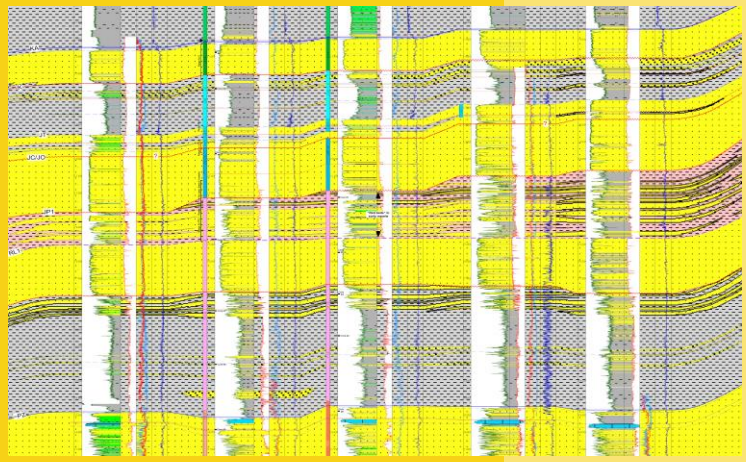
THE NORTHERN AUSTRALIA CO_2 STORE PETREL SUB-BASIN

REFINING THE GEOLOGICAL EVALUATION FOR CCS



Rosie Johnstone and Jose Torres - Presented by Owain Tucker
Shell Australia

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This release contains forward-looking statements concerning the financial condition, results of operations and businesses of Royal Dutch Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Royal Dutch Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as ''anticipate'', ''believe'', ''could'', ''estimate'', ''expect'', ''goals'', ''intend'', ''may'', ''objectives'', ''outlook'', ''plan'', ''probably'', ''project'', ''risks'', "schedule", ''seek'', ''should'', ''target'', ''will'' and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this release, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; and (m) changes in trading conditions. There can be no assurance that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this release are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Royal Dutch Shell's 20-F for the year ended December 31, 2015 (available at www.shell.com/investor and www.sec.gov). These risk factors also expressly qualify all forward looking statements contained in this release and should be considered by the reader. Each forward-looking statement speaks only as of the date of this release, 19 June 2016. Neither Royal Dutch Shell plc nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this release.

With respect to operating costs synergies indicated, such savings and efficiencies in procurement spend include economies of scale, specification standardisation and operating efficiencies across operating, capital and raw material cost areas.

We may have used certain terms, such as resources, in this release that United States Securities and Exchange Commission (SEC) strictly prohibits us from including in our filings with the SEC. U.S. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website www.sec.gov.

Shell Australia Team

Jose Torres, Senior Sequence Stratigrapher, Sedimentologist

Now in Shell UK, formerly of Shell Australia and Shell Brunei, PBE and Regional Teams.
Regional interpretation and depositional model

Rosie Johnstone, Senior Exploration Geologist

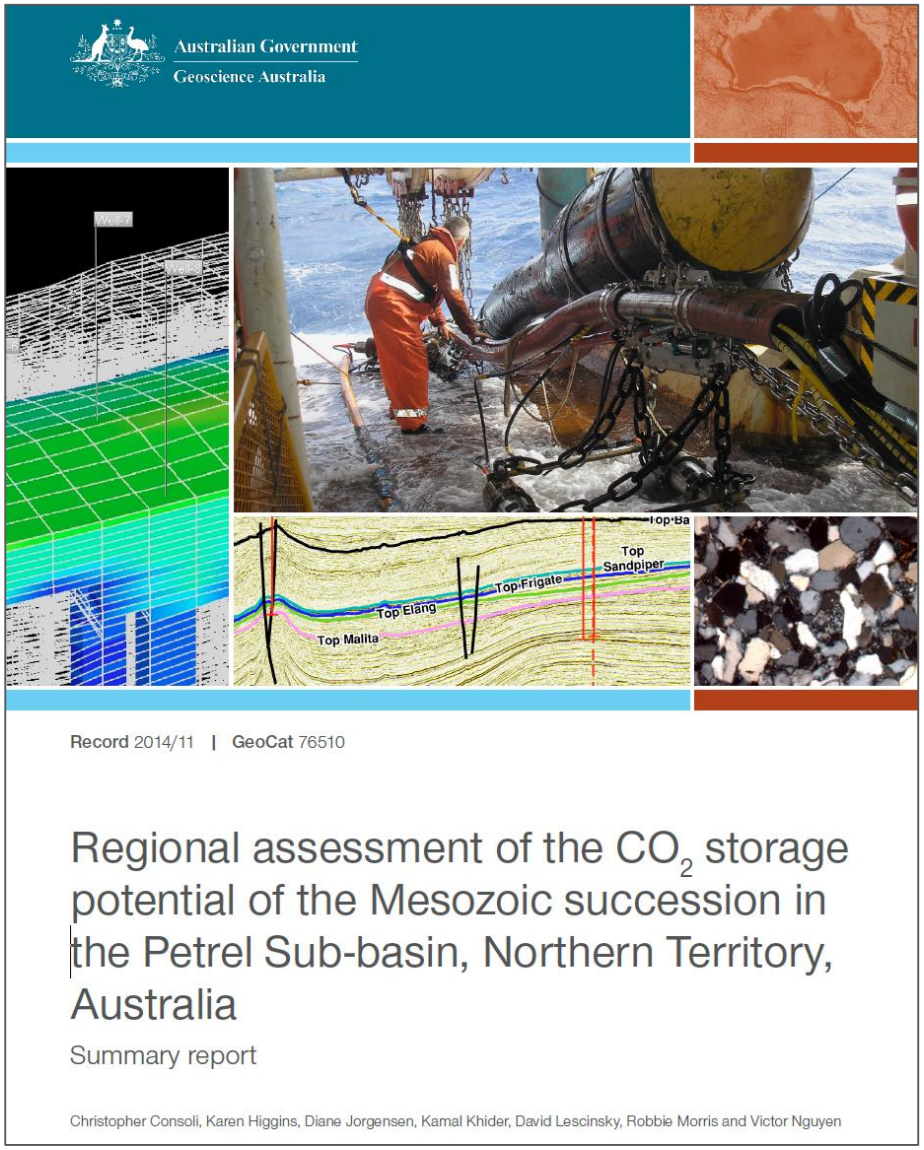
Shell Australia Asset Team, Chevron Operated Acreage (Greater Gorgon)
Seismic Interpretation and ongoing focal point

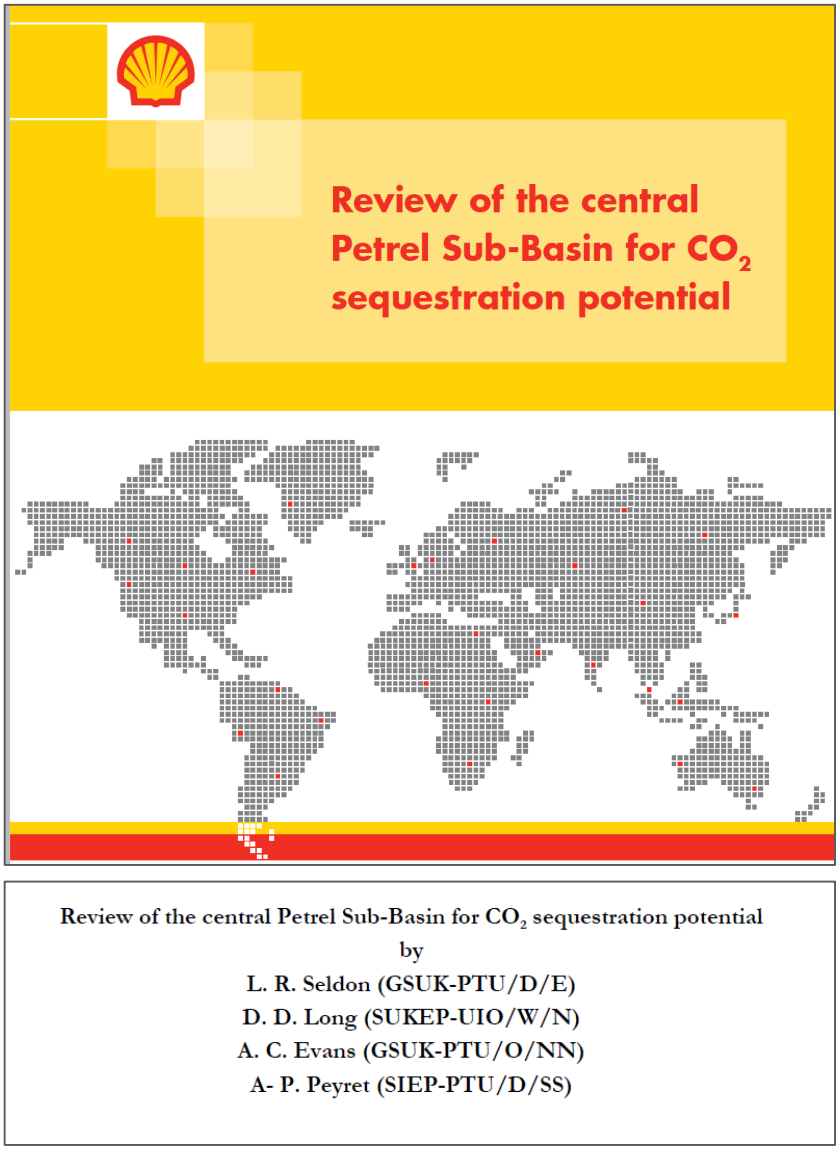
Paul Martin, Discipline Lead Petrophysics
Development IG Australia

Project Lead

AUSTRALIA AND THE PETREL SUB BASIN

Aim to continue to build on previous work …





How has Shell progressed the assessment of the Petrel SB?

