



**PANCONTINENTAL**  
ENERGY NL

# **Presentation to Annual General Meeting of Shareholders**

27 November 2023

ASX: PCL

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Prospective Resources are the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

The company confirms that it is not aware of any new information or data that, in its opinion, materially affects the information included in the relevant market announcement and that all the material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

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Statements made in this presentation on information compiled by Mr Barry Rushworth, Director of Pancontinental Energy NL. Mr Rushworth has a relevant degree in geology and has been practising petroleum geology for more than 35 years. Mr Rushworth has consented in writing to the inclusion of the information stated in the form and context in which it appears.

# The Past 12 Months



Received Ministry approval for 12 month extension of PEL 87 permit



Option Deed with Woodside Energy Ltd (\$60 Billion market capitalisation)



Acquired ~6,600km<sup>2</sup> 3D seismic survey, Woodside investment of over US\$35 million



Continued exploration, appraisal and testing success on-trend to south



Strengthened balance sheet via \$5 million share placement

# A Rich Hunting Ground

- Namibian Orange Basin is **the** global exploration hotspot as a result of giant discoveries by Shell and TotalEnergies through 2022/23
- West African basins exhibit analogous geology to the prolific petroleum basins of offshore Brazil
- Early Cretaceous opening of the Atlantic Margin created restricted oceanic circulation, leading to deposition of the world-class Kudu Shale oil source rock
- Orange Basin hosts turbiditic reservoir systems that directly overlay the main source formation (Kudu)
- Namibia is politically stable with favourable fiscal terms
- PCL has maintained excellent relations with Ministry of Mines & Energy (MME) since 2006

