



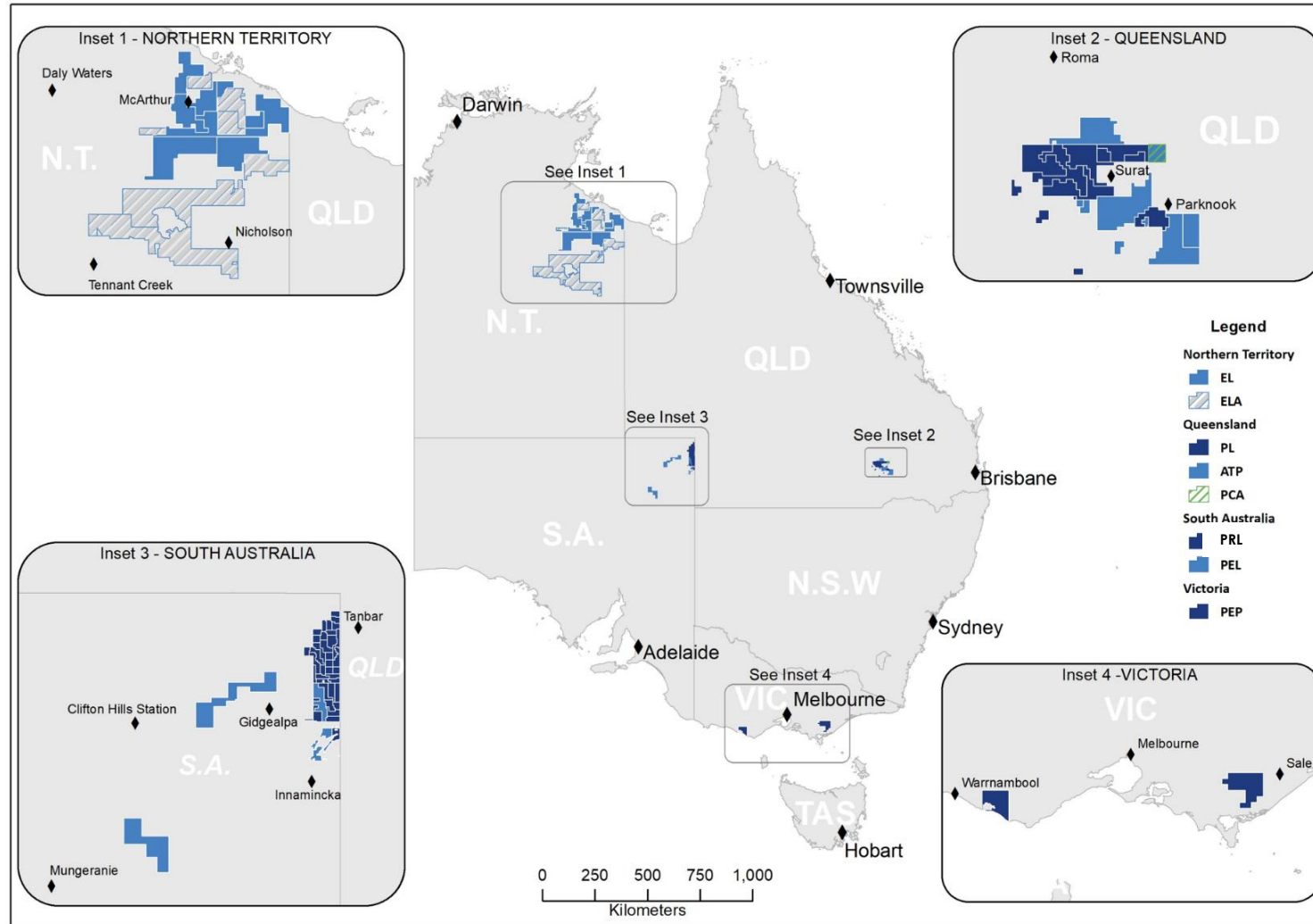
**armour energy**

OCTOBER 2022

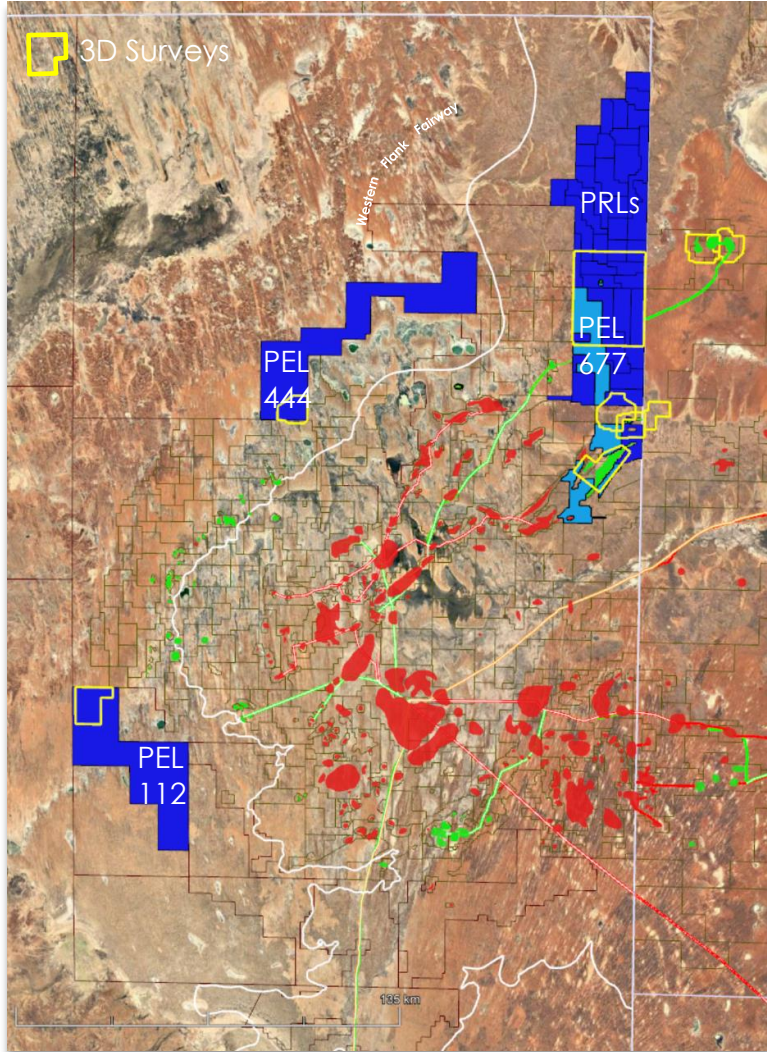
SADEM Roundtable



# THE ARMOUR PORTFOLIO



# ARMOUR IN SOUTH AUSTRALIA



## HIGHLIGHTS:

30 Licences: 3 PELs and 27 PRLs, Working Interest 100%

Major focus – hunt for stratigraphic and subtle traps along extensions of