PLAY BASED EXPLORATION EQUIVALENT

PLAY

Work done by Geoscience Australia (Consoli et al, 2013) focused on the eastern half of the Petrel Sub-Basin.

Further work carried out by Shell (Seldon et al, 2015) loosely defined two small areas within the eastern part of the basin as potential sites for CO_2 disposal. Recommendations from this report included further detailed work focusing on the structural elements that could compromise the seal integrity, and a better understanding of the lateral extent of the target reservoirs and seals.

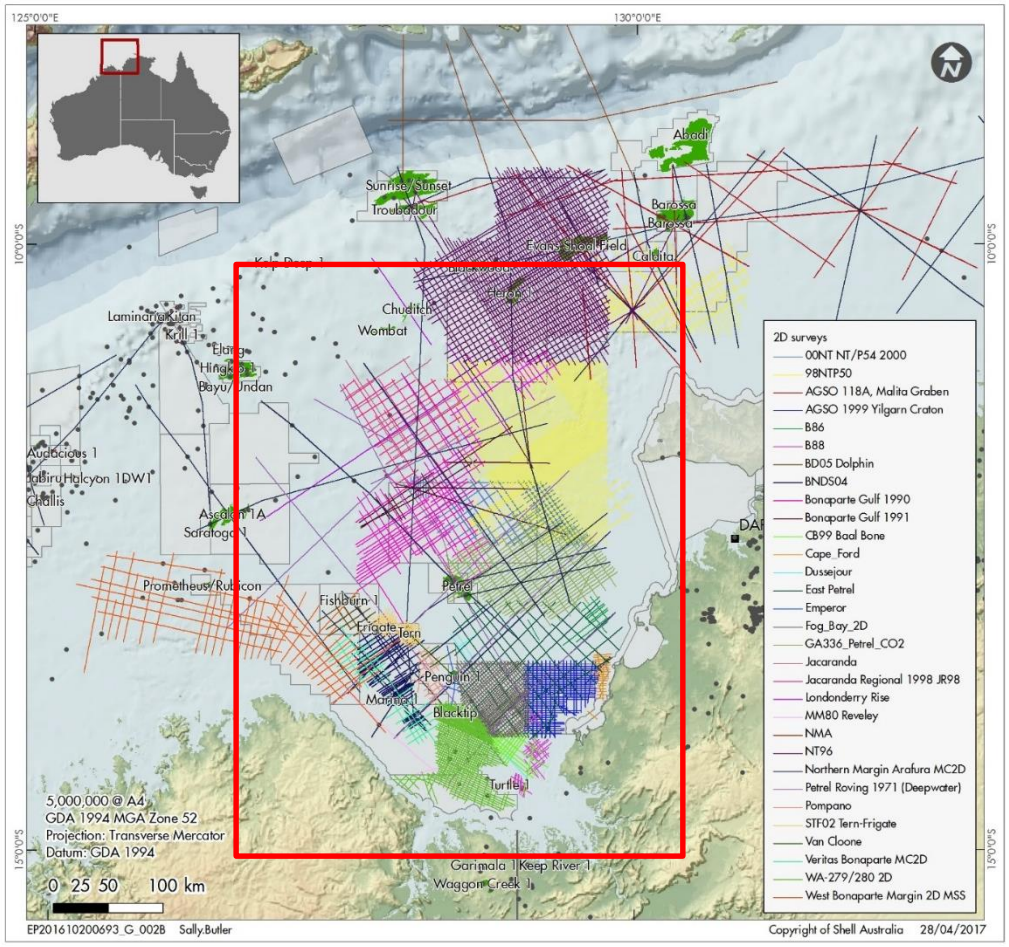
LEAD

Shell's 2016 geological assessment has concentrated on

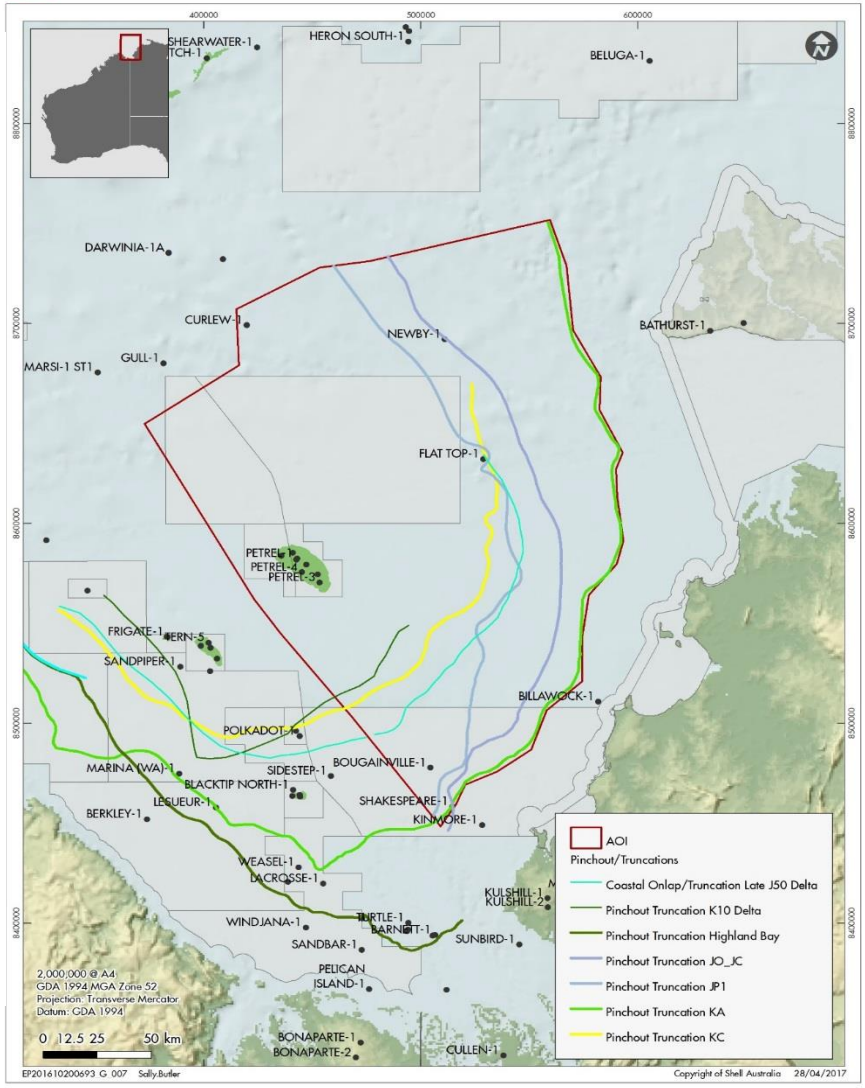
PROSPECT

1. Use all available data to re-interpret well tops
2. Updated depositional understanding in Jurassic and Cretaceous sediments using regional stratigraphic framework, based on proprietary 2D seismic
3. Updated depth and thickness maps, using regional velocity models
4. Mapping of major faults, polygonal fault density in Wangarlu, pockmarks
5. Provision of updated surfaces to CSIRO for next stage of project

Starting Area Of Interest – Constrained by seismic, pinchouts and WA/NT boundaries?



Pinchout/Truncations



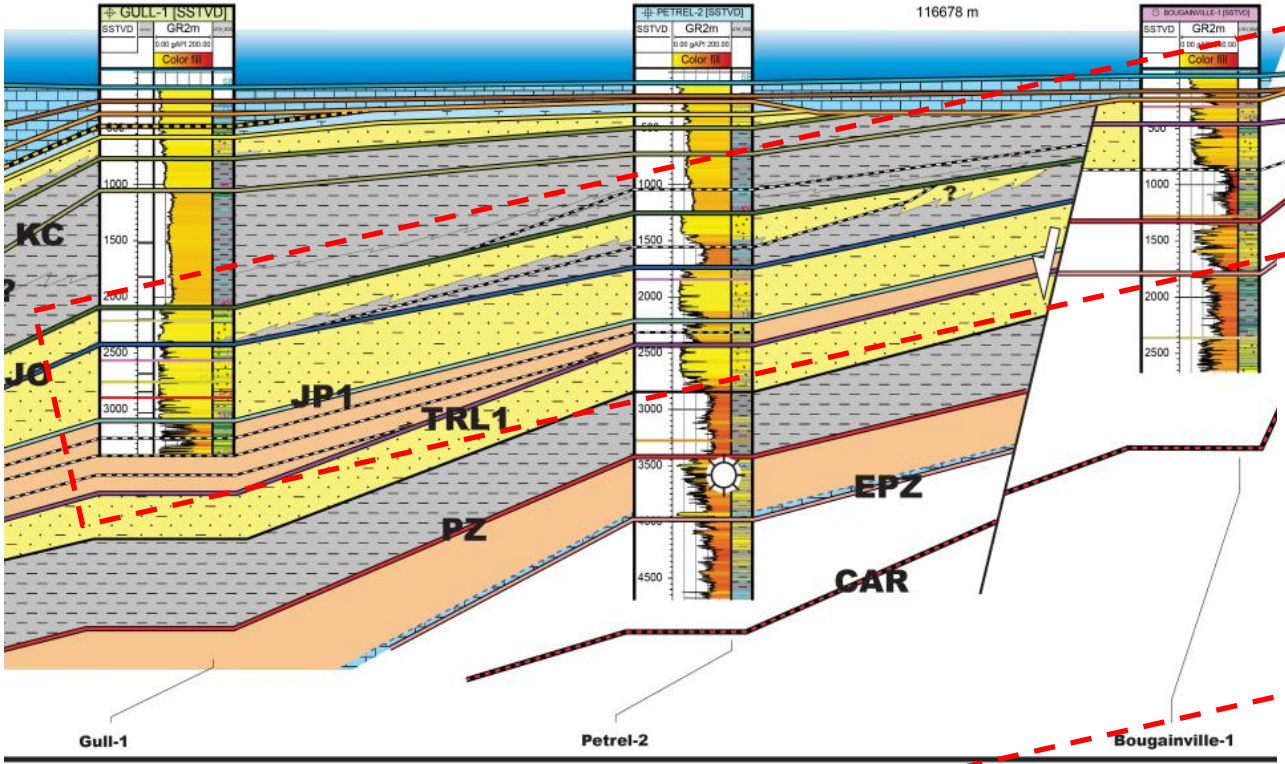
1

Reinterpret correlations using chronostratigraphic approach, biostratigraphy, and new seismic

NWS Regional Framework: Petrel Sub Basin – what is connected?

