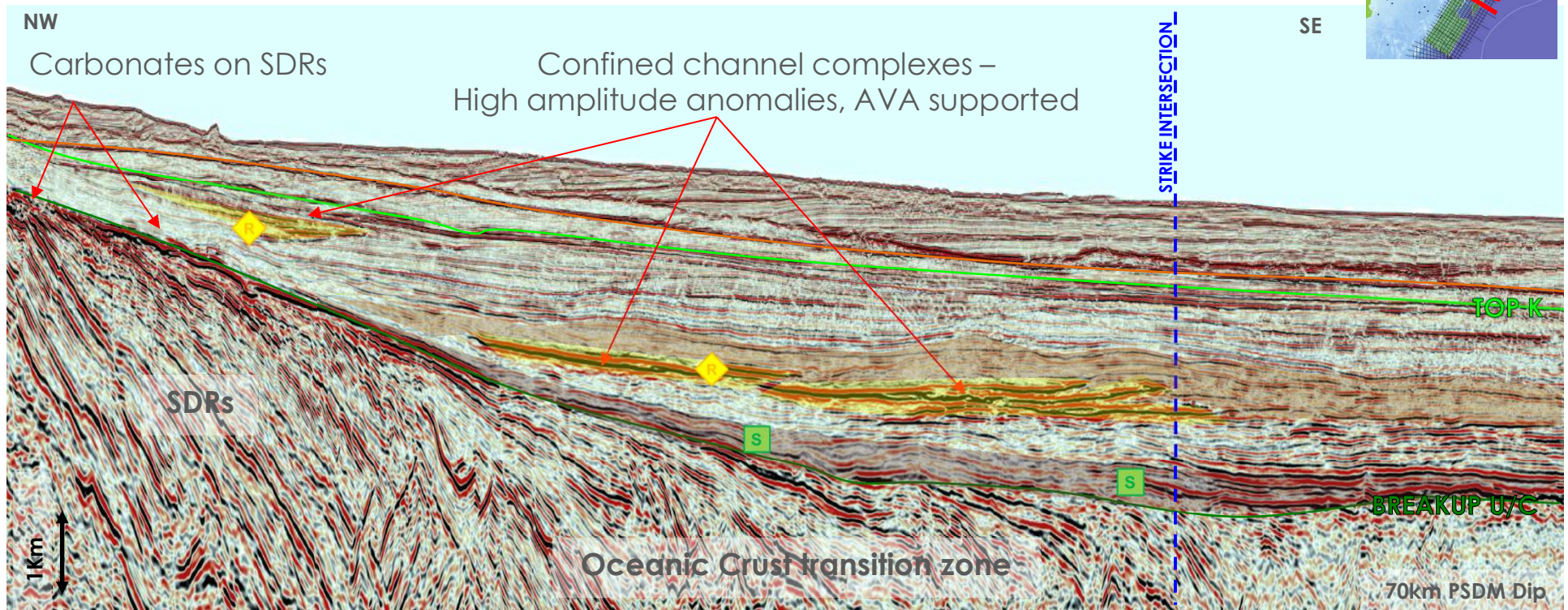


Dominant Frequency Attribute





Argentina Basin – Play Example

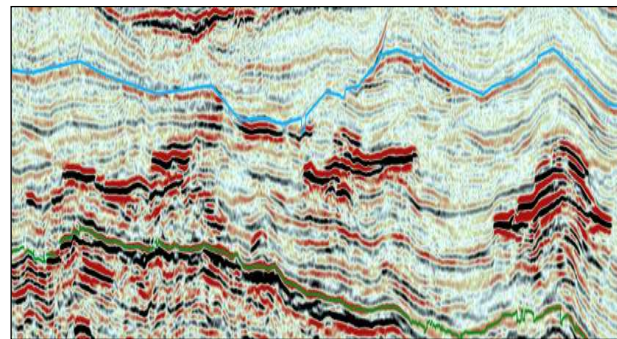
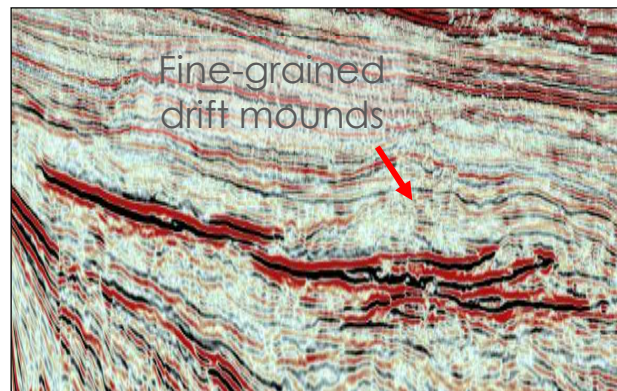