proven oil and wet gas fairways, using specialist geophysical tools

27 PRLs: Northern basin flank adjacent to Cook-Cuisinier-Barta, includes 800 km<sup>2</sup> Cordillo 3D. Triassic oil and Permian wet gas discoveries

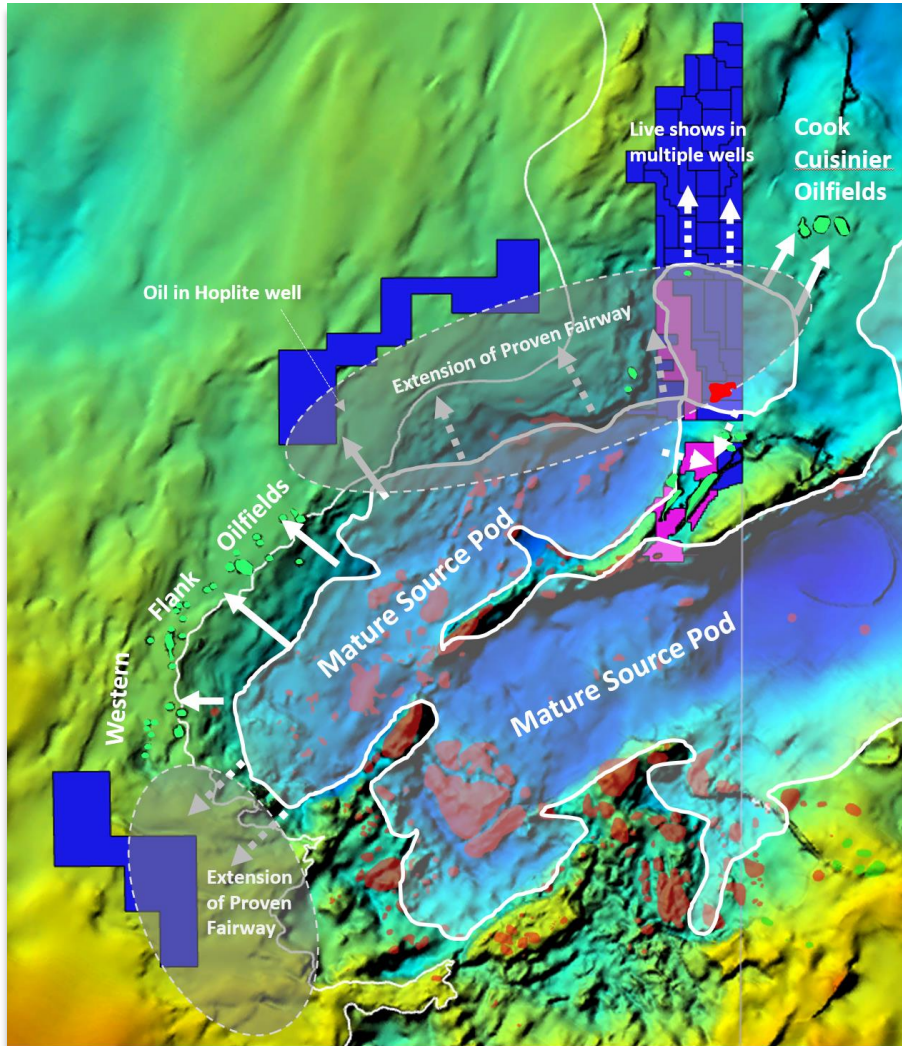
3 PELs: Northern and southern extensions of Western Flank discoveries with 3D seismic