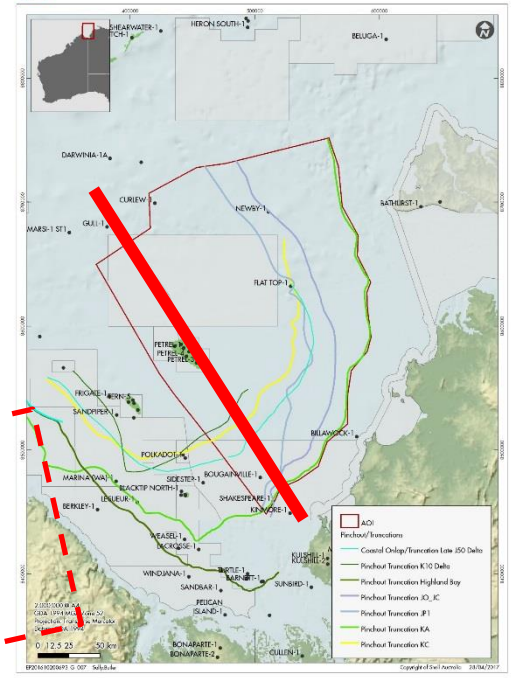
NW

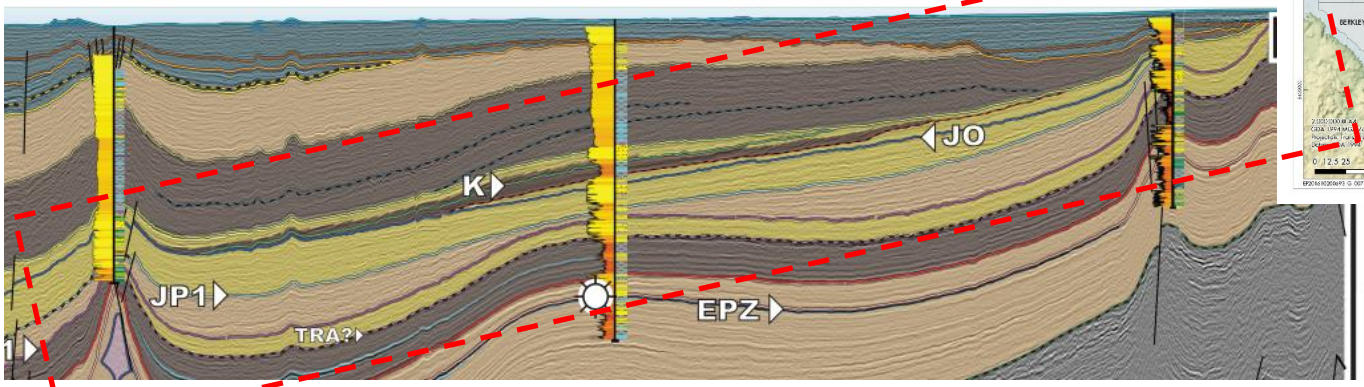
SE



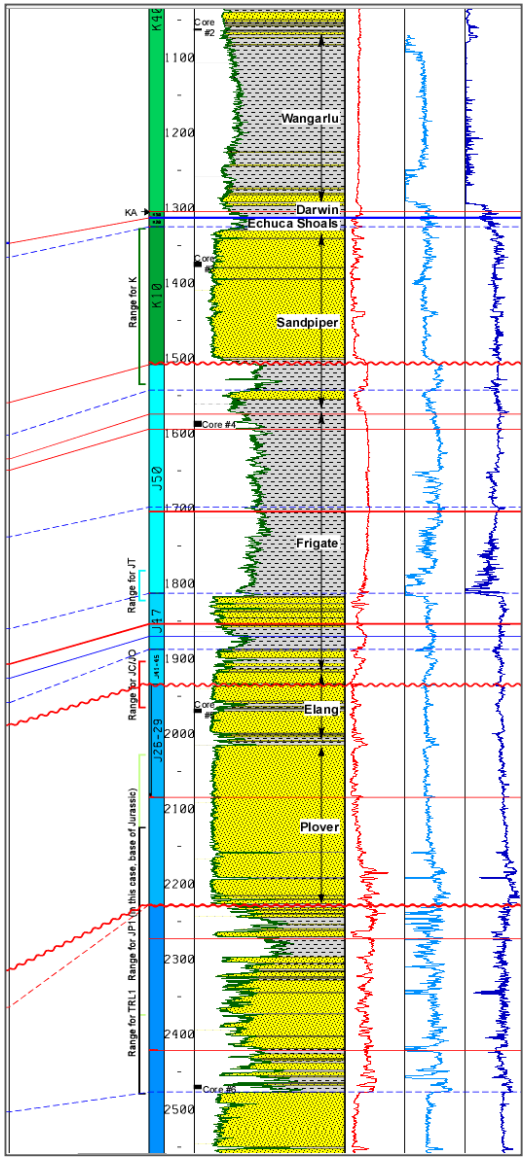
Sandpiper an Plover Formations - are they continuous?

Pinchout/Truncations





Biostrat: Petrel 1A – look at deposition time not rock type



Shell

K- somewhere between 1329 and 1536m. It could be as high as 1314m.

JT - somewhere between 1783 and 1823m. It could be as high as 1768m

JO/JC – somewhere between 1904 and 1965m

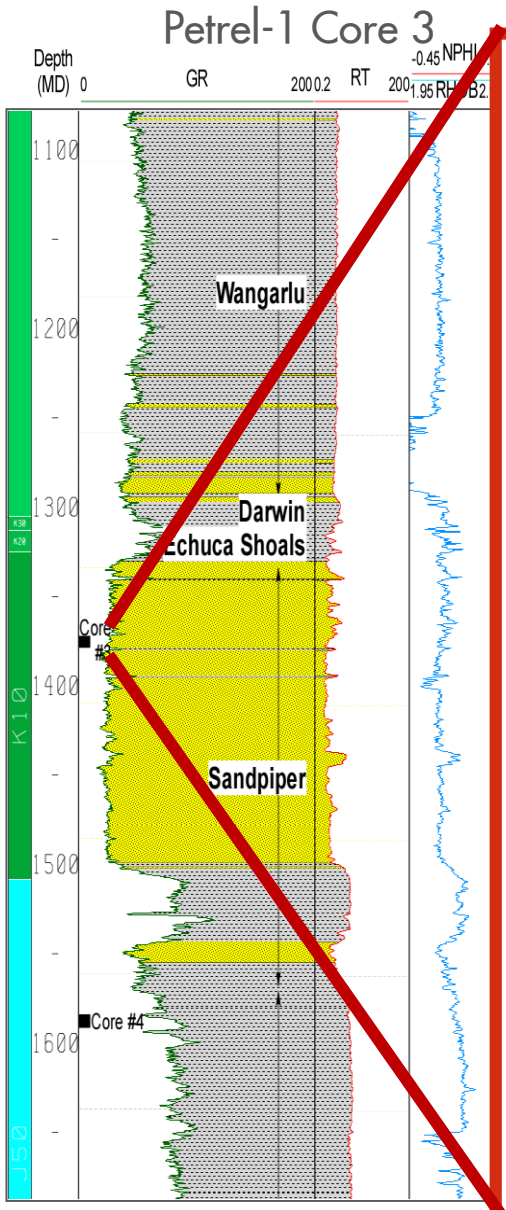
JP1 – somewhere between 2028 and 2374m (but more likely below 2125m)