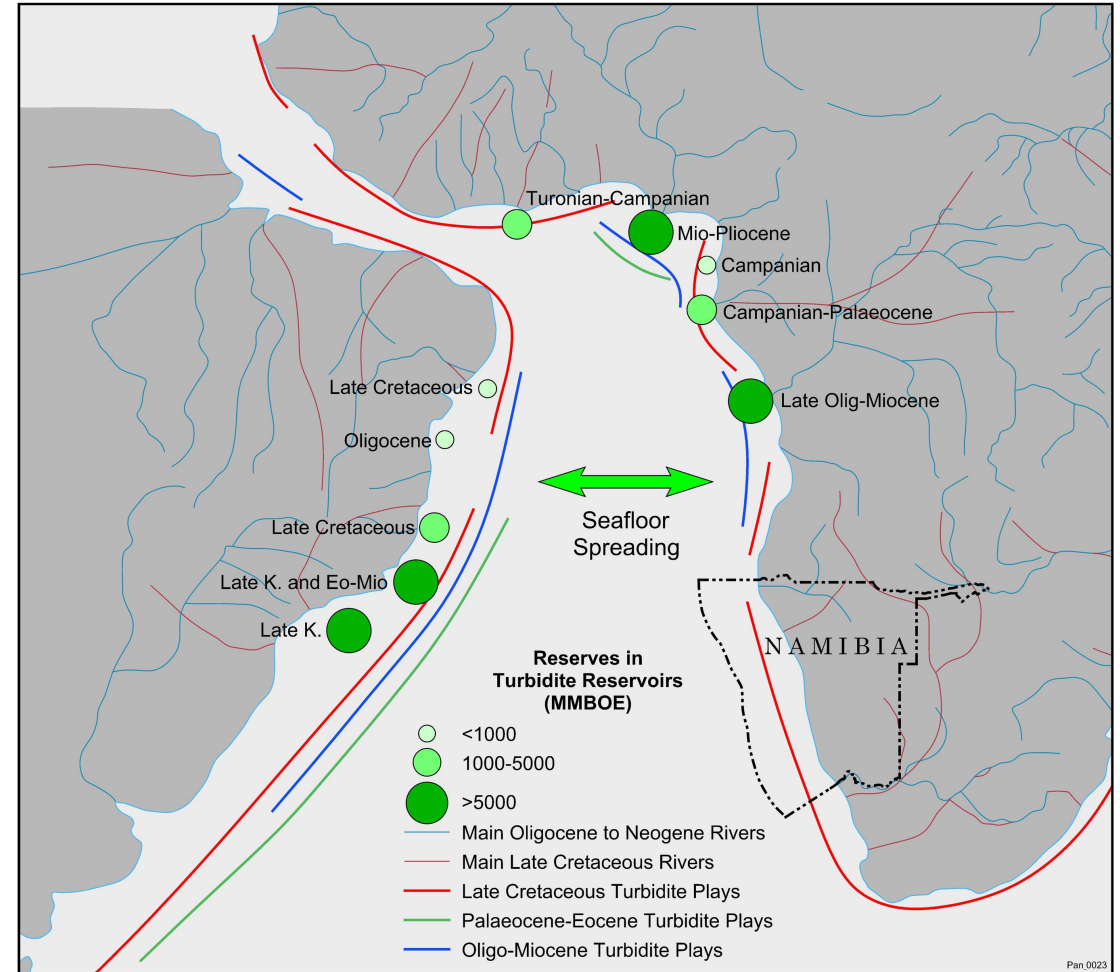
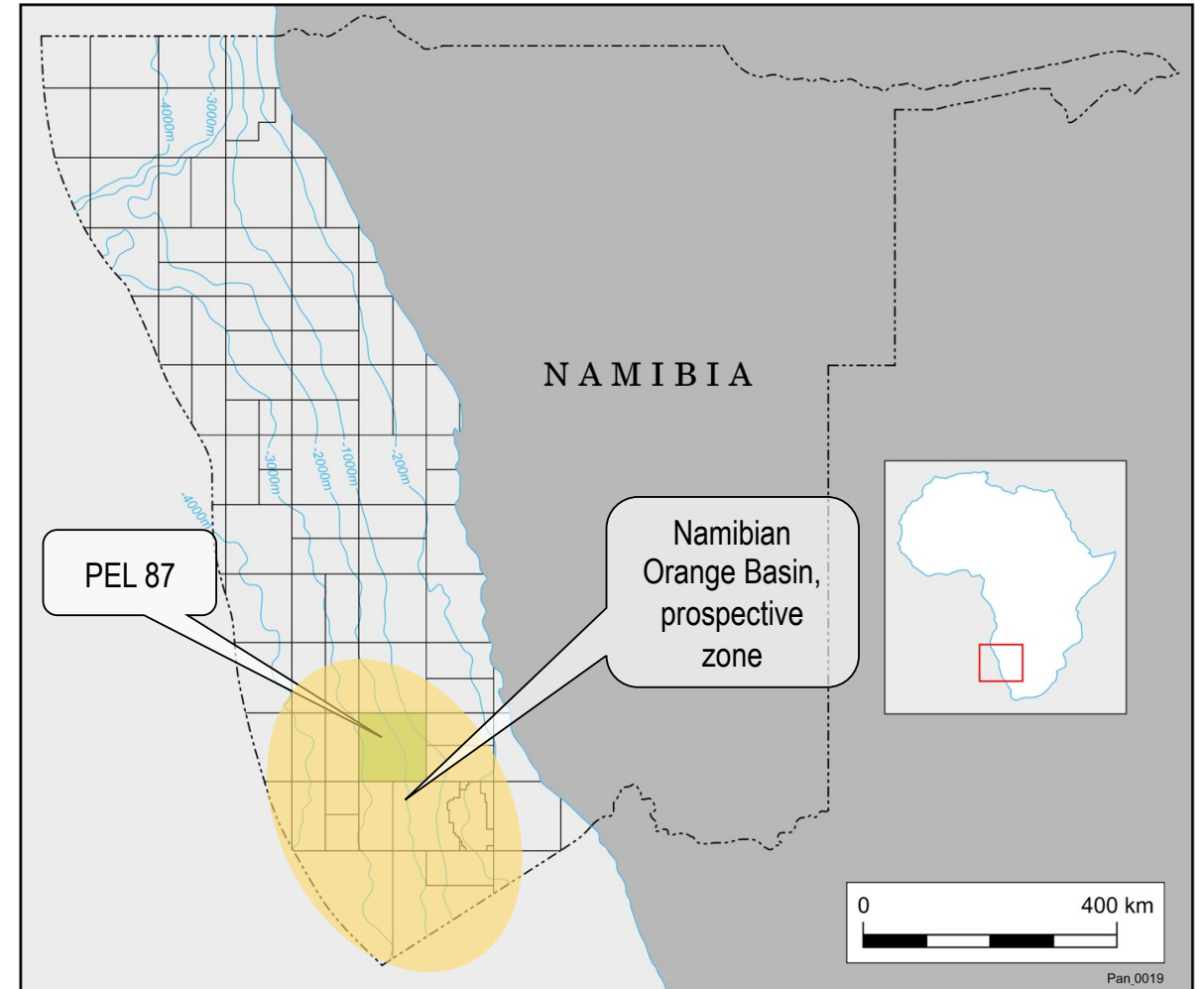


Figure: After South Atlantic Margin: Oil Reserves Within Turbidite Systems (From Geological Society 2013)