PEL 444 – oil recovery on southeastern boundary

PEL 112 – covering a major migration pathway from the deeper basin

677 Northern flank, Flax/Juniper and Acrasia area, adjacent to oil and gas discoveries

# PROJECT AREA SUMMARY



Existing oil and wet gas fairways provide deep knowledge base and analogue data sets over producing fields, discoveries and failures

SADEM provides ready access to detailed database of seismic and wells

Targets in Permian, Triassic and Jurassic reservoirs

Adjacent to proven deep basin mature source pods

6 x 3D seismic surveys each with only one well post acquisition

Historical high exploration success rates, challenges in seismic statics and seismic resolution

PRLs include an undeveloped Permian gas discovery with 400 Bcf potential

Focus points:

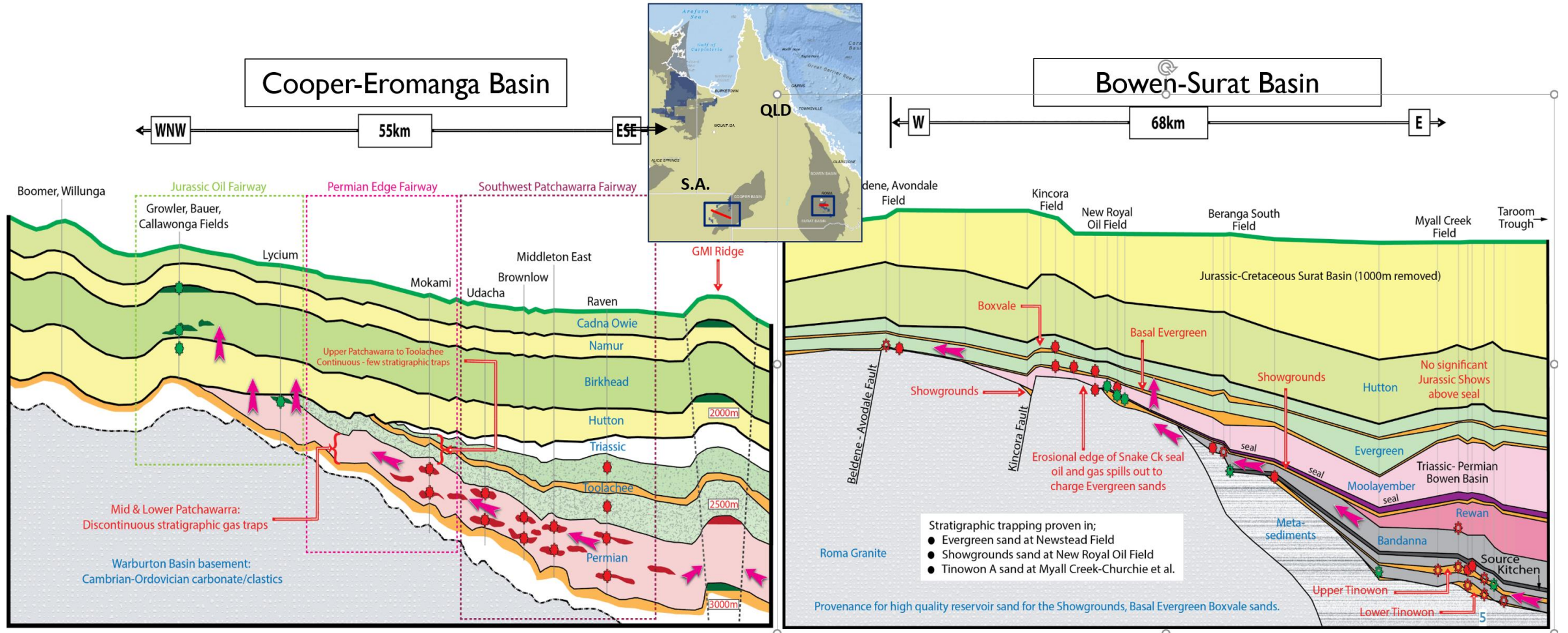
- Stratigraphic and modified traps

- Migration pathways

- AI seismic interpretation addressing as many reservoir seal pairs as possible

Room for partnering

# SIMILARITIES IN FOCUS BASINS

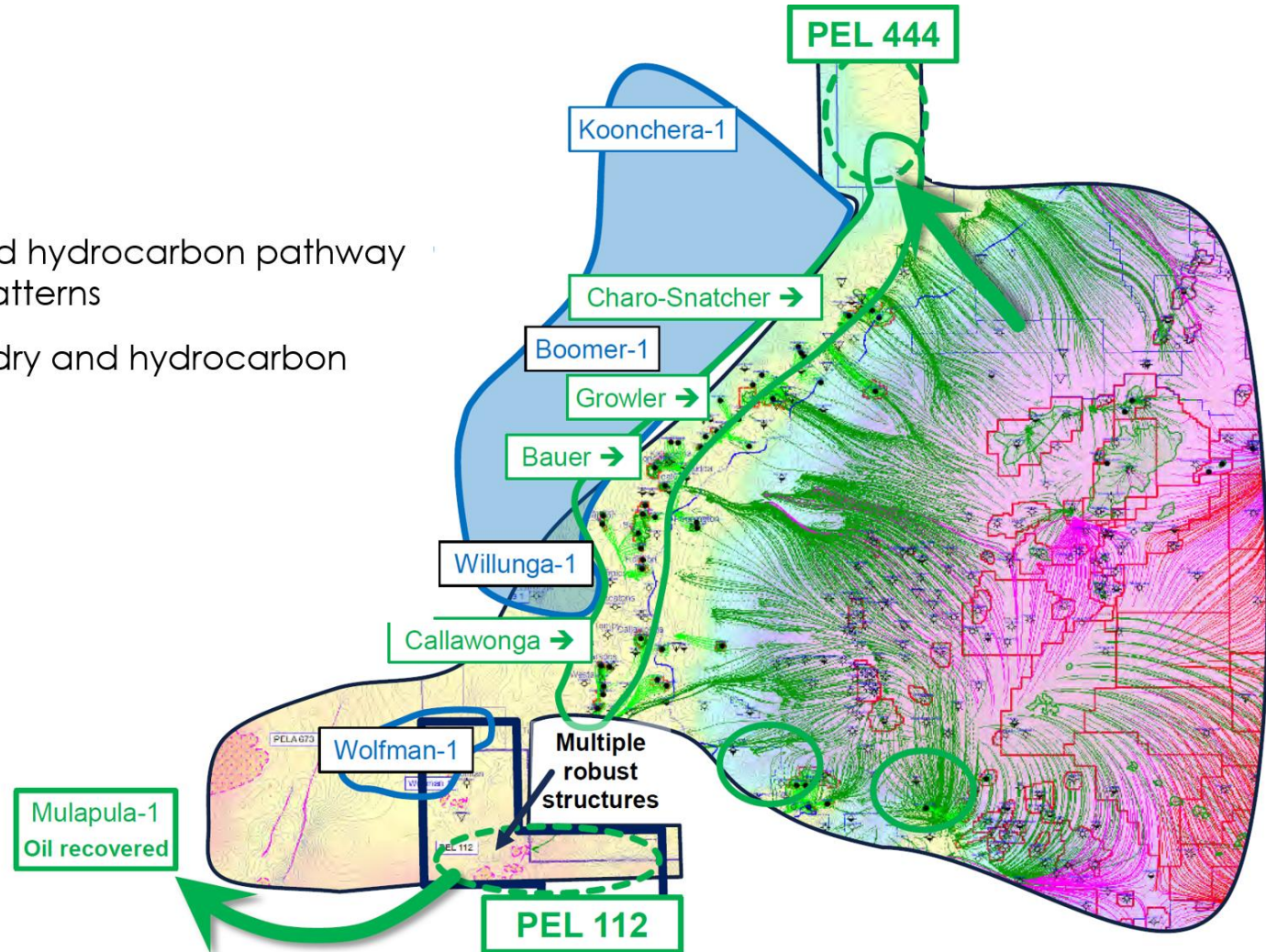


**Common Theme: Permian generated oil & gas fills and spills into overlying Jurassic & Triassic reservoirs**

