



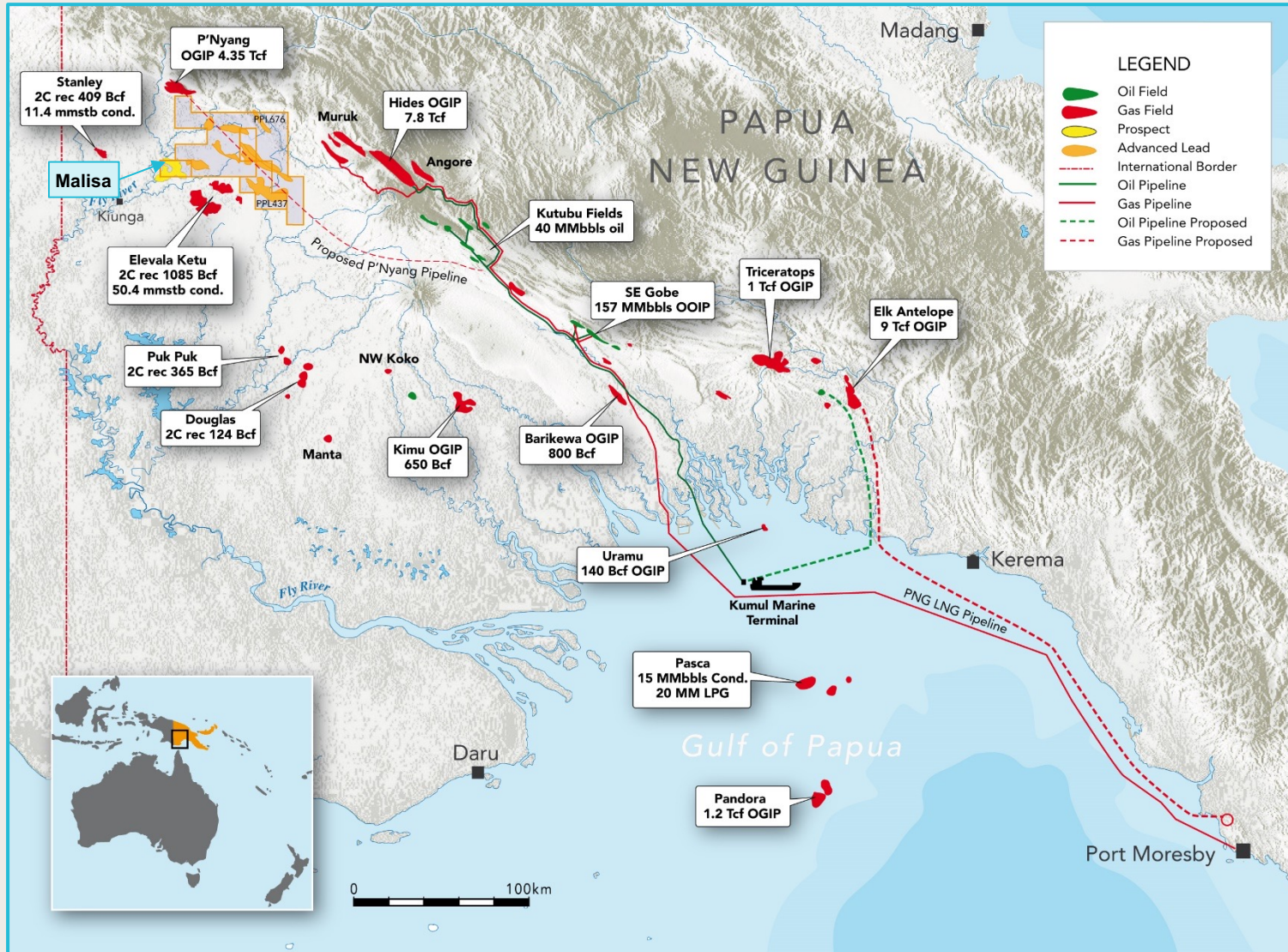
# PPL437 & PPL676 Exploration Update

PNG Investment Conference, December 2024

Richard Schroder

11<sup>th</sup> December 2024

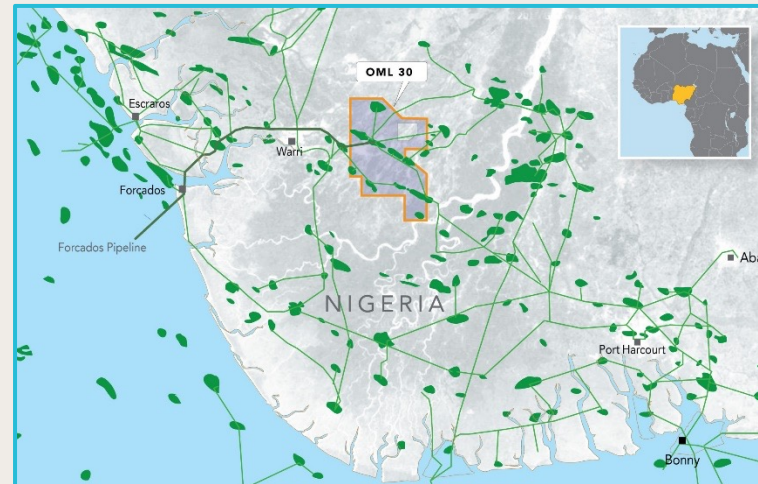
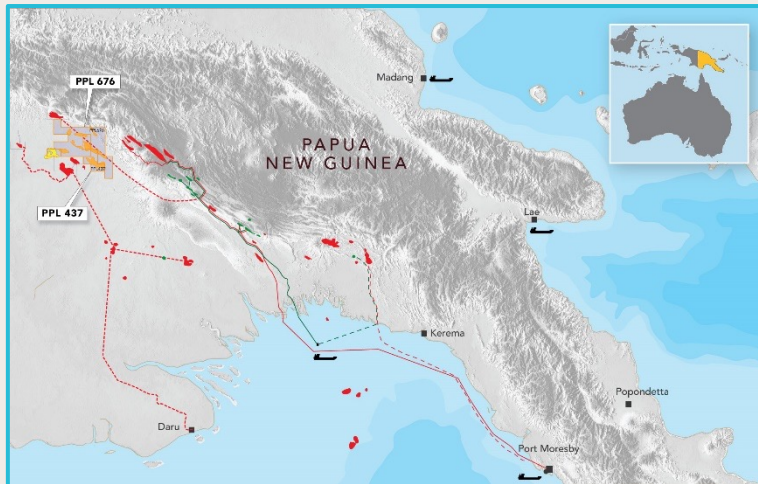
# PPL437 & 676 – proximal to existing and proposed infrastructure



- PPL437 & 676 are highly prospective licences within the Western Papuan Basin, extending from the Papuan fold belt into the structured foreland
- The licences are surrounded by large discoveries with the P'Nyang, Stanley and Eleva fields at the heart of a potential future aggregation project
- Seven leads and one drill ready prospect - Malisa, have been identified
- Malisa is a future candidate for gas cycling creating early monetization potential via existing or upcoming infrastructure
- Approximately US\$15.5 million of sunk costs have been spent on exploration to date building a high quality 2D seismic data set
- Heritage is 100% interest holder and is seeking a JV Partner to join in the ongoing exploration program

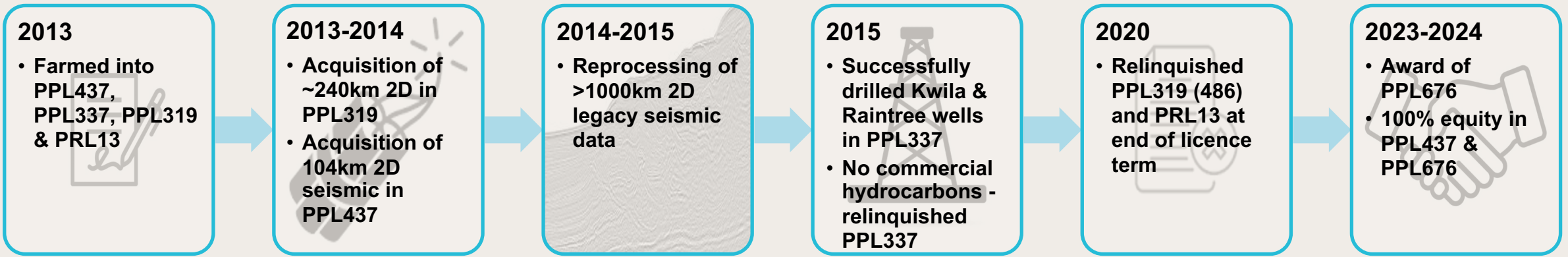
# Heritage Oil Overview: Nigeria, Ghana & PNG