Aptian source modelled in oil window

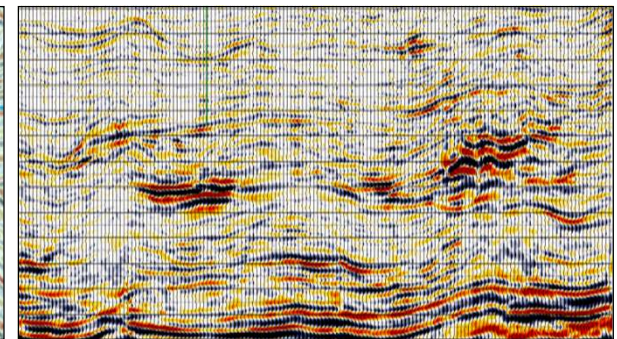
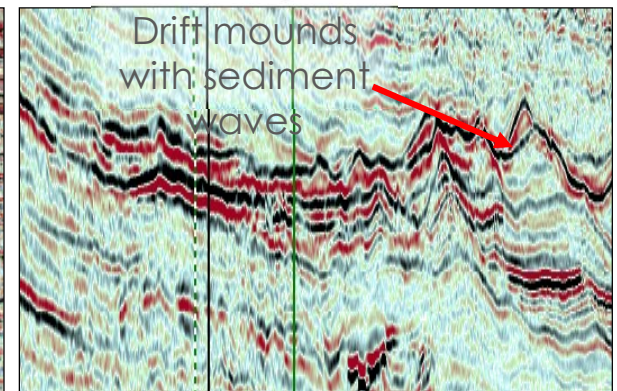
Argentina Basin – Play Example

- Sergipe 1900km² (3BBO)
- Argentina 5700km²
- AVA anomalies
- Overlie oil-mature Aptian source
- Sealed by fine-grained drift mounds

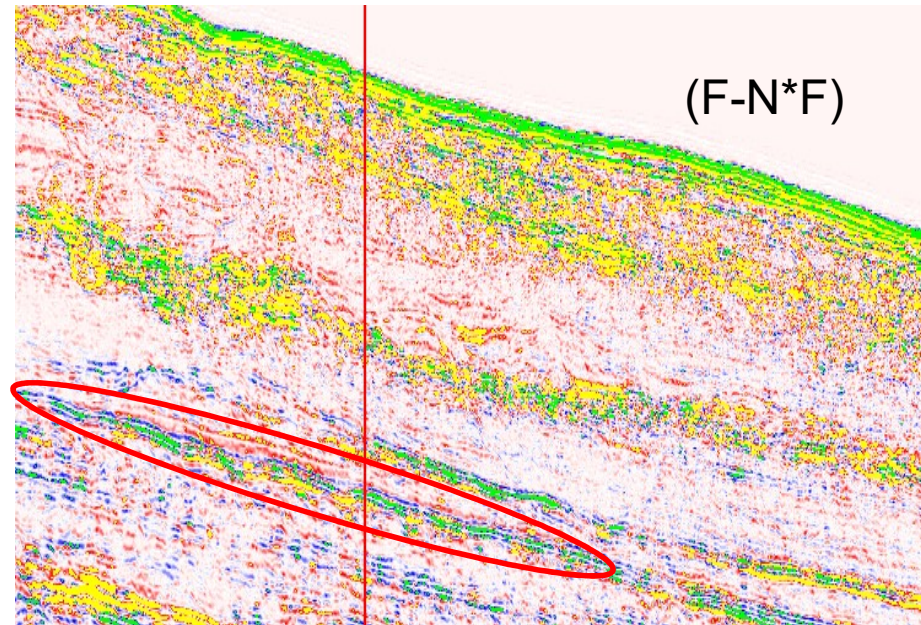
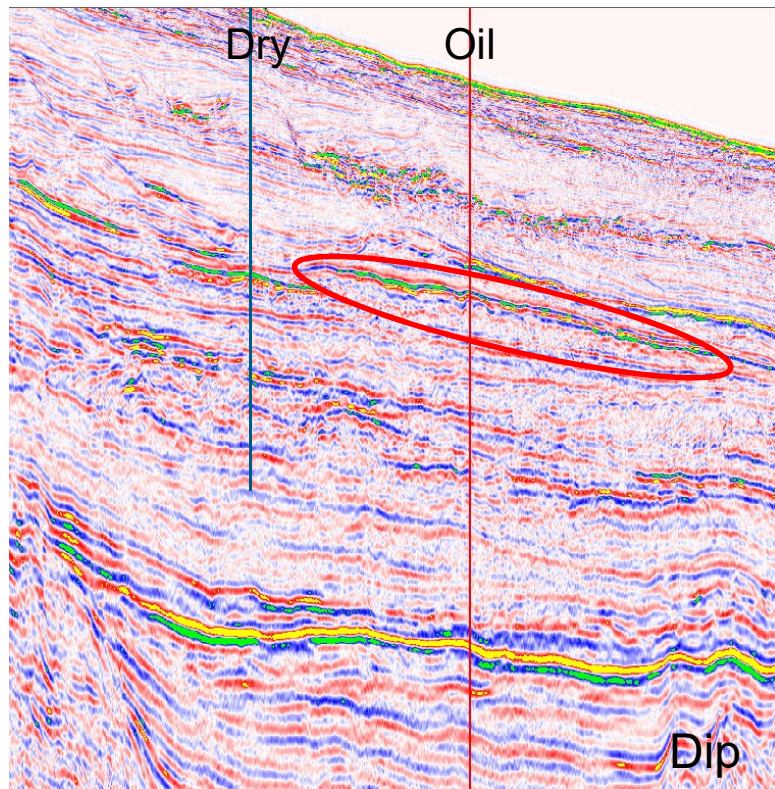
Argentina