# EVALUATION STARTS WITH MIGRATION PATTERNS

- Regional basin modelling and hydrocarbon pathway work establishes migration patterns
- Positive correlations at both dry and hydrocarbon bearing wells

**Modelled charge**  
-- Oil  
-- Wet Gas  
-- Dry Gas

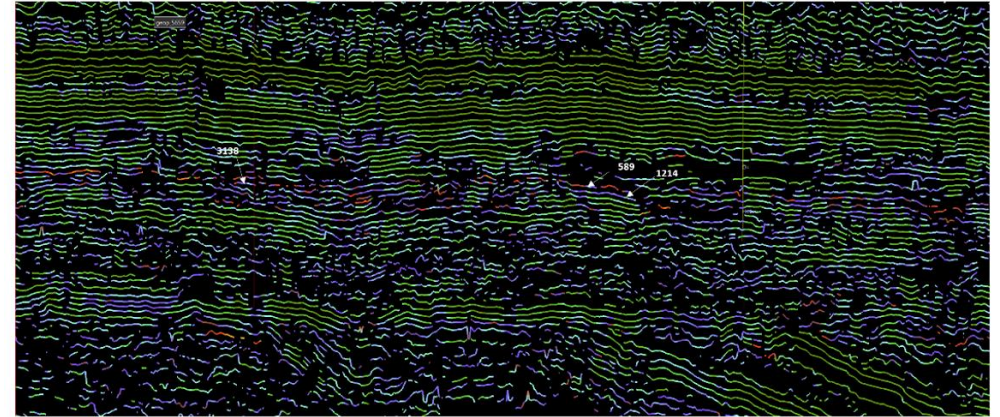
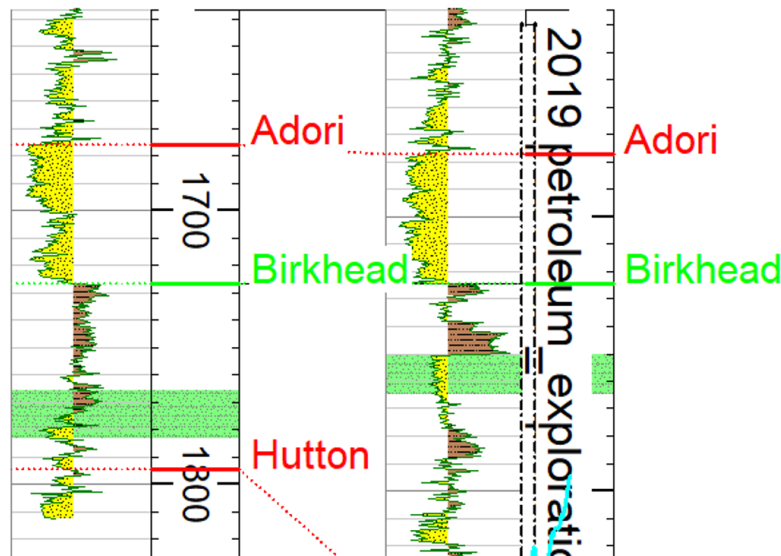


# AI EVALUATION OF 3D SEISMIC

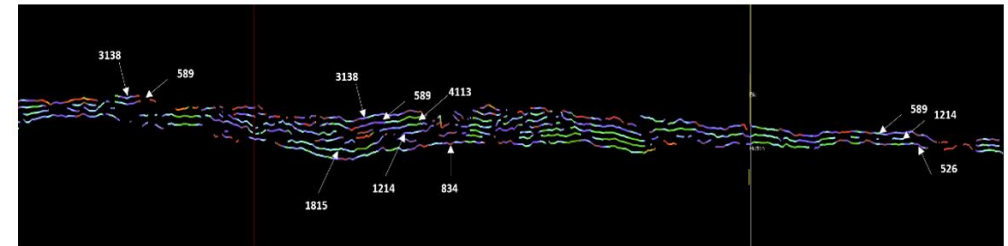
Machine generated waveform picks of every peak/trough in the 3D dataset used to analyse intraformational reservoir/seal pairs within limitations of seismic resolution