- Heritage Oil Ltd is an independent oil and gas E&P company producing ~40,00 BOPD from OML30 in Nigeria and operating the asset since 2017 through its affiliate Heritage Energy Services Ltd
- Heritage was founded in 1992 and was subsequently acquired by Energy Investments Global Ltd in 2014
- Exploration highlights include:
  - Discovery of significant hydrocarbon volumes in Uganda, Kurdistan, Congo
  - Production from Angola, Russia & Nigeria
  - High returns on sale of exploration assets discovered
- Asset portfolio includes infrastructure-led exploration in **Ghana**; optimising development options on our world class production asset in **Nigeria** and continued frontier exploration in **PNG**



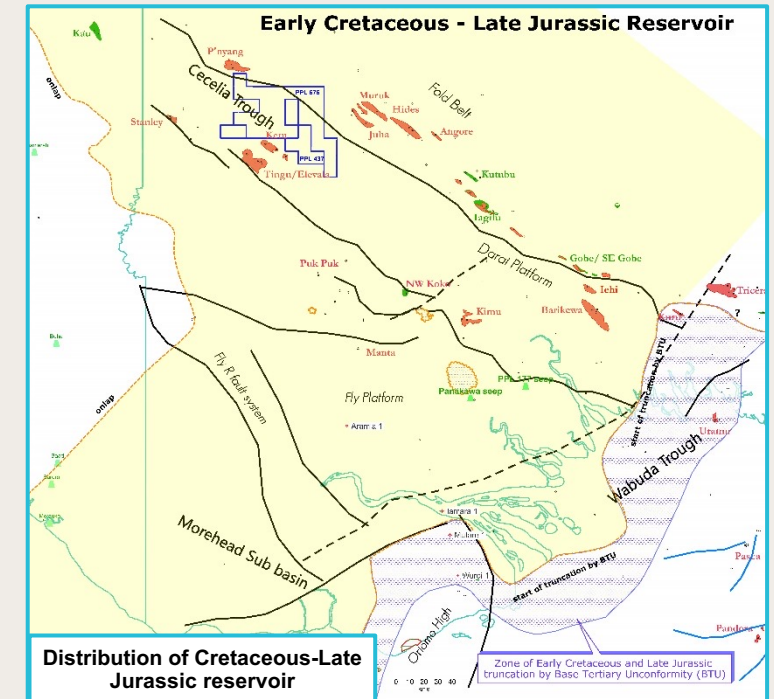
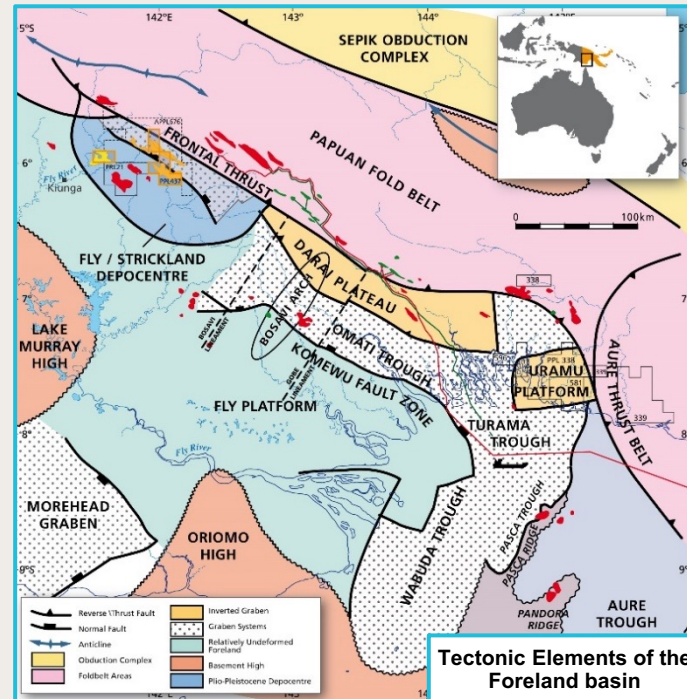
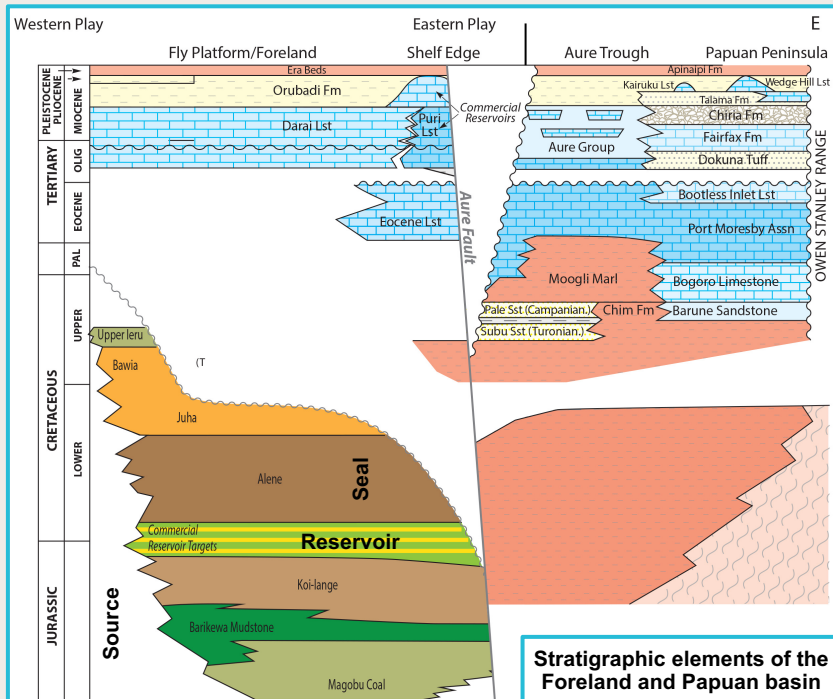
# Heritage in PNG

- Heritage entered PNG in 2013, initially holding equity in four licences; PPL337, PPL486/PRL13 and PPL437
- Post entry, Heritage shot ~350km 2D seismic, reprocessed >1000km 2D seismic and successfully drilled 2 wells within a 4 year period, spending ~\$100m
- Today Heritage owns 100% of PPL 676 and PPL437 in the Western Province and are pushing forward with an exploration program focussed on the existing wet gas play