Sergipe



Sergipe Poco Verde 4 Discovery

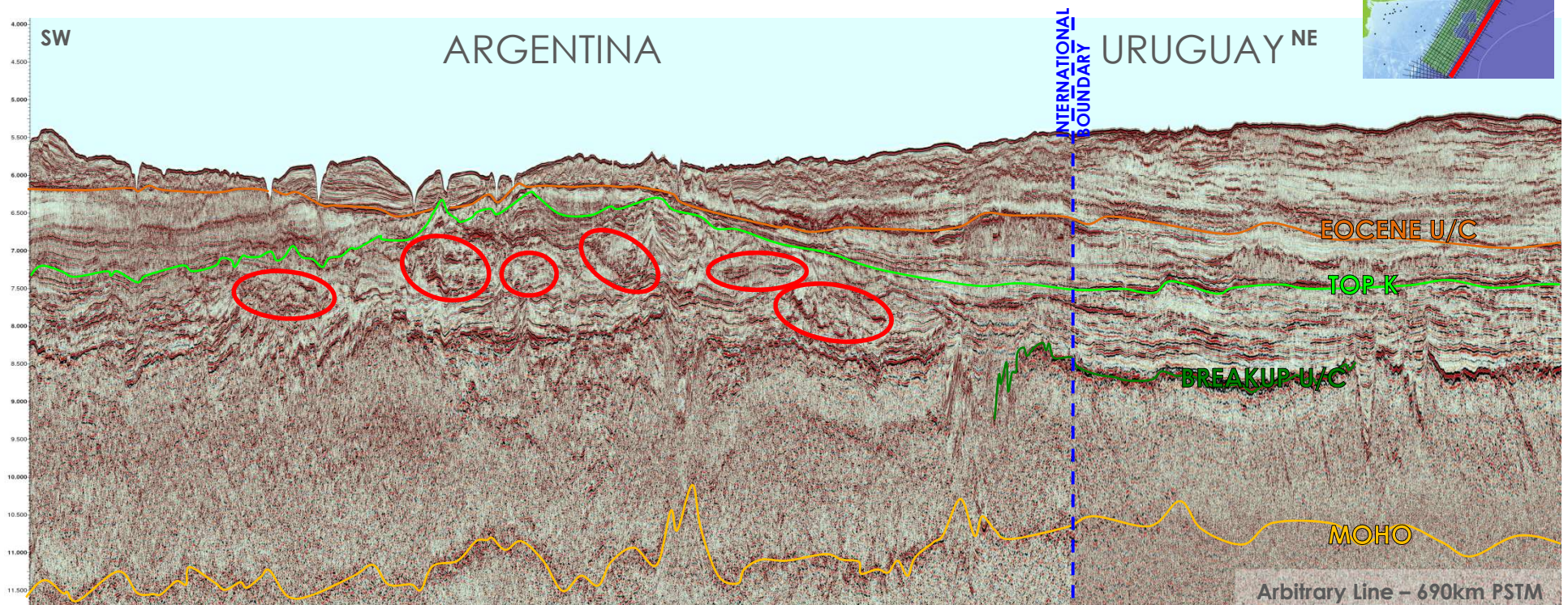


85m net pay
Oil

SEG negative polarity
Sands = Hard kick
Green AVO anomaly =
AVO Type I



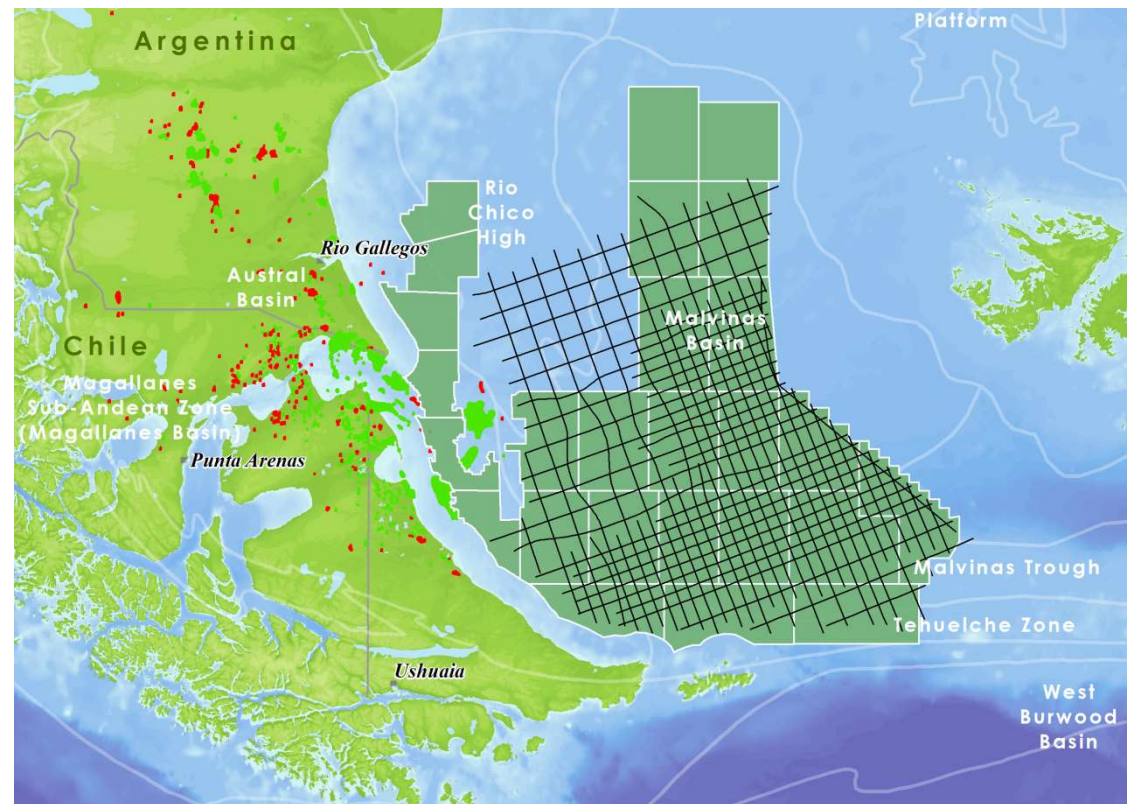
Argentina Basin – Play Example