Along with each geopopulation (surface), seismic attributes are automatically generated. Pattern recognition of both geopopulation shapes and internal characteristics provides stratigraphic information and trap definition. A good example is Charo-Snatcher where the reservoir is clearly imaged by this process

Search is on channel development within formations and modifications of structural closures

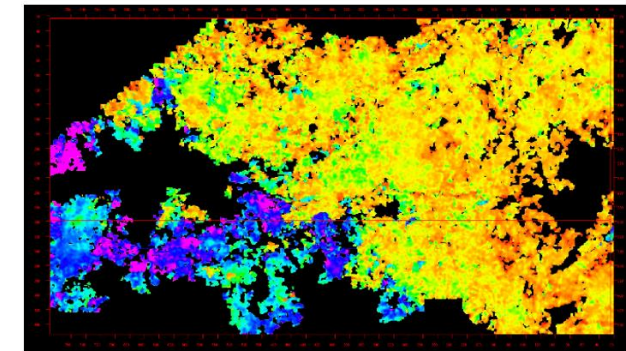


Auto Picked Surfaces over prospective Jurassic, Triassic and Permian Section. Some key Birkhead geopopulations shown



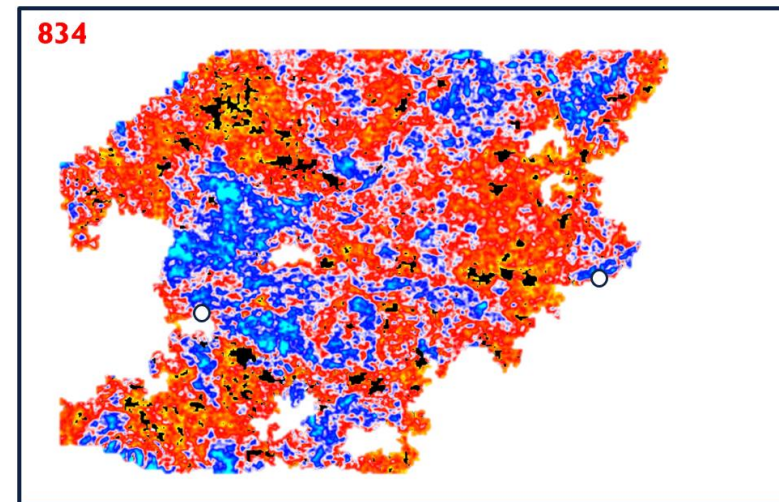
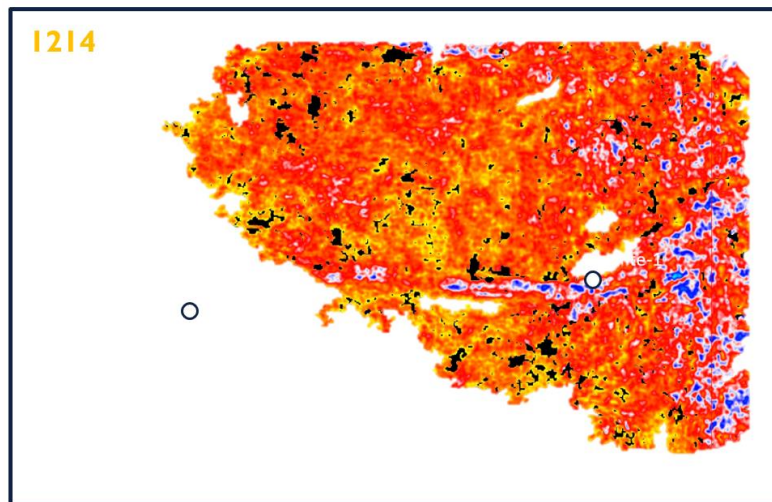
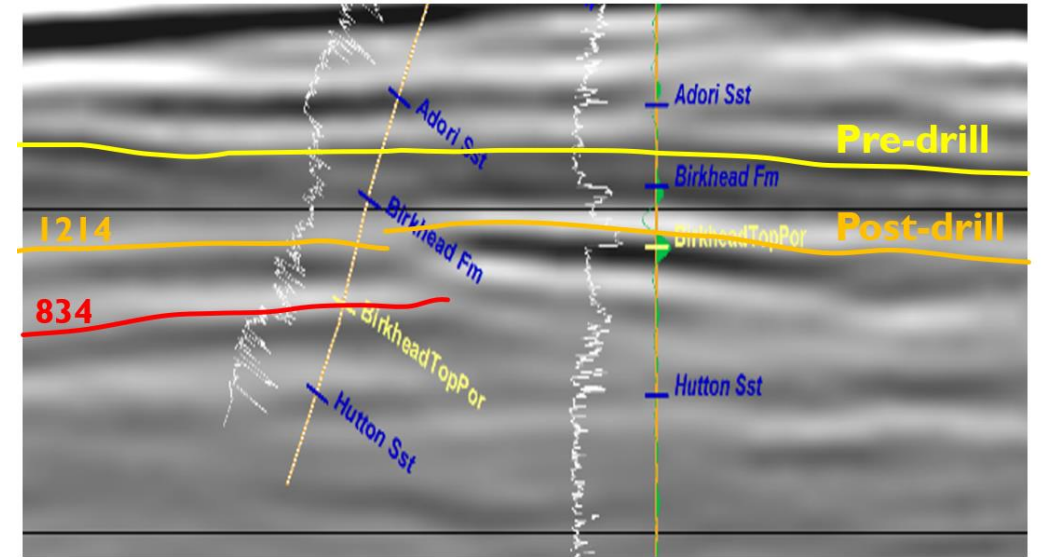
Key Birkhead geopopulations showing increasing accommodation space to left and most likely place for development of channel sands