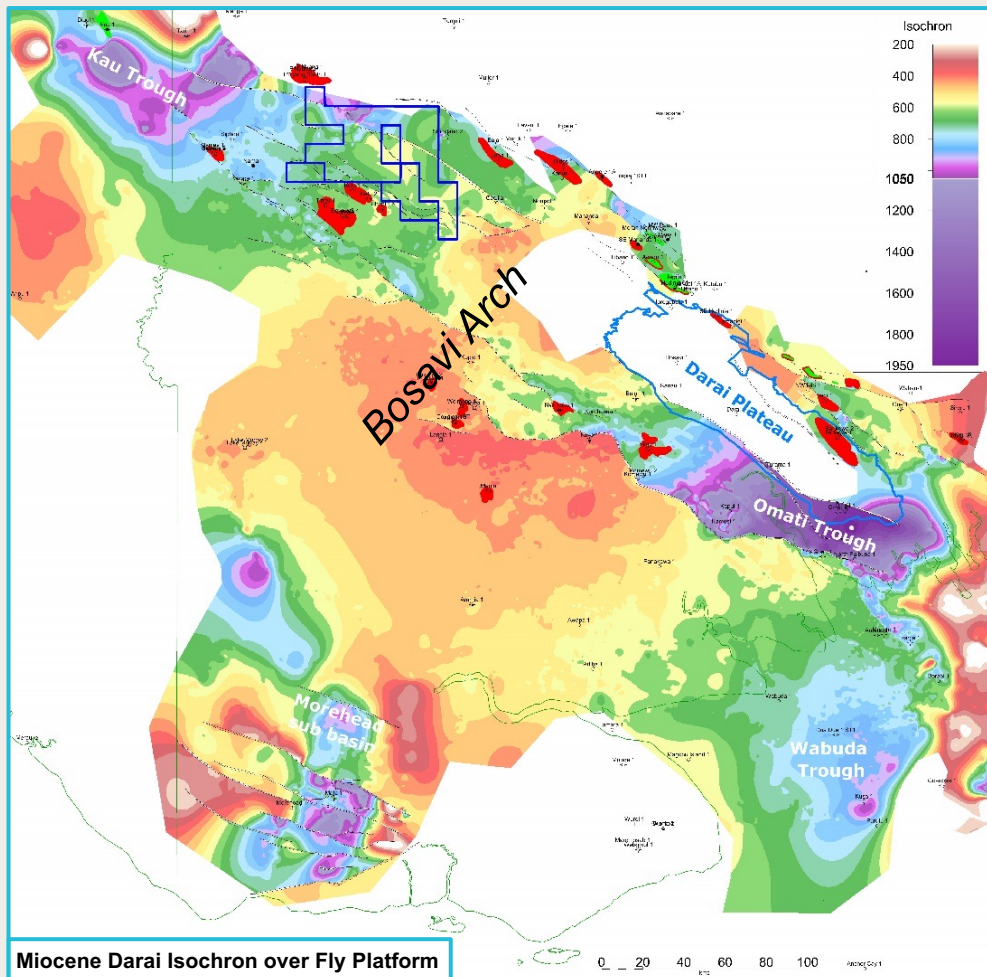


# PPL437 & PPL676 Reservoirs – the late Jurassic Clastic Play

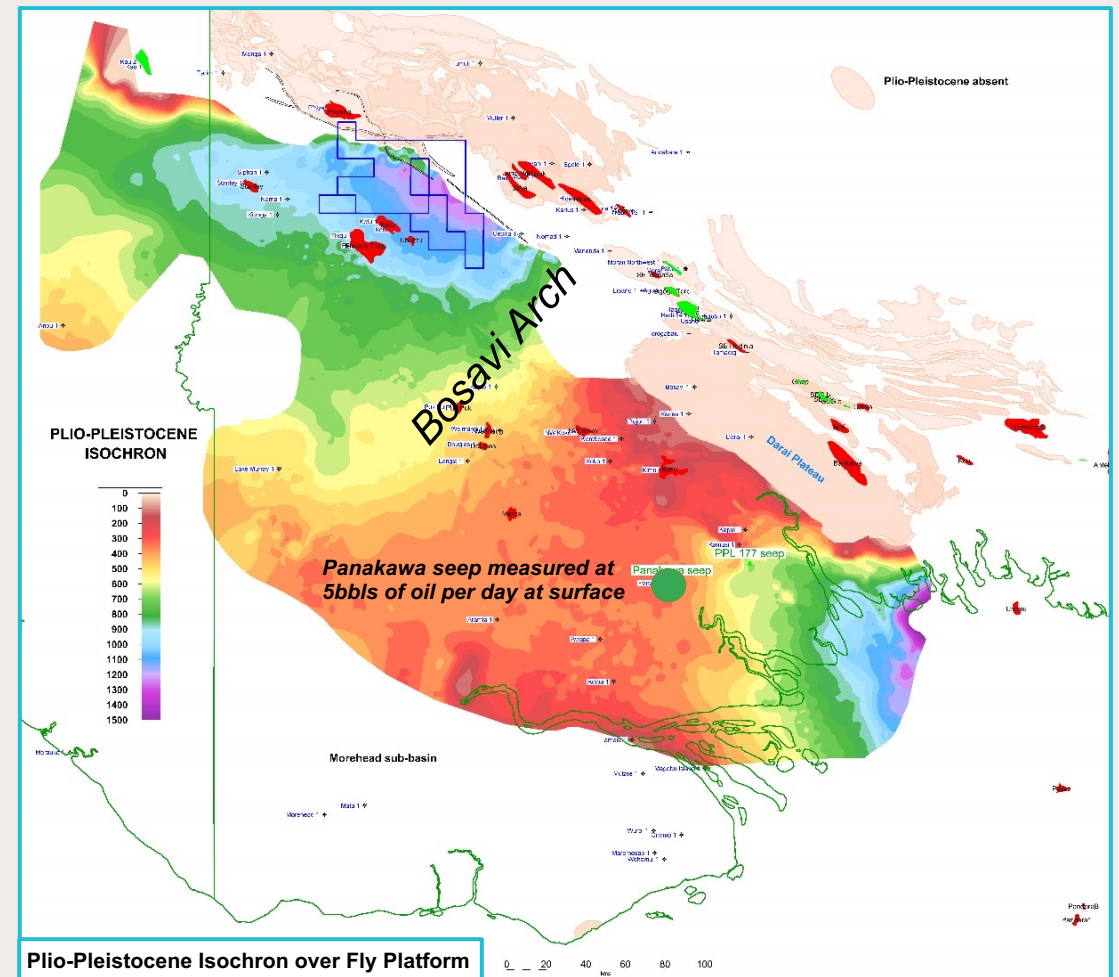
- The western clastic play comprises late Jurassic to early Cretaceous sandstone reservoirs (Toro, Elevela, Kimu) charged from deeper Jurassic source (Imburu and Magobu) and sealed by early - mid Cretaceous shales (Ieru)
- West of the Bosavi Arch numerous large wet gas discoveries (Stanley, Elevela, Tingu) confirm the presence of these play elements
- The Cecelia Trough (Fly Strickland Depocentre) west of the Bosavi Arch holds significant untested potential adjacent to existing discoveries where success rates exceed 1 in 3
- The imminent development of P'Nyang and Stanley fields heralds a new era of development in the West



# Source & Migration: Tertiary Loading of Foreland Troughs

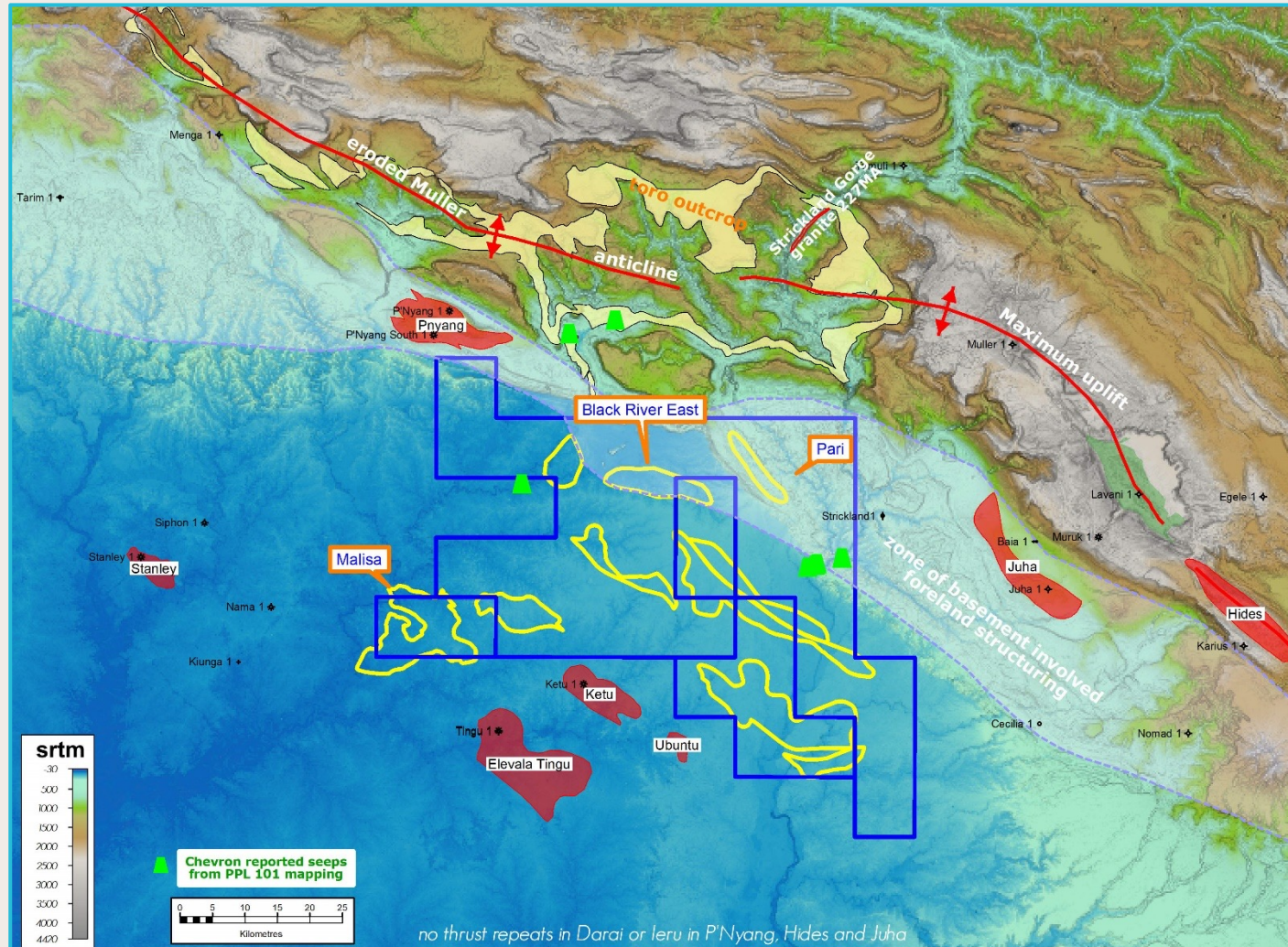


- Migration occurred onto highs from well-developed Omati, Kau and Wabuda Troughs and feasibly the Morehead sub basin
- Bosavi Arch compartmentalises kitchens throughout the Tertiary