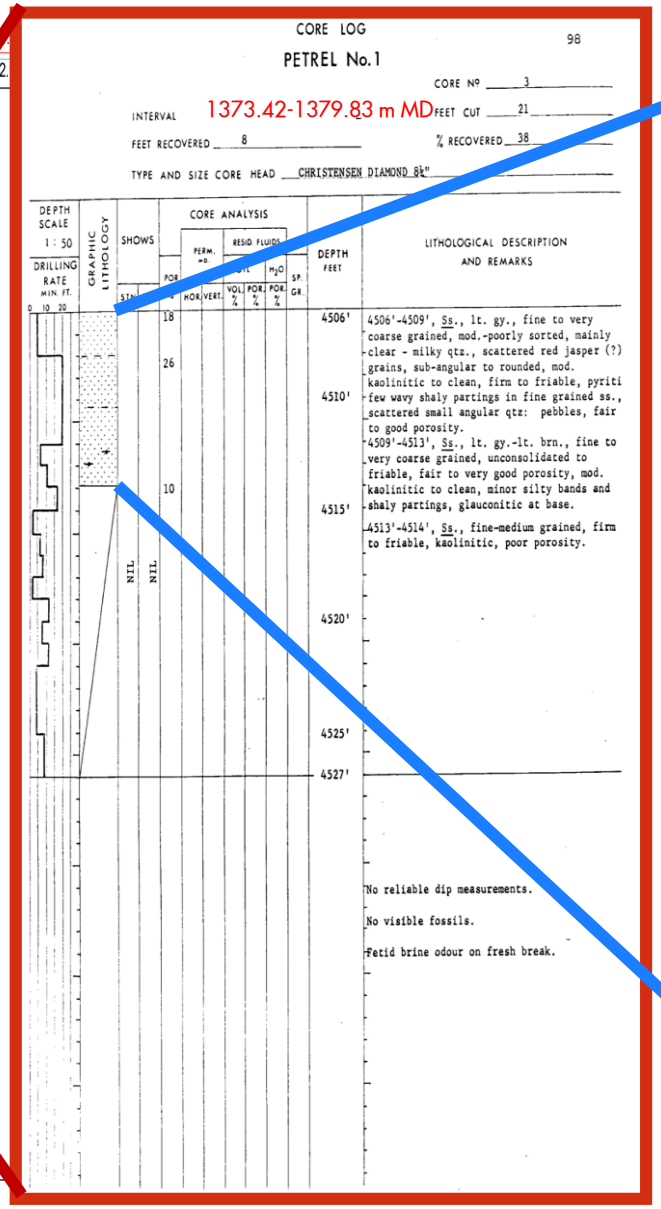
TRL1 – somewhere between 2125 and 2478m

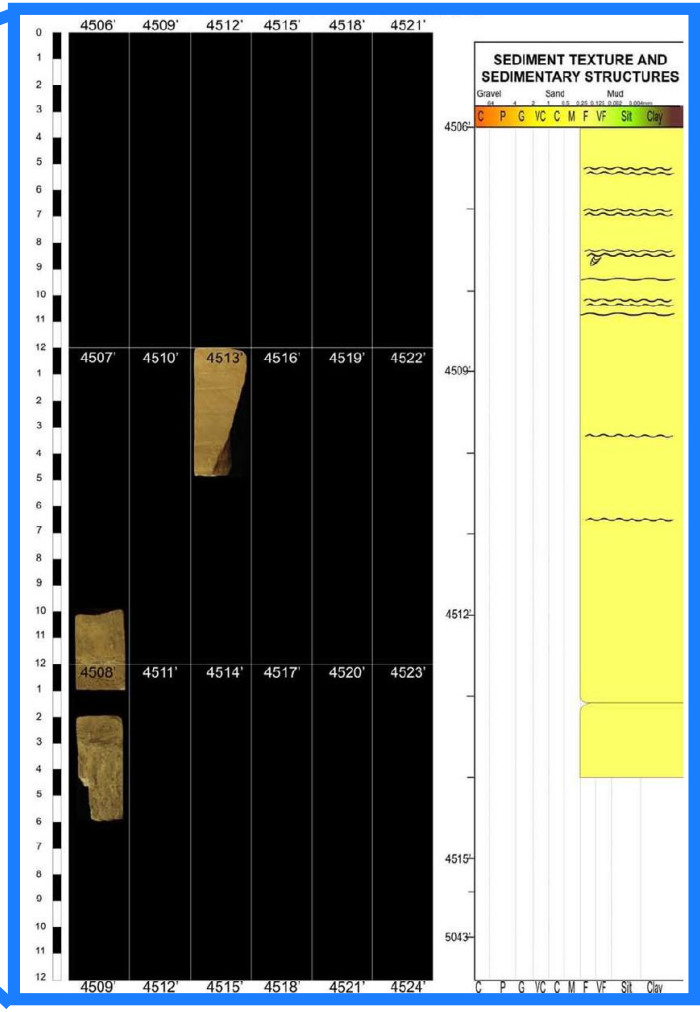
So JP1 and TRL1 could possibly be at the same place… As the S.speciosus sample could be S.quadrifidus

Horizon picked at base	Simplified Regional Play Level	Approximate Unit Name in Petrel Sub-Basin (as used in this study)
TO	T30-T40	Oligocene to Present
KC	K50-T20	Upper Bathurst Island Formation
KA	K40	Lower Bathhurst Island Fm / Wangarlu / Jamieson Fm
JT	J50-K30	Frigate/Sandpiper Formation
JO	J40	Elang Formation /
JP1	J10-J30	Plover Formation
TRL1	TR20-TR30	Malita Red Beds
PZ	TR10	Goodwyn Formation / Cape Londonderry Formation
	P20	Hyland Bay Carbonates (Top Permian)

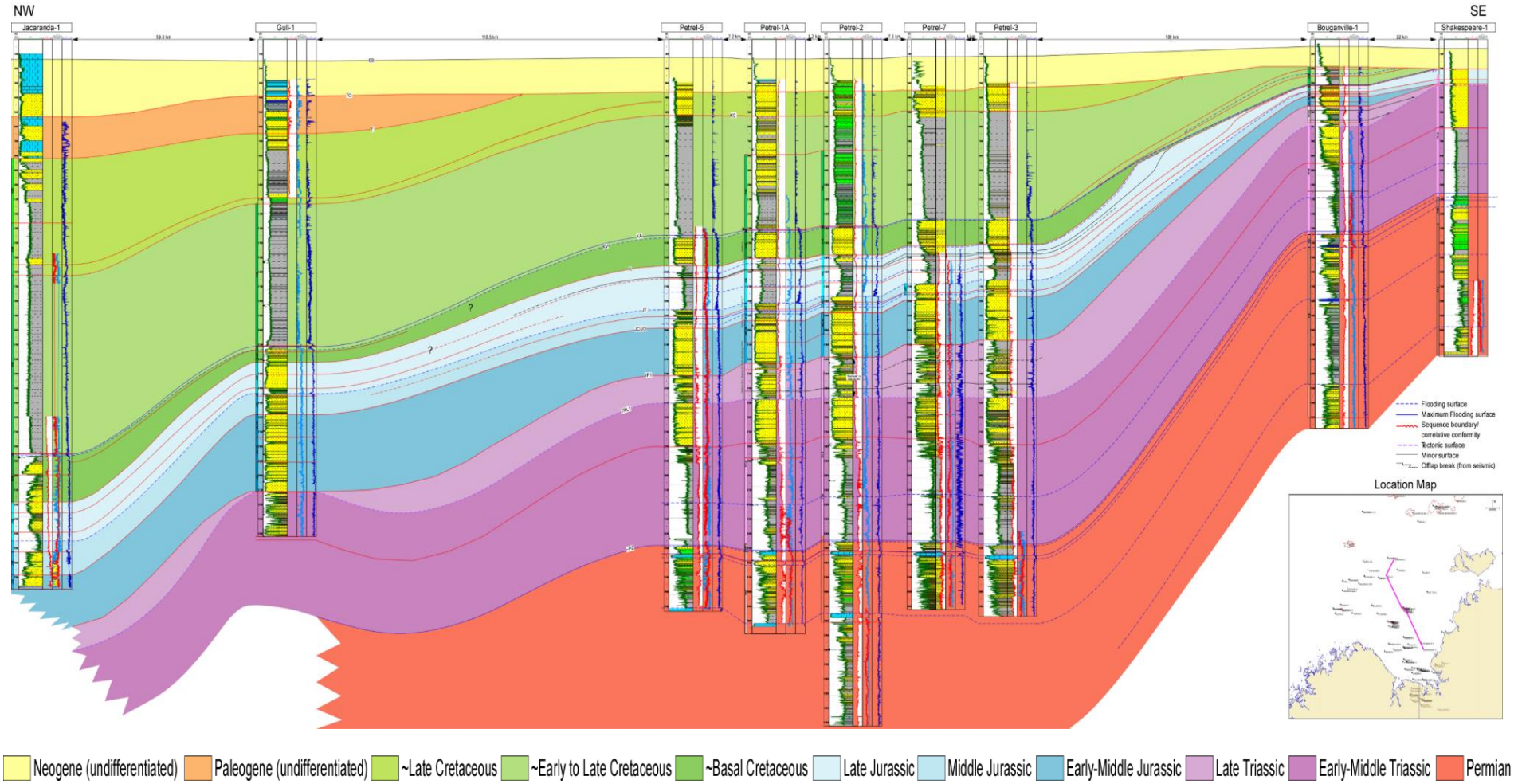
Could not use core – lots was cored but with us no longer