# Pancontinental's PEL 87

- Permit awarded 2018 to Joint Venture led by PCL
- Pancon 75% (Operator)
- 10,970 km<sup>2</sup> within Namibian Orange Basin
- Offers very significant resource potential within reservoirs of **comparable age and type** to recent giant discoveries on-trend to the south
- Only one well drilled within the permit to date (tested a different petroleum play)
- Woodside-funded US\$35 million+ 3D seismic survey completed late May 2023
- JV recently applied to MME to enter First Additional Exploration Period: 24 January 2024 to 23 January 2026



# Major Investment by Woodside Energy

## Stage 1

- Woodside has earned an option to acquire a 56% Participating Interest in PEL 87
- Woodside fully funded a **US\$35million+** 3D seismic survey
- If Woodside exercises the option then Woodside and PCL will enter into a farmout agreement. Woodside will then:
- Fully carry the joint venture through the drilling of an exploration well (PCL @ 20% carried interest)
- Drill a second well if the joint venture elects to do so (Stage 2)

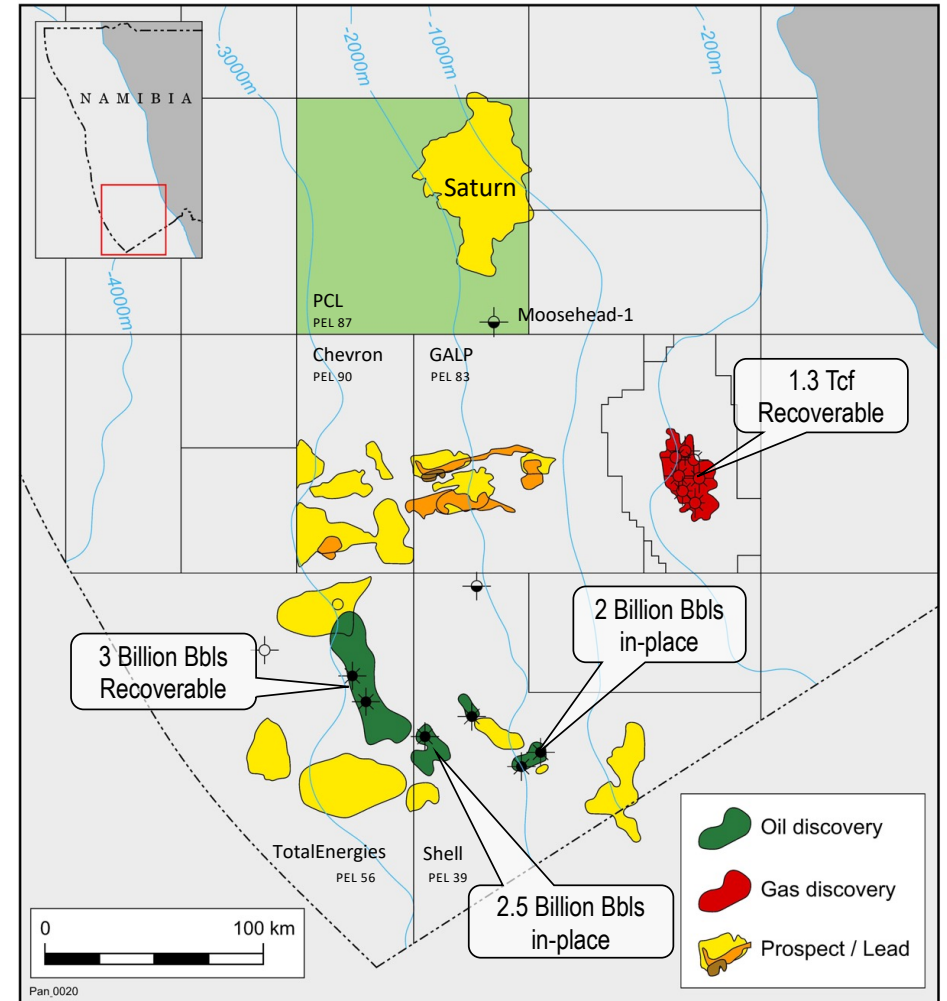
At this stage PCL may:

- (i) retain its 20% interest by funding its net share of drilling costs for second well
- (ii) reduce its interest to a 10% Participating Interest and have Woodside fully carry PCL through the cost of the second well; and
- (iii) at any time up to 60 days after the approval of a Field Development Plan, convert its interest to a 1.5% gross overriding revenue royalty