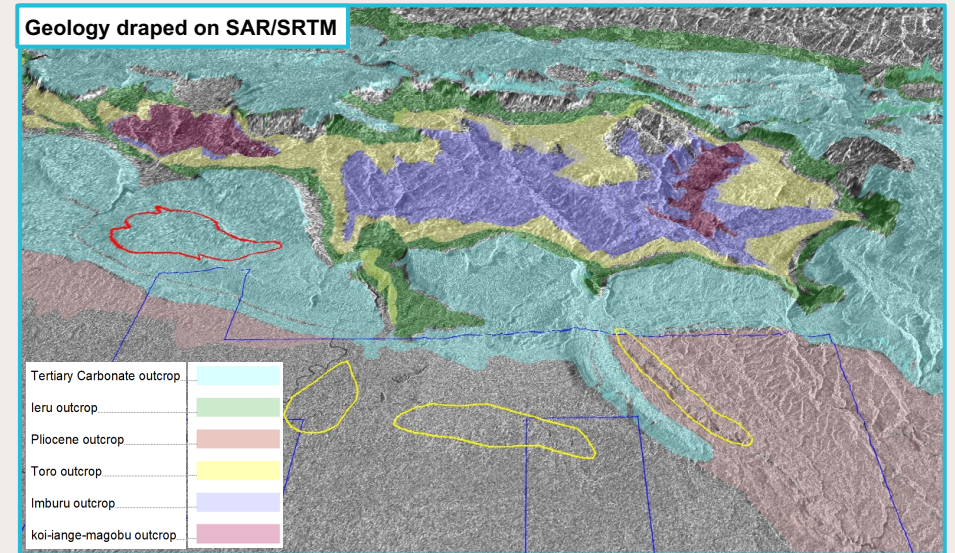


- Late Miocene to Plio-Pleistocene foreland basin development with very late stage collapse of the Gulf of Papua & Cecelia Trough
- Bosavi Arch continues to separate the 2 actively generating kitchens

# Regional Geology Controls on Structure and Trap Style

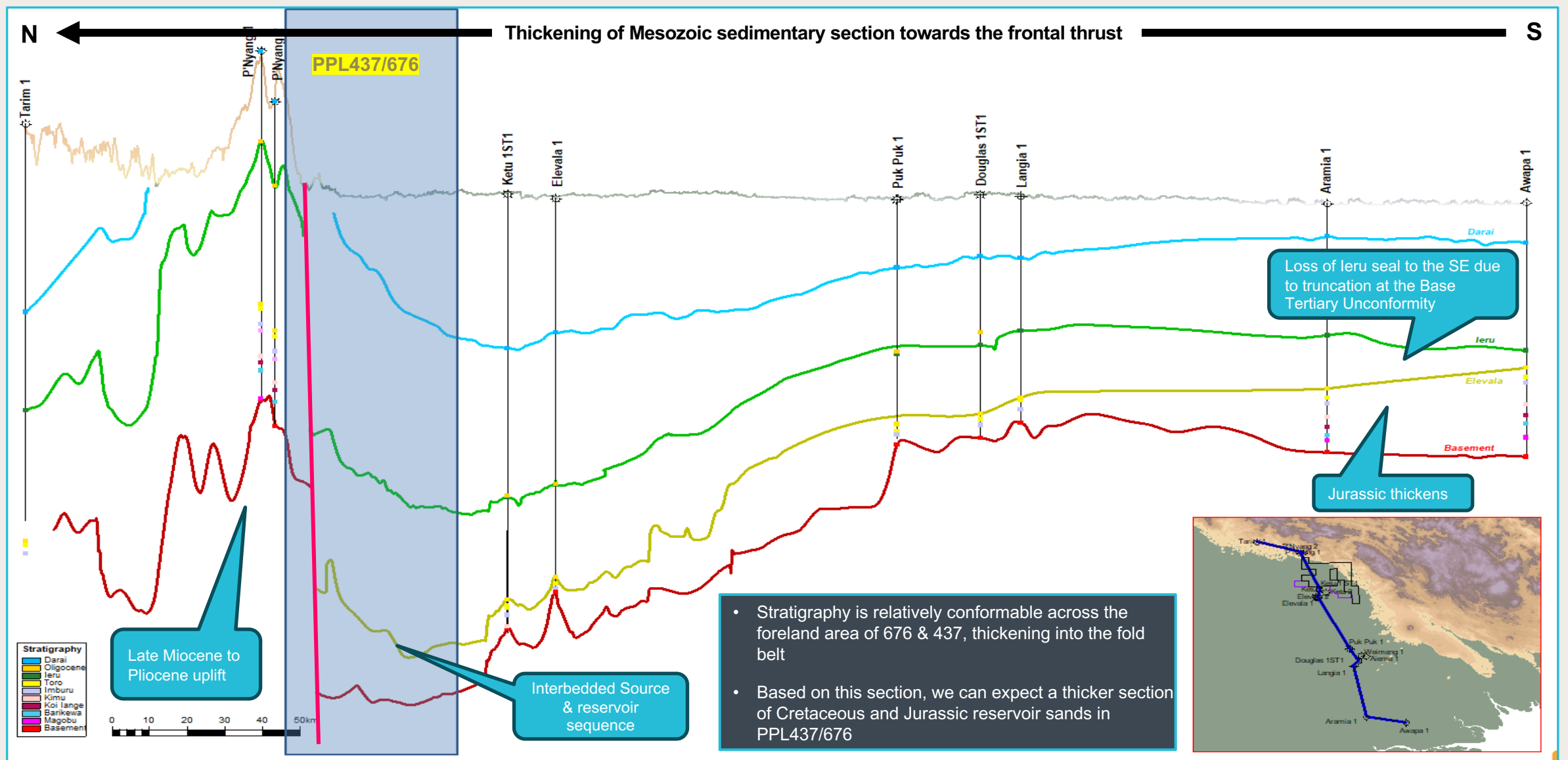


Geology draped on SAR/SRTM

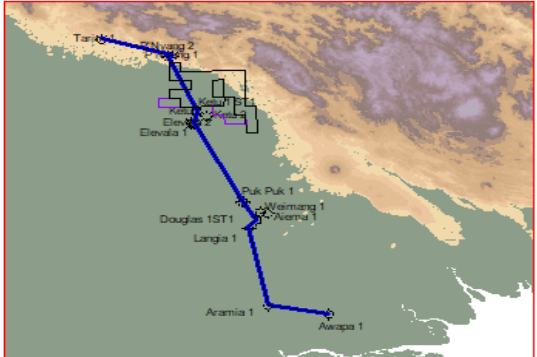


- Geology map shows large eroded anticline to the north with a granite core
- Pre-Jurassic basement fabric may be a control on compressional evolution in addition to Mesozoic architecture
- In the NW of PNG where base Jurassic sub crop is granitic, structures are basement involved. Further to the SE base Jurassic sub crop is Triassic metamorphics
- Northwest facing faults set up the traps, antithetic to major uplift