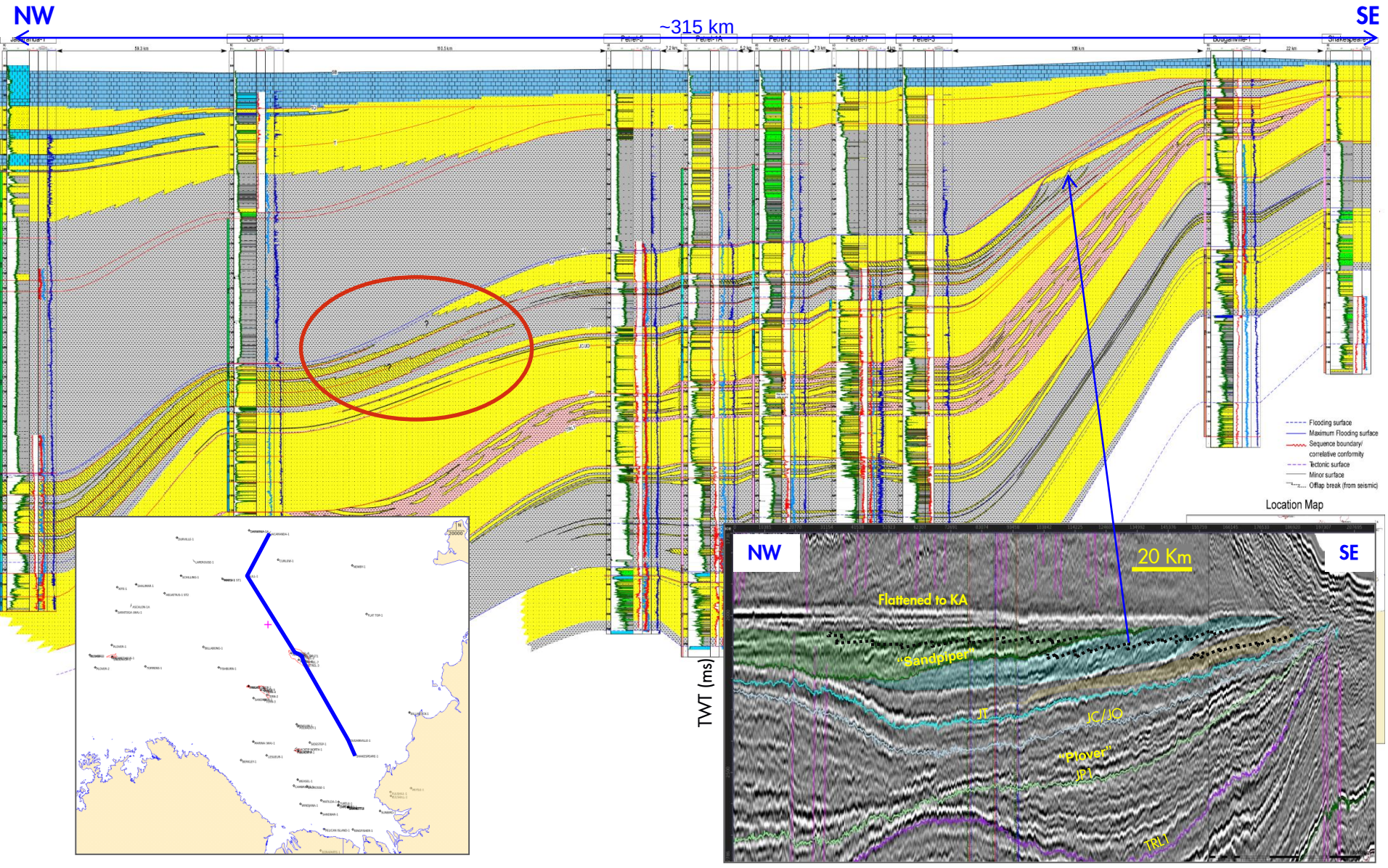




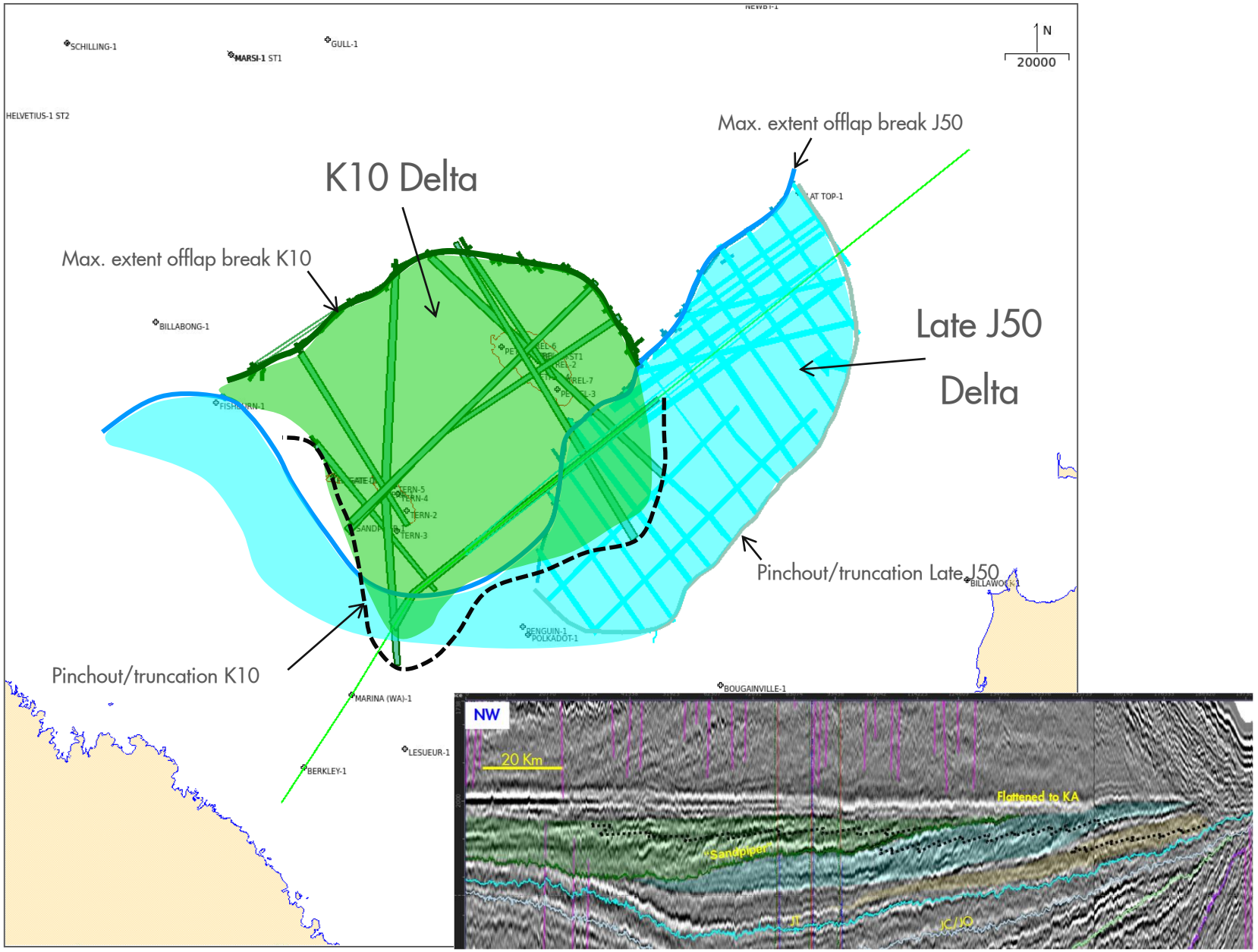
DIP LINE CORRELATION WITH CHRONOSTRAT



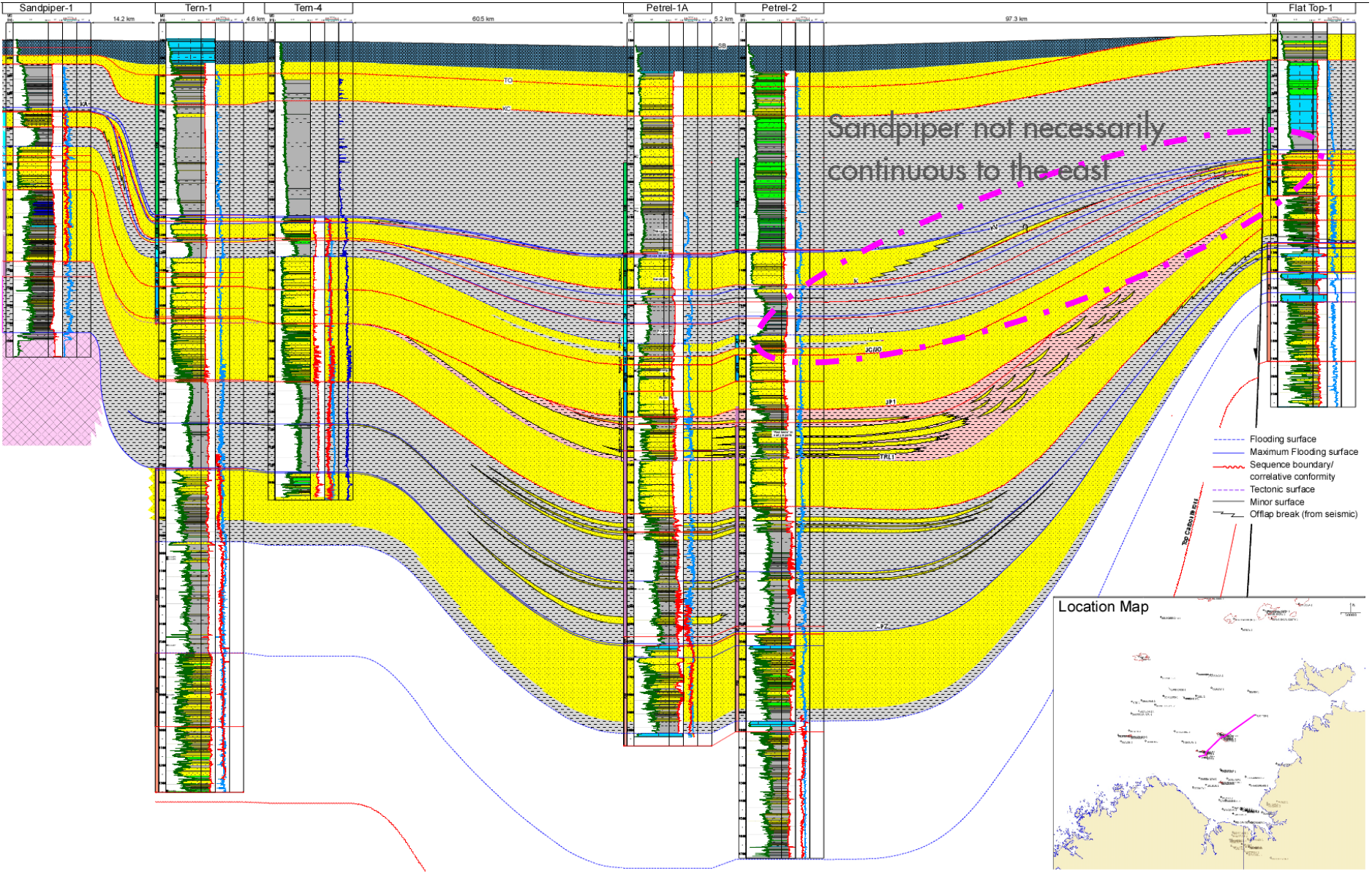
Combined latest seismic, and chronostrat