Numerous confined channel complexes in Rio Colorado Fan sediment wedge

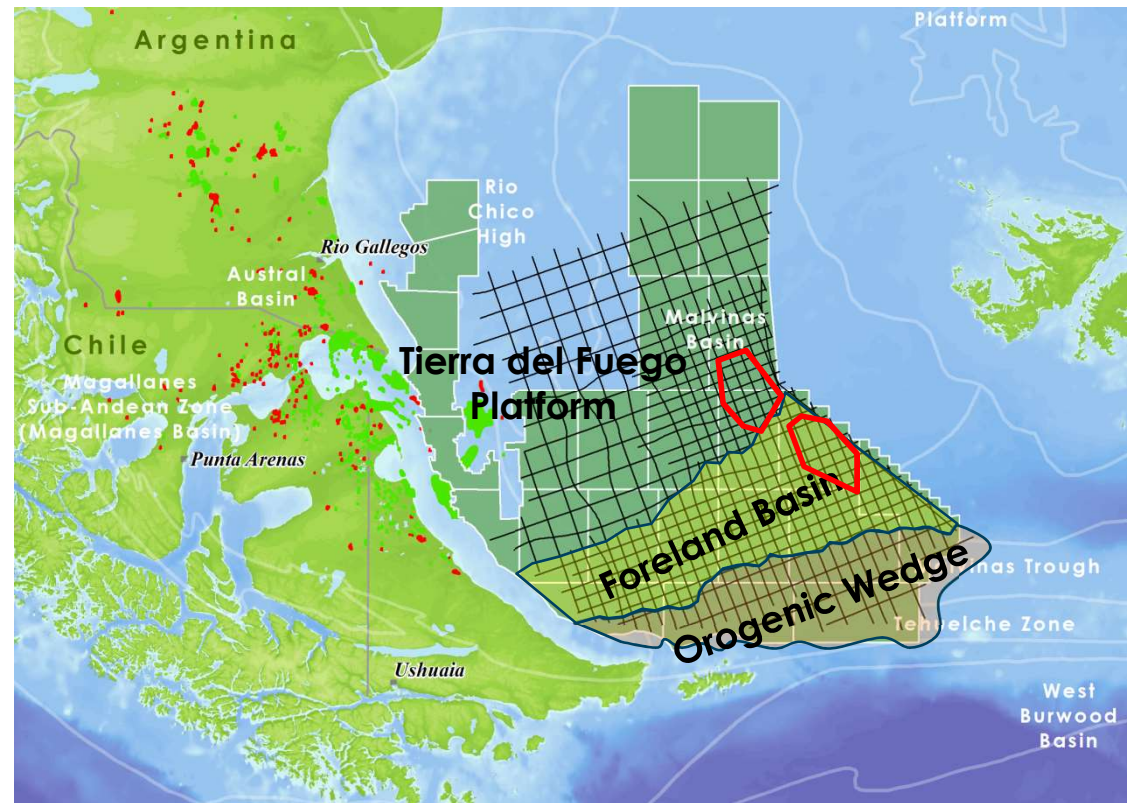
Austral-Malvinas Basin

- Previous exploration success – 7 bboe recoverable discovered in Austral basin
- Relatively shallow water – up to 500m
- Proven petroleum system
- PSTM & PSDM 2D data available



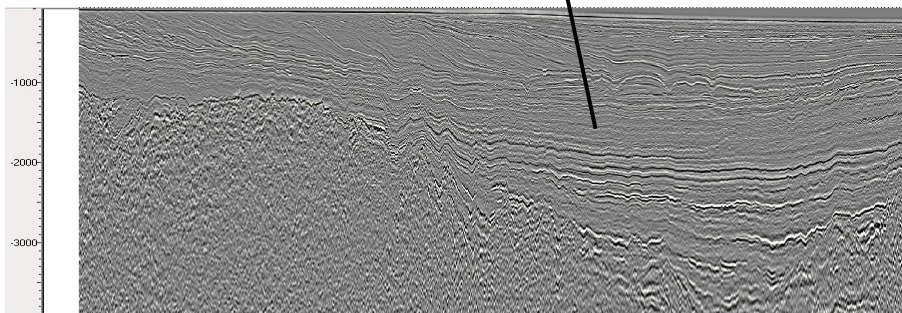
Austral-Malvinas Regional Geology

- Late Jurassic/ Early K separation from Antarctica
- Thrust belt & foreland basin development in Cenozoic