# Reservoir: Presence in PPLs 676 & 437

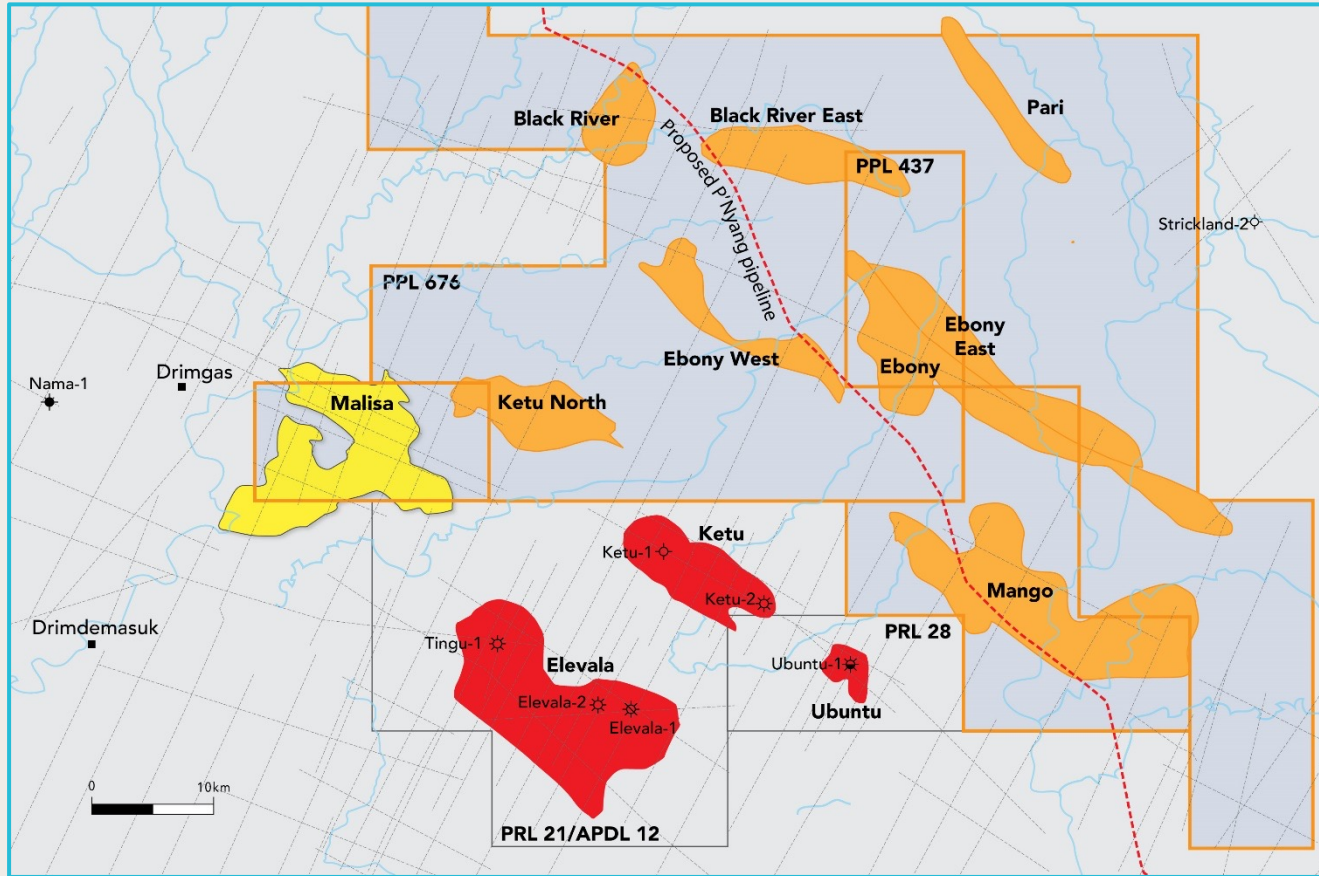


- Stratigraphy is relatively conformable across the foreland area of 676 & 437, thickening into the fold belt
- Based on this section, we can expect a thicker section of Cretaceous and Jurassic reservoir sands in PPL437/676