Two delta systems separated in time



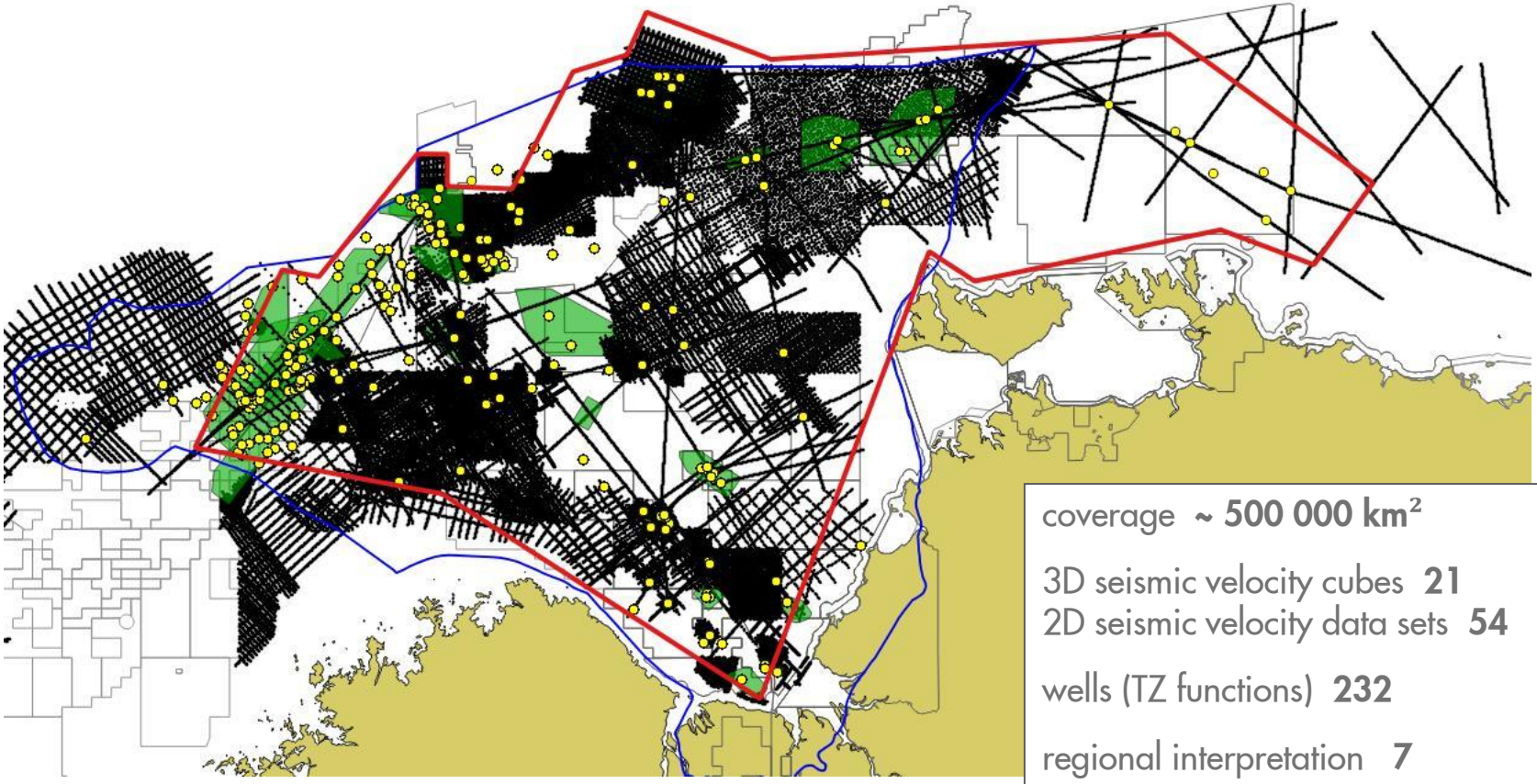
STRIKE DIRECTION WELL CORRELATION



2

Updated depth and thickness maps, using Estimages velocity models

Data



Data Base Map and Polygon

coverage ~ **500 000 km²**

3D seismic velocity cubes **21**
2D seismic velocity data sets **54**

wells (TZ functions) **232**

regional interpretation **7**

source **open + Shell**

GRIDDED DEPTH MAPS – E.G. BASE SEAL (KA)

Horizon picked at base	Simplified Regional Play Level	Approximate Unit Name in Petrel Sub-Basin (as used in this study)
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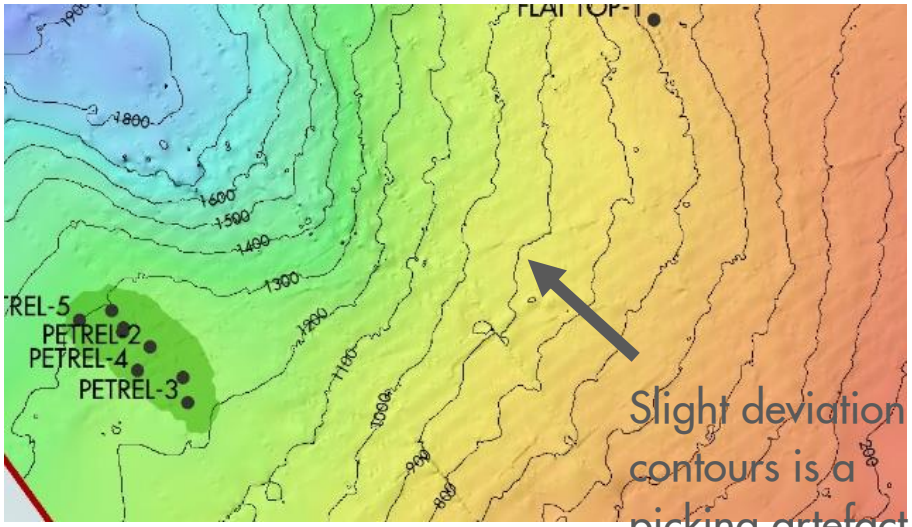
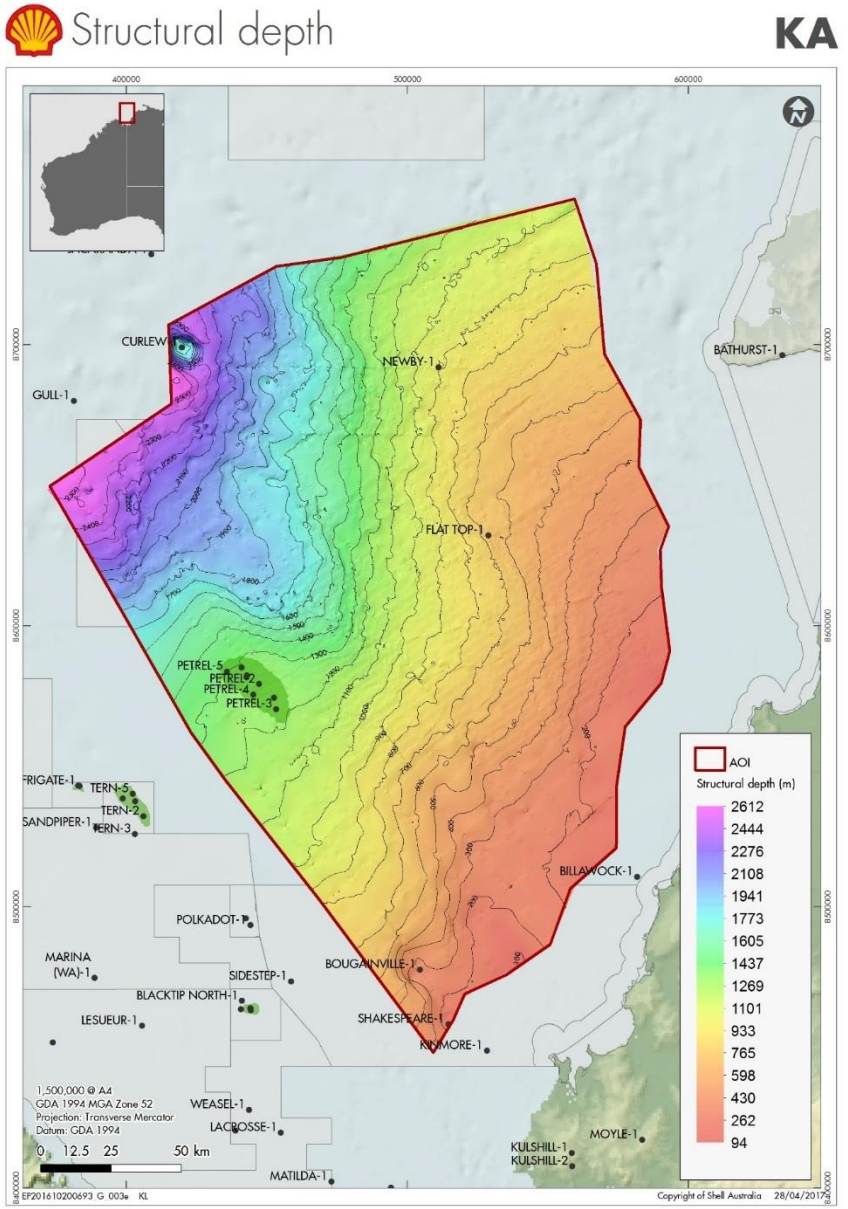