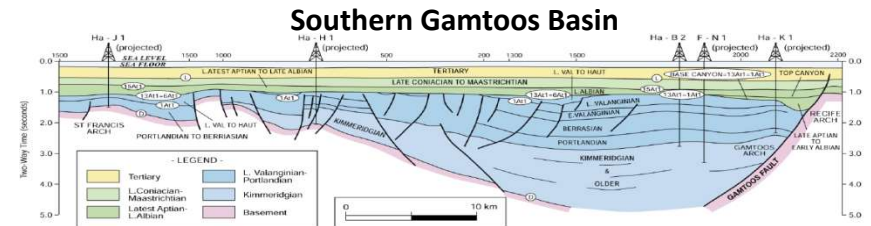
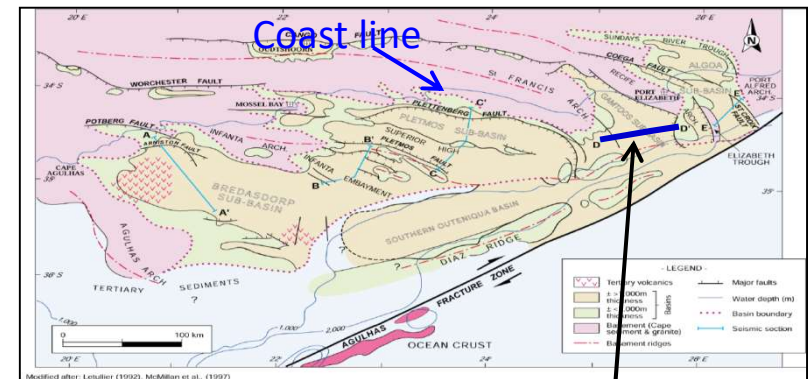
Outeniqua and Malvinas Pull Apart Basins

Malvinas Pull Apart Basin



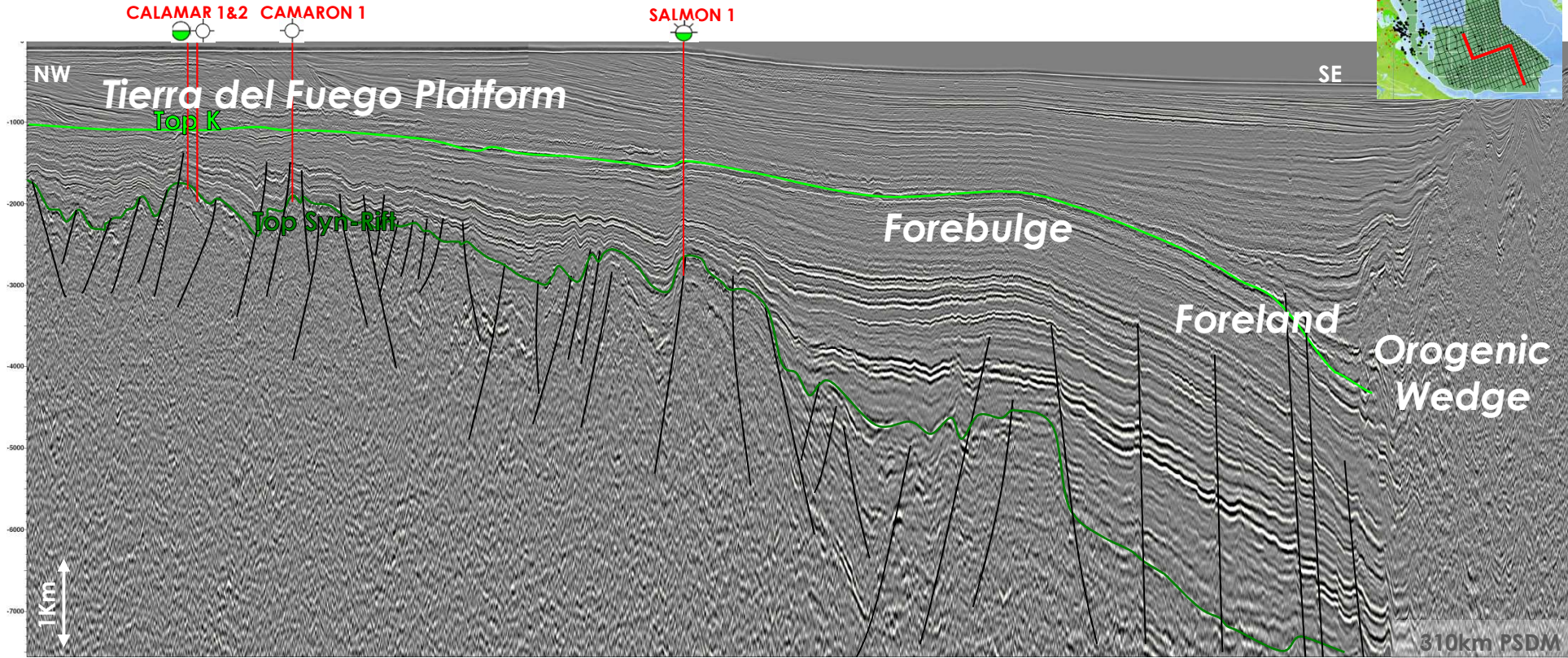
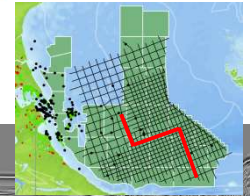
KPSDM FWI