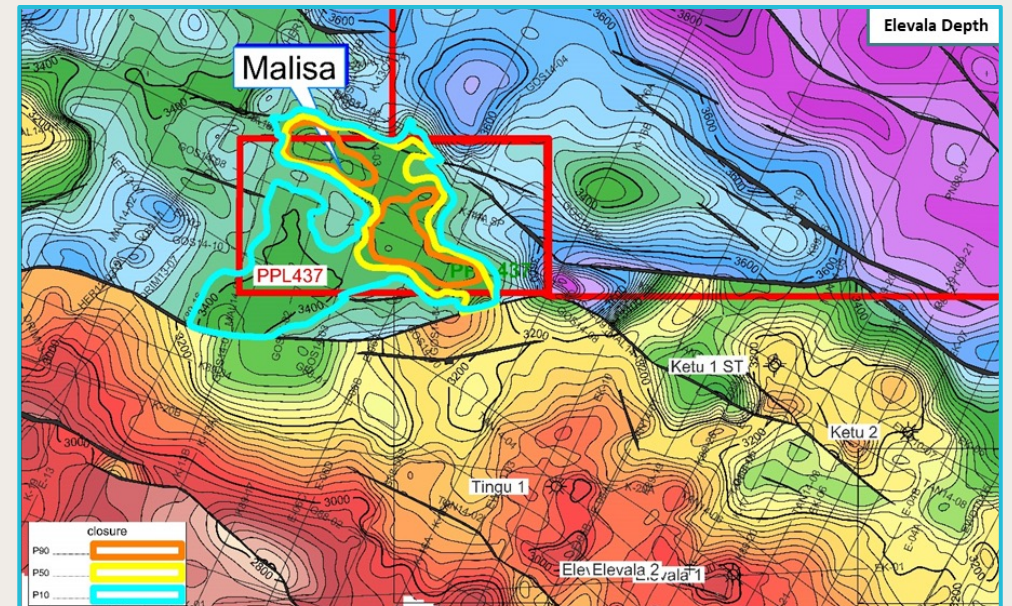


# PPL437: Malisa Prospect Overview



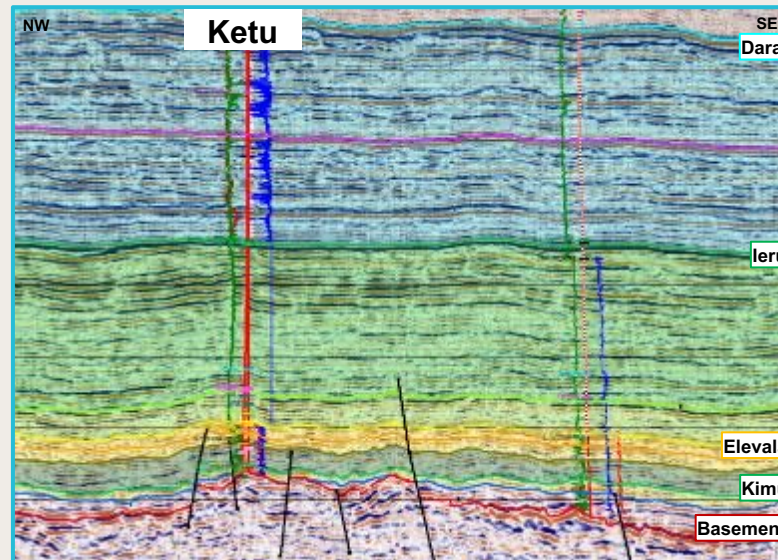
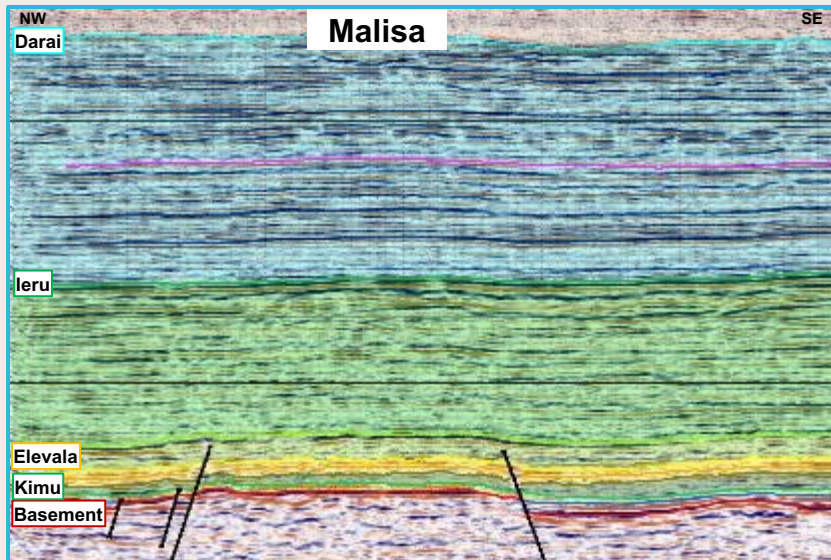
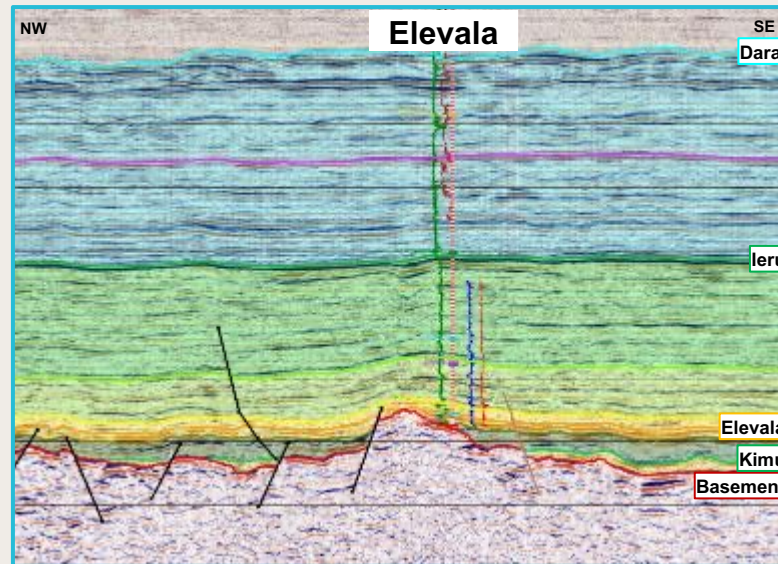
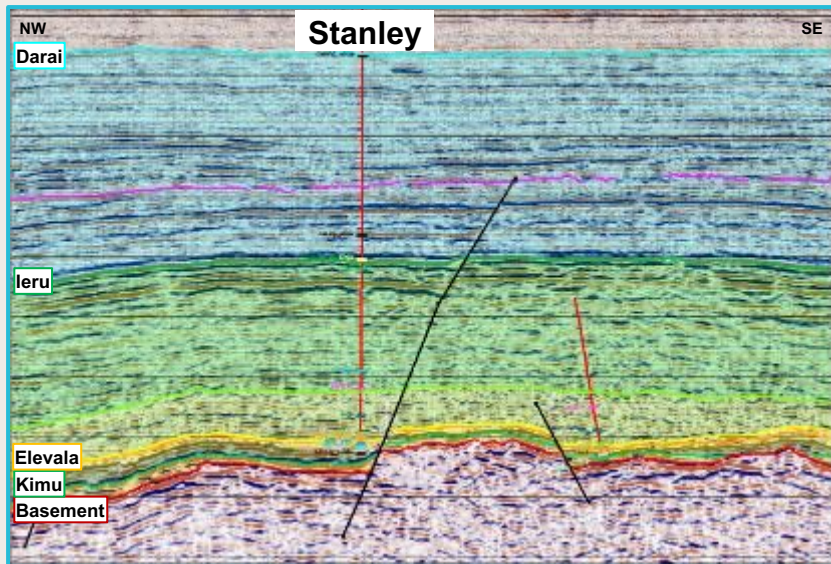
- **Stacked, multi-reservoir targets trapped in basement drape structure**
- **Primary targets include the Elevation and Toro sandstones – proven in nearby fields**
- **Secondary Jurassic target in the Kimu sandstone proven in nearby Stanley field**
- **Primary evacuation pathway via liquids stripping / gas cycling as proposed at Stanley**
- **Malisa expected to be more liquids rich with a CGR >30**

Malisa has 2 potential targets in the Cretaceous Elevation and Toro Sandstones and deeper target in the Jurassic Kimu sandstone.  $P_{mean}$  GIIP of ~2tcf, with high chance of geological success (36%)



# PPL437 - Malisa Prospect

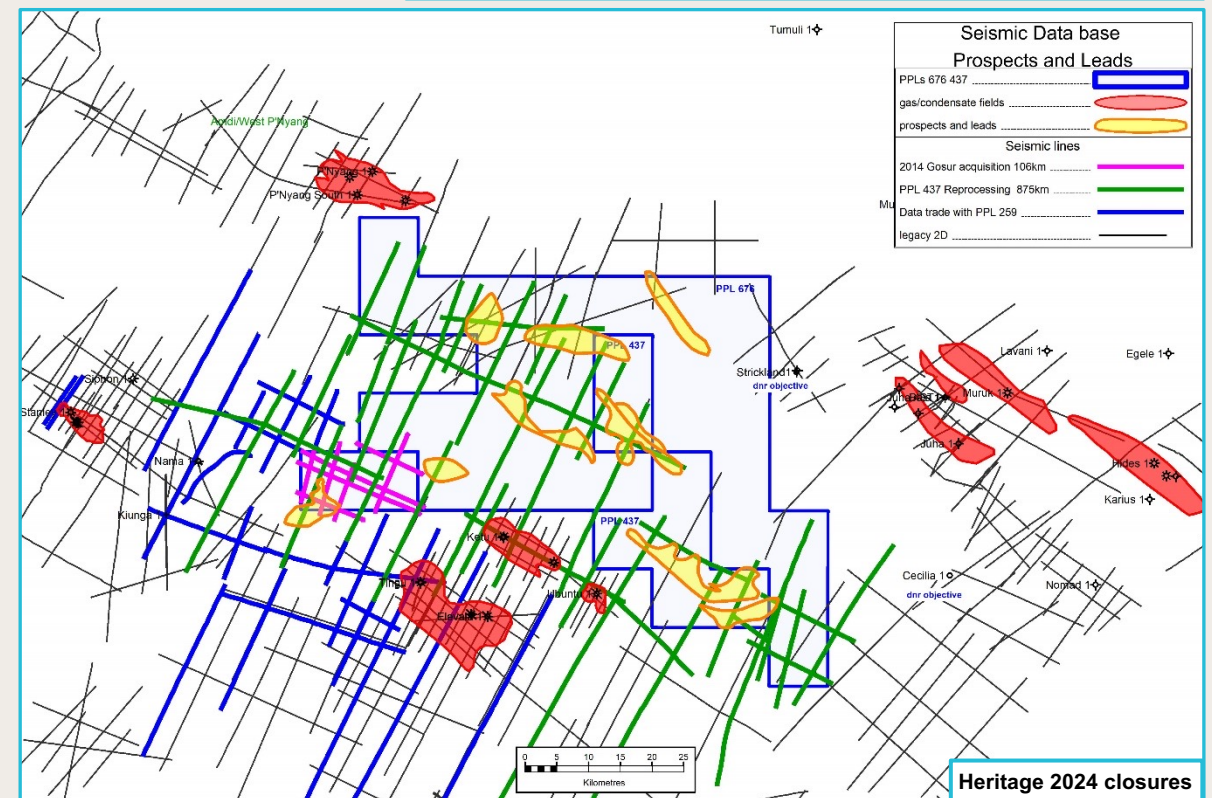
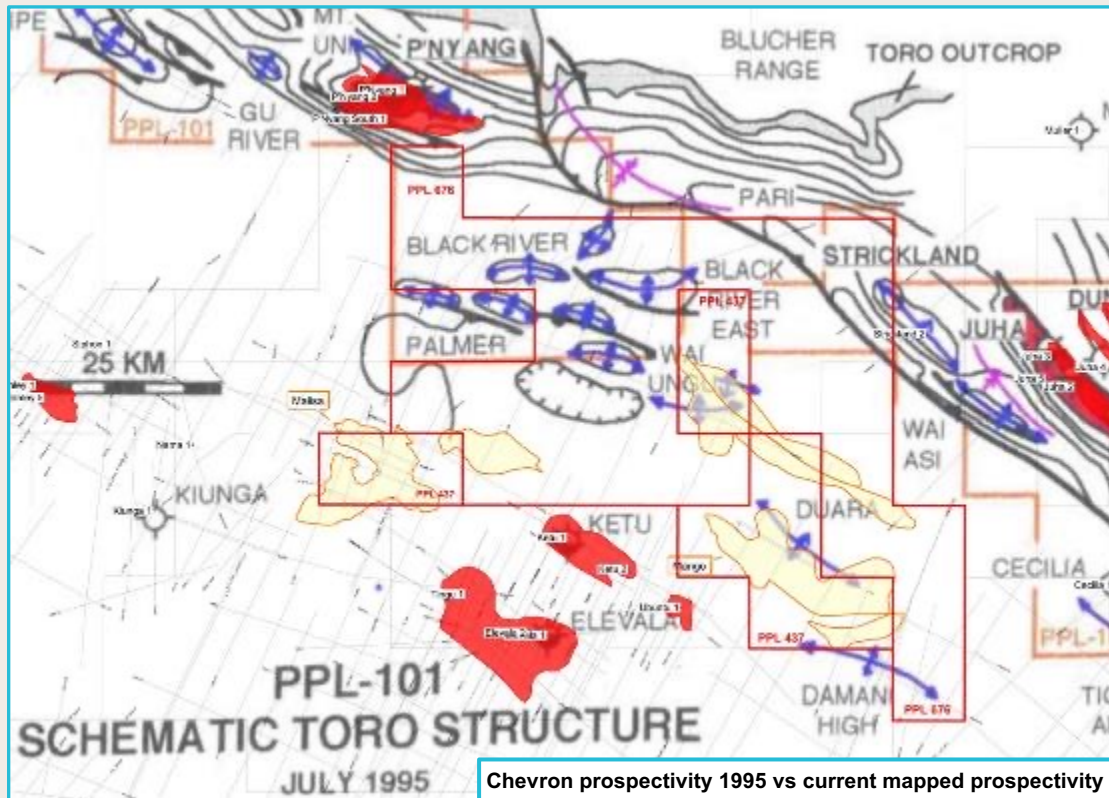
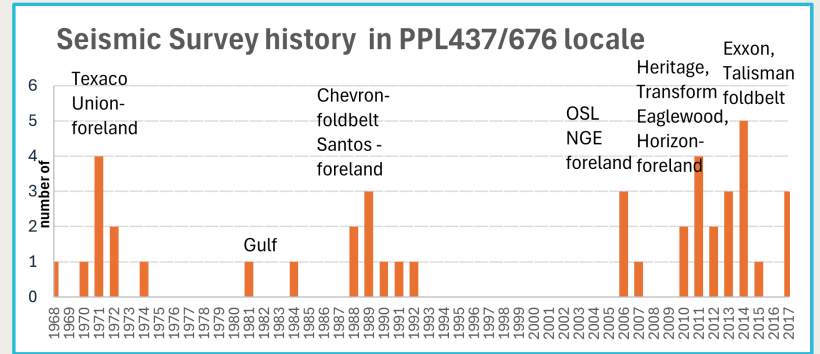
## Seismic Comparison with Nearby Fields