Isopach between 589 and 1214 show the accommodation space increase (blue-purple along with overprint of channel shapes). This directs focus efforts to this area



# WELL RESULTS EXPLAINED FROM AI

- ⋈ Sidetrack well drilled targeting updip reservoir, however sand tops came in low to prognosis
- ⋈ Detailed AI picking explains variations in channel events
- ⋈ Attributes show channels too small for development. This matches marginal DST results
- ⋈ AI picks would have predicted the outcome

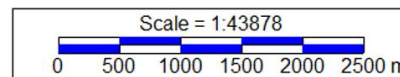
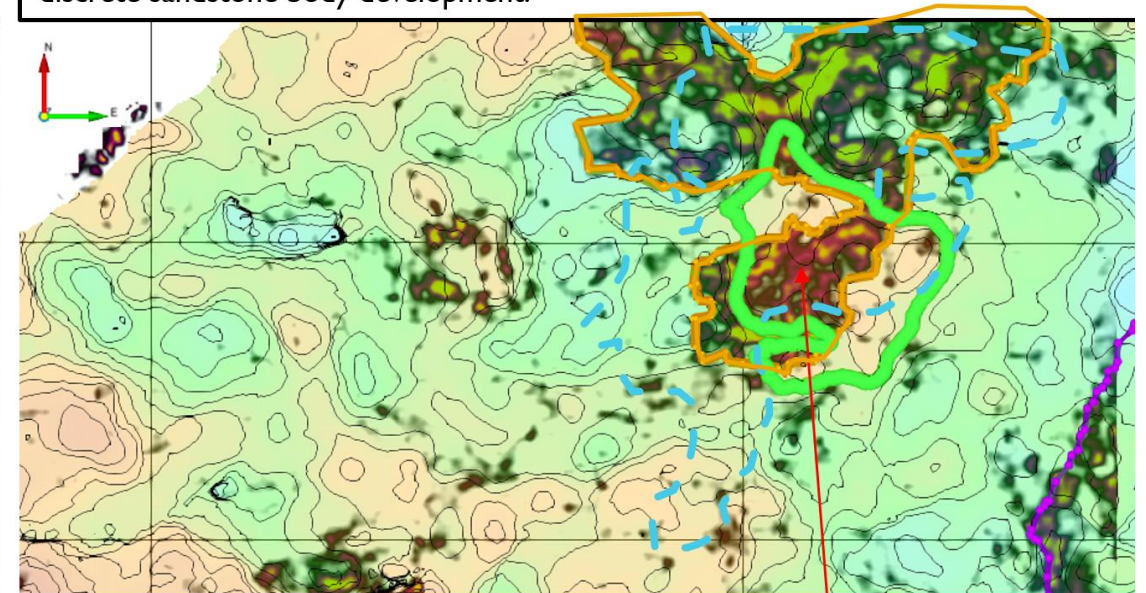


# OTHER GEOPHYSICAL APPROACHES

Colour Blended Spectral decomposition (Red 15Hz Green 35Hz Blue 45Hz) @ Birkhead level - flattened on Westbourne Horizon with structure closure polygon (green) and Interpreted Sandstone spectral response (red)



Upper Birkhead Time Horizon with FAA transparency overlaid demonstrated anomaly coincident with closure / stratigraphically trapped hydrocarbons in a discrete sandstone body development.