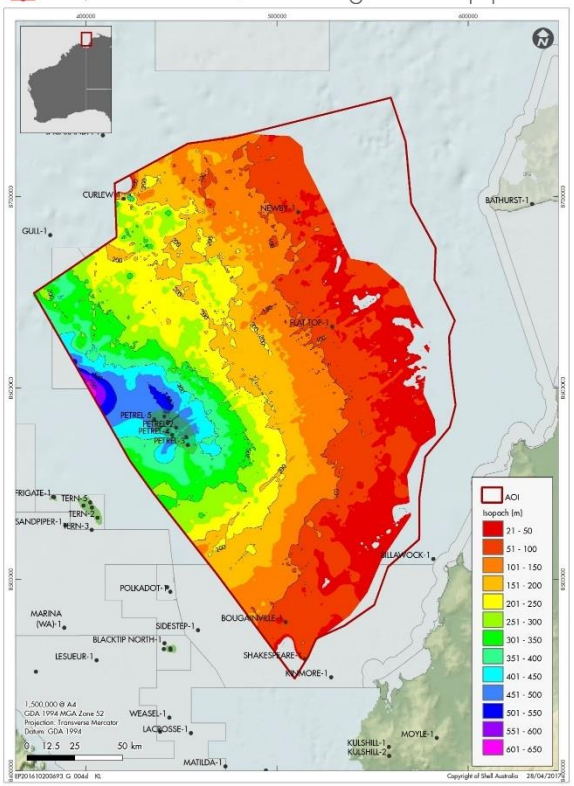
Slight deviation in contours is a picking artefact – not a real feature



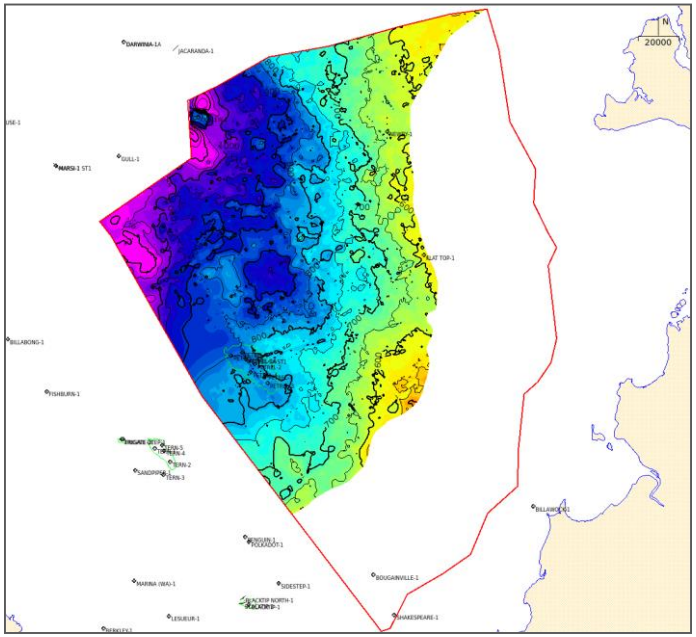
Shell

THICKNESS MAPS – SANDPIPER, WANGARLU

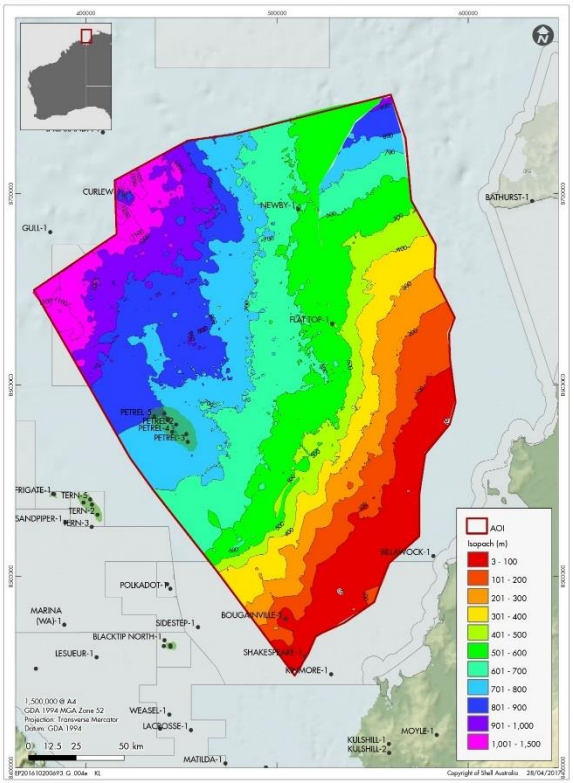
Isopach **JT-KA** Frigate-Sandpiper Fm



KA-KC (Jamieson/Bathurst Fm)



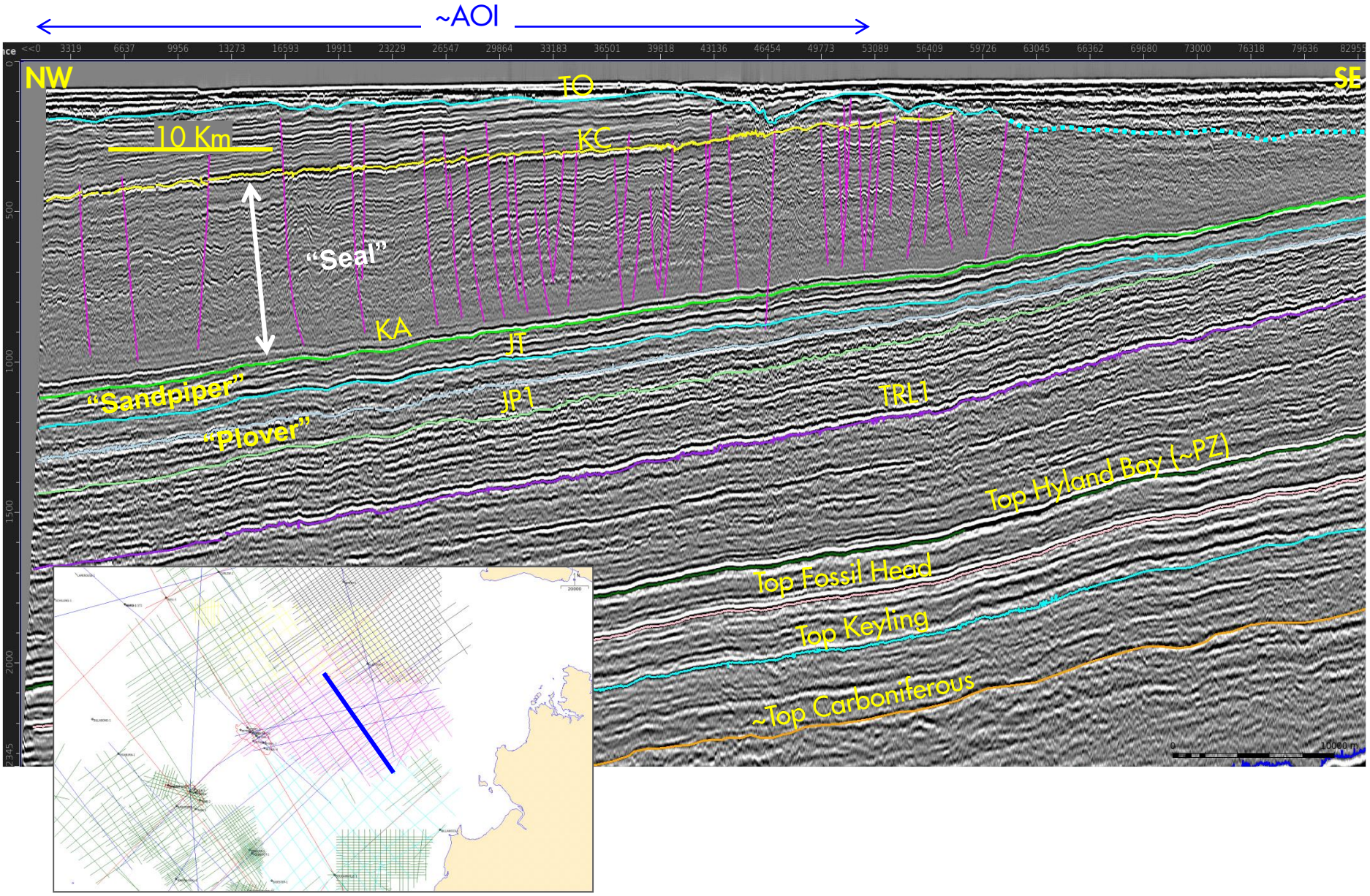
Isopach **KA-KC/TO** Jamieson/Bathurst Fm