Outeniqua Pull Apart Basin



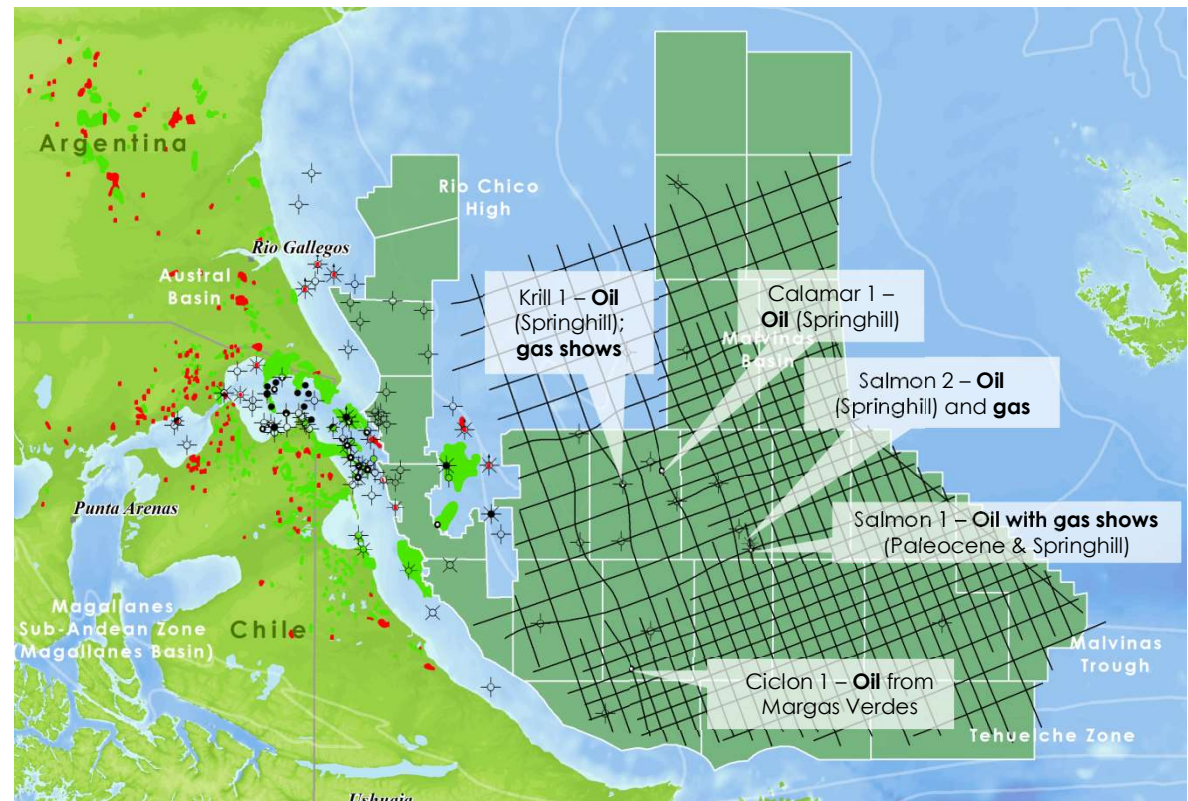
(Source: IHS, 2012)

Austral-Malvinas Basin Architecture



Austral Malvinas – Offshore Exploration History

- 51 exploration wells in Austral Basin, 20 in Malvinas Basin
- Most success from Lower K/ Upper J Springhill Fm sandstones
- Fold & thrust belt unexplored



Summary