- 45 Hz
- 35 Hz
- 15 Hz

Strong Alignment of Spectral Decomposition colour blended sandstone channel orientation and FAA anomaly

# PROJECT PLAN

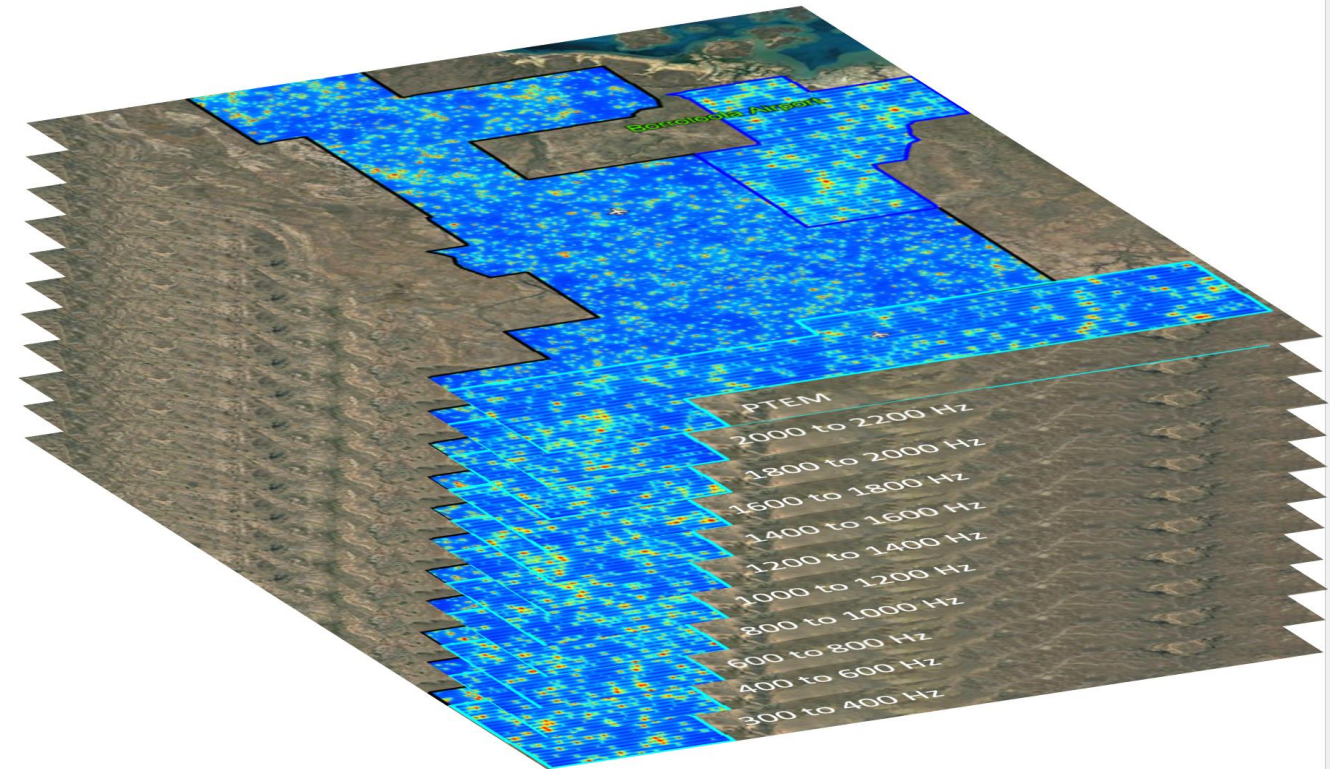
Airborne AEM-PTP searching for redox changes above upward fluid migration. An additional evaluation/risking tool, following on from very large Armour survey in Northern Territory

AI seismic evaluation

Further QI geophysical work

Development of leads and prospects

Aiming at a multi well drilling program



THANK YOU !

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