3

Mapping of major faults, polygonal fault density in Wangarlu Fm, pockmarks

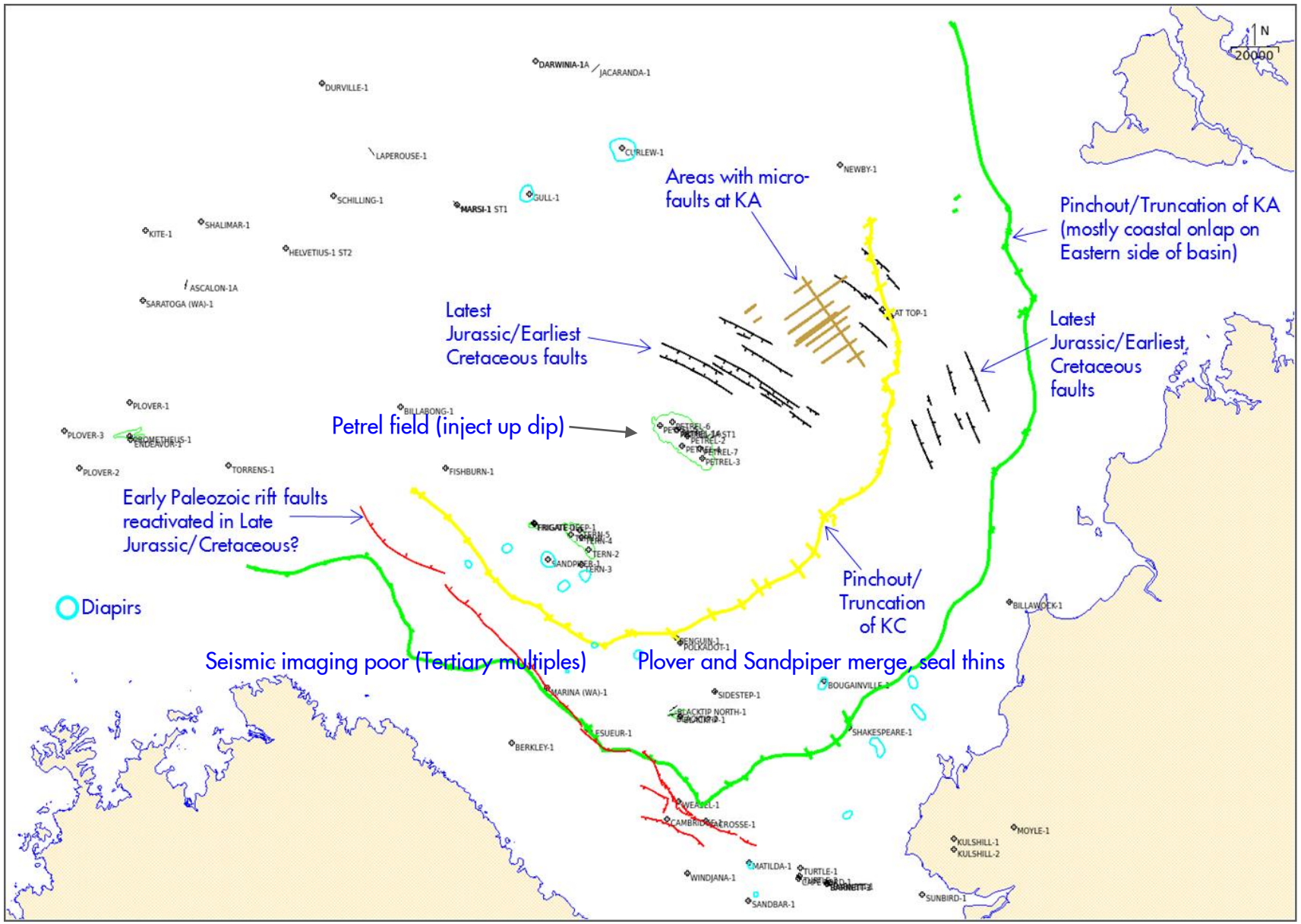
Seismic 2D Line 336-207: Polygonal faulting



4

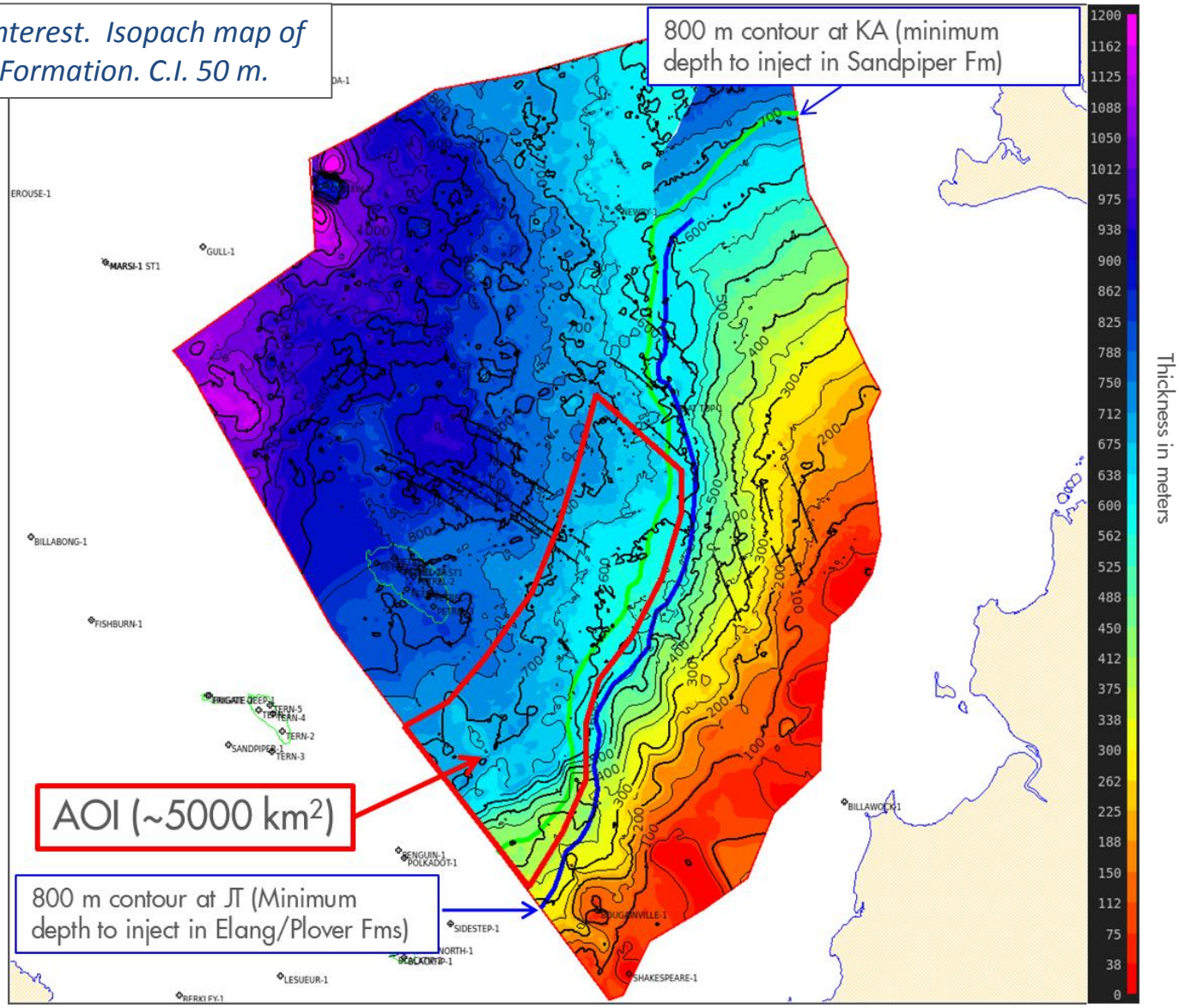
Recommended AOI for further study

CONSTRAINING ELEMENTS IN THE FINAL AOI



FINAL AOI

Final Area of Interest. Isopach map of the Wangarlu Formation. C.I. 50 m.



SUMMARY

- All existing open file data (seismic 2D and 3D, well data and interpretation legacy data) have been integrated into a regional interpretation project and used in this study
- Fit for purpose seismic interpretation of main horizons and identified faults. Created Grids (time and depth) for all key markers and isopach maps
- Re-evaluated existing well data and proposed a new stratigraphic framework with distribution of main reservoirs and seals
- Identified a potential AOI that fulfills the main requirements:
  - Minimum depth of 800 m at top of reservoir
  - No obvious faults that could leak up to the surface
  - Within area of preserved thickness of main regional seal (Bathurst Gp)
- Recommendation: Assess the storage volume of this AOI and mechanical properties of seal rock, use CRS (Common Risk Segment) maps to further delineate the AOI.

Q & A

Next steps?

- Confirming a robust seismic signal against noise (required to support use of 4D monitoring for plume monitoring) is recommended for the next phase.
- Sand Continuity: The key well log data suggests very high net-to-gross Jurassic sand formations which are unlikely to be internally compartmentalised. Cretaceous Sandpiper Fm now observed as a series of prograding delta facies that are less likely to connect to their deeper water equivalent in Gull. 3D data and more core information would progress this (seismic over data gap).
- Seismic indicators of facies variation were observed in the seal formations, suggesting more variation than wells suggest. 3D data and more core information would progress this.
- Malita Sandstone – assess in more detail as an alternative (deeper) for containment.
- Shell undertaking a well engineering review of well abandonment around selected appraisal area recommended prior to appraisal drilling. Dynamic modelling will be addressed in the later phase of the project.

Next steps?

- Following this latest phase of geological assessment of the Eastern Petrel Sub-Basin, the Mesozoic sediments continue to show great potential for CO2 storage with a suggested AOI for selecting an injection site – however more work will be required to close uncertainties including future appraisal activities.

- CSIRO will continue next phase with reservoir modelling and rock mechanics