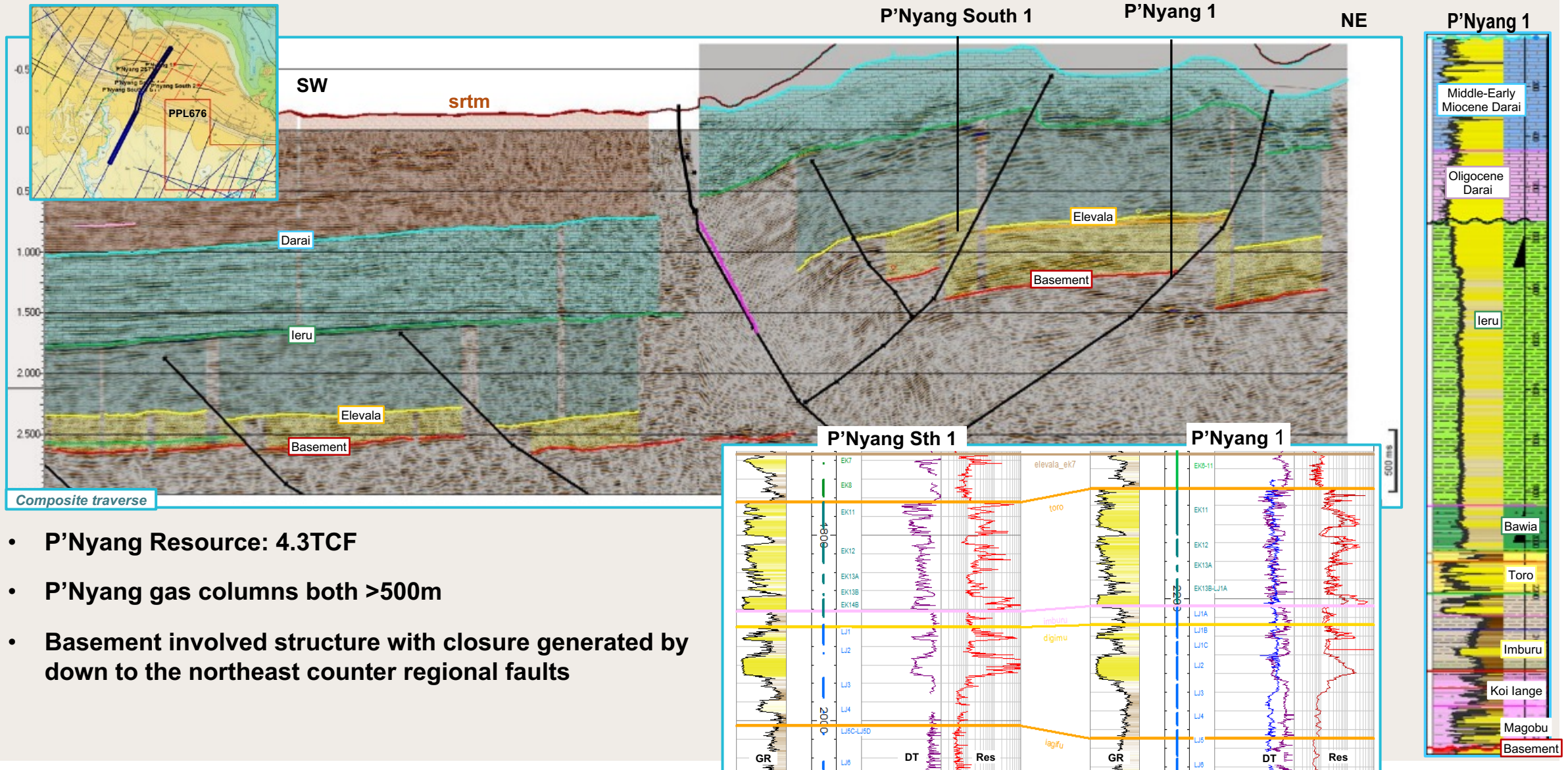
- Malisa is structurally analogous to nearby discoveries at Elevala, Ketu and Stanley
- Elevala, Ketu and Malisa are basement drape structures
- Stanley is an inverted structure with thick Kimu sandstone
- The seal for the Elevala and Toro reservoirs is the Ieru formation, sourced from the Jurassic Imburu and/or Magobu formation

# PPL676 Prospectivity

- PPL676 was awarded in November 2023 giving a much larger contiguous acreage holding with PPL437
- PPL676 & 437 cover the uplifted foreland area updip of Elevela & Ketu discoveries
- Structures were initially recognised by Chevron in PPL 101 in the late 80's early 90's
- PN88 and PN89 Chevron seismic and recent 2014-2015 seismic illustrate 3 leads in PPL 676 – Pari, Black River and Black River East – along trend from P'Nyang & up dip of Ketu North & Ebony



# PPL676 SE along trend from P'Nyang Uplifted Basement Block



- P'Nyang Resource: 4.3TCF
- P'Nyang gas columns both >500m
- Basement involved structure with closure generated by down to the northeast counter regional faults

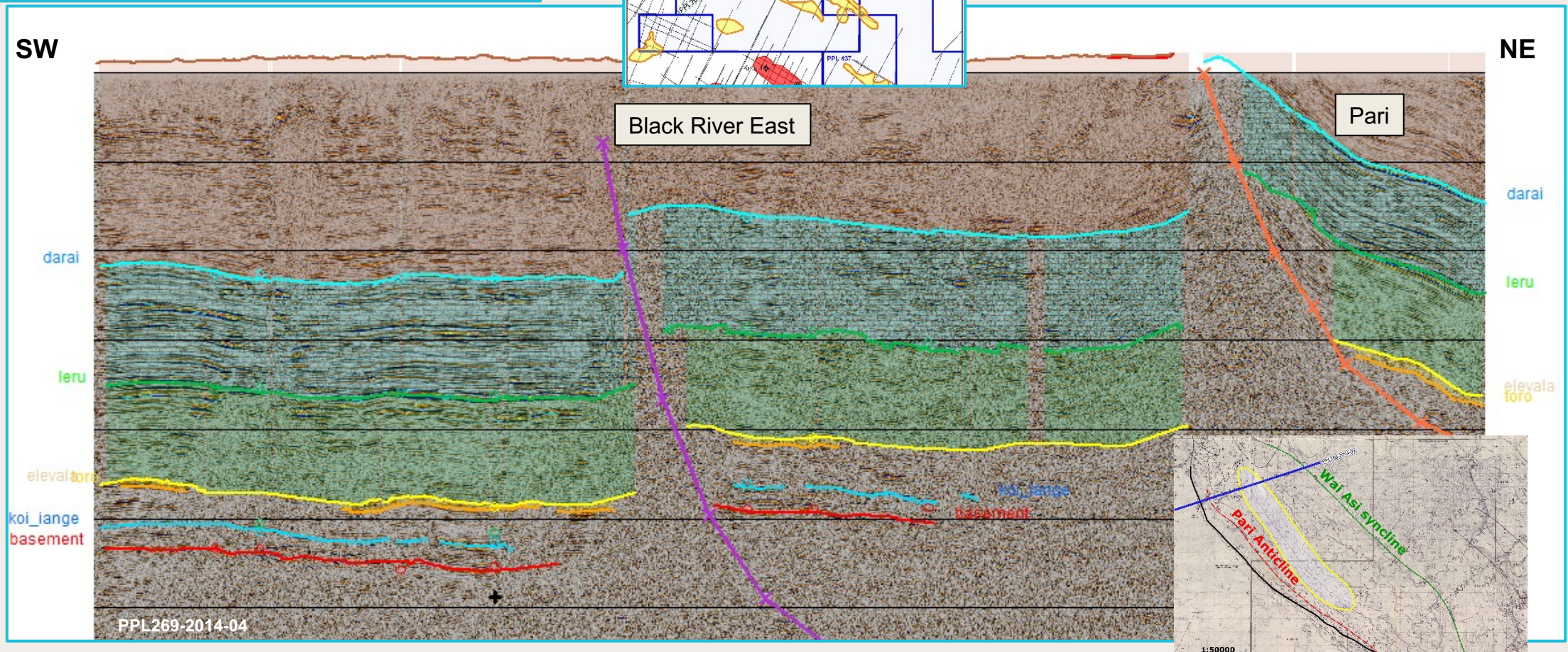
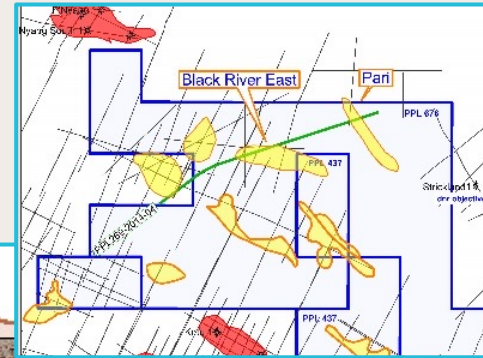
# PPL676 - Black River East and Pari Leads

## Black River East

- Inverted structure greater relief than foreland to south
- Toro target mapped at Black River East
- Basement involved P'Nyang analogue

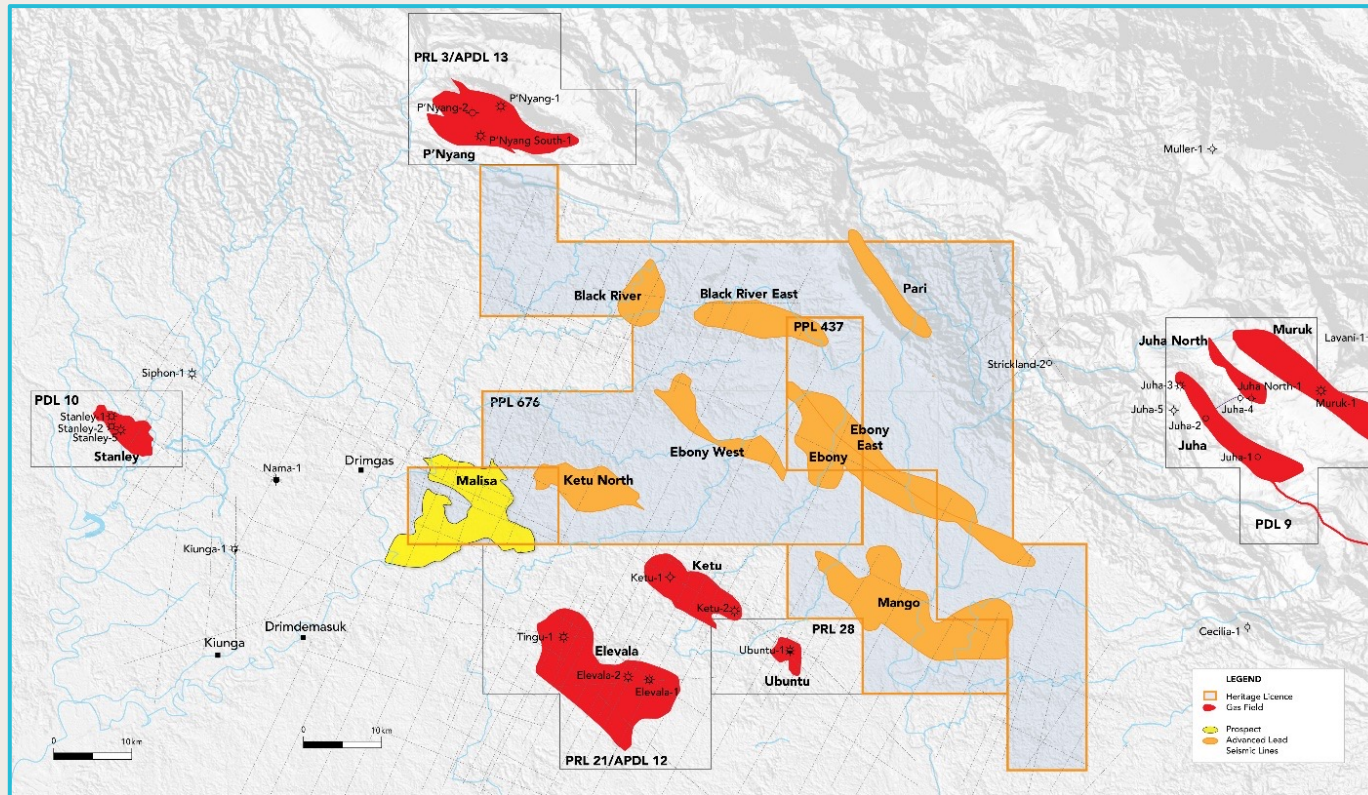
## Pari

- Pari Prospect is well constrained by southwest faulting
- Potential volumes ~3tcf
- Basement fabric has an influence on faulting style



# Prospectivity Summary

- One prospect - Malisa
- 7 leads; Mango, Ebony, Ebony East/West, Ketu North, Pari, Black River East
- Additional studies including soil gas survey, strontium desktop study and seismic reprocessing are planned for 2025 to de-risk and help rank prospect and lead inventory



	Name	Reservoir / Target	Geological Chance of success	Whole Trap Gross Unrisked Mean GIP bcf
PPL437	Malisa	Elevala/Toro + Kimu	36%	2,027
	Ketu North	Elevala/Toro + Kimu	20%	709
	Ebony	Elevala/Toro + Imburu/Kimu	27%	1,467
	Ebony East	Elevala/Toro + Imburu/Kimu	21%	517
	Ebony West	Elevala/Toro + Imburu/Kimu	21%	316
	Mango	Elevala/Toro + Imburu/Kimu	25%	1,868
	PPL676	Black River East	Elevala/Toro	Work in progress
Pari		Elevala/Toro/ Digimu	Work in progress	
Black River		Elevala/Toro	Work in progress	
				<b>6,903</b>

# Wrap Up

- **PPL437 & PPL676 form a large contiguous area located between the highly prospective PNG Foldbelt and the structured foreland updip of the Elevela, Ketu and Stanley Fields**
- **PPL437 & PPL 676 are surrounded by multiple wet gas fields (Stanley, Elevela, P'Nyang etc)**
- **PPL437 & PPL 676 Licence commitments are up to date**
- **The previous 10+ years of G&G work in PPL437 has direct relevance to PPL676**
- **PPL437 & PPL676 host a ready to drill prospect (Malisa) and numerous large leads with multi-tcf upside**
- **New seismic acquisition is required to build a multi-well drilling program for PPL437 & 676**
- **The existing nearby discoveries and the 1 in 3 exploration success rate attests to commercial attractiveness of PPL437 & 676**
- **Heritage has invested upwards of US\$15 million developing the exploration potential of PPL437 & PPL 676 and is seeking a joint venture partner to help unlock its commercial potential**