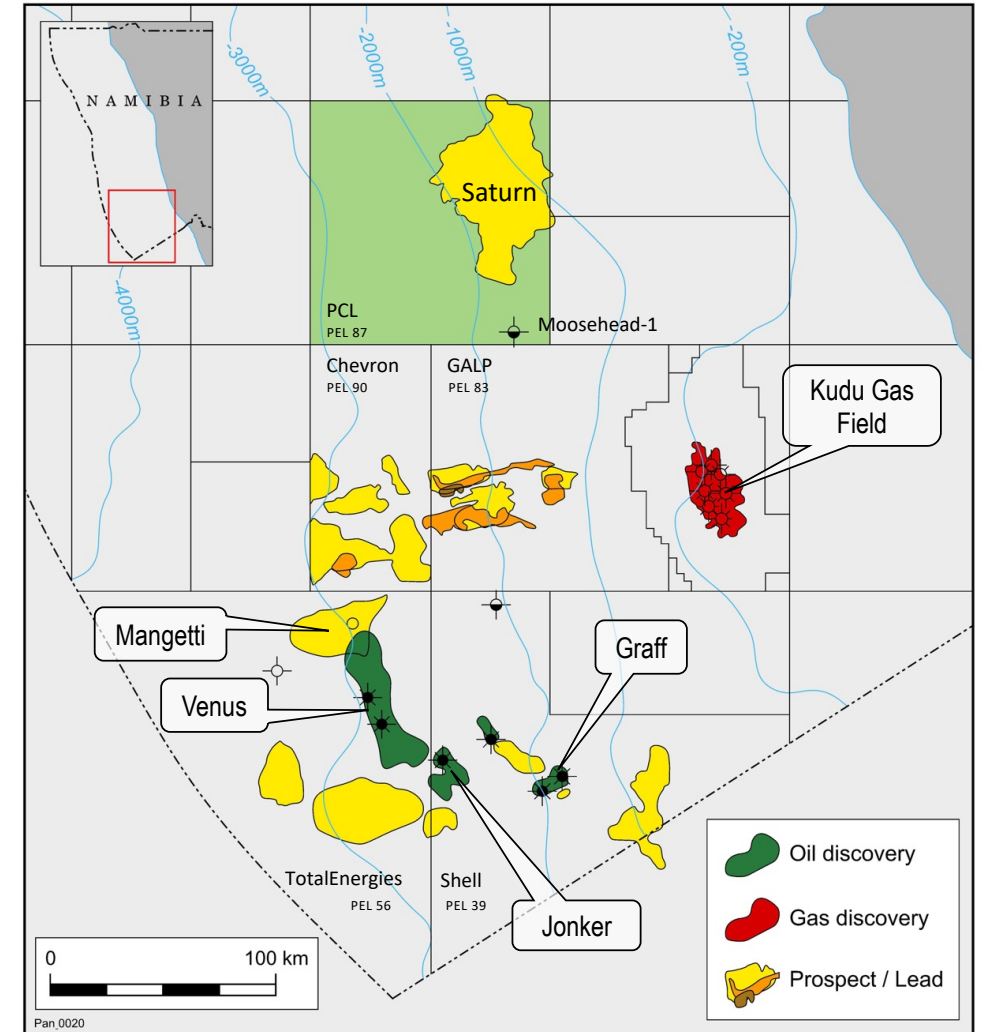
# Namibian Orange Basin

- Water depths 200 metres to >3,000 metres
- Basin developed through Jurassic-Cretaceous
- Two main contributing factors to prospectivity:
  - Thick, very high quality and regionally extensive **Kudu oil shale source rock**
  - **Vast sediment input** from continental shelf to northeast, leading to extensive turbidite systems and associated reservoir development
- Giant TotalEnergies and Shell discoveries of 2022 have prompted huge industry interest
- 4 rigs currently active
- GALP Energia recently spudded Mopane-1X – the first of 2 wells in PEL 83 and targeting 10 Billion barrels oil-in-place
- Chevron expected to drill in 2024; submitting environmental application for up to 5 exploration wells and 5 appraisal wells



# Giant Discoveries On Trend

- TotalEnergies' Venus oil discovery early 2022, estimated ~3 billion barrels oil recoverable
- Venus was followed by Shell's Graff discovery, estimated ~2 billion barrels oil-in-place
- Both Venus-1X, Venus-1A and Graff-1X have been production tested, reportedly with excellent results
- Shell have followed up with 3 additional discoveries, at La Rona, Jonker (est. 2.5 billion barrels oil in place) and most recently Lesedi; now drilling Jonker-1A and planning up to 7 further wells
- TotalEnergies/Shell discoveries reportedly also host some 8.7 Tcf of associated gas
- TotalEnergies investing half of global exploration/appraisal drilling budget in PEL 56....their "Golden Block"; currently drilling Mangetti-1X exploration well
- Shell investing 25% of its global deepwater exploration drilling budget in PEL 39





# Turbidite Reservoir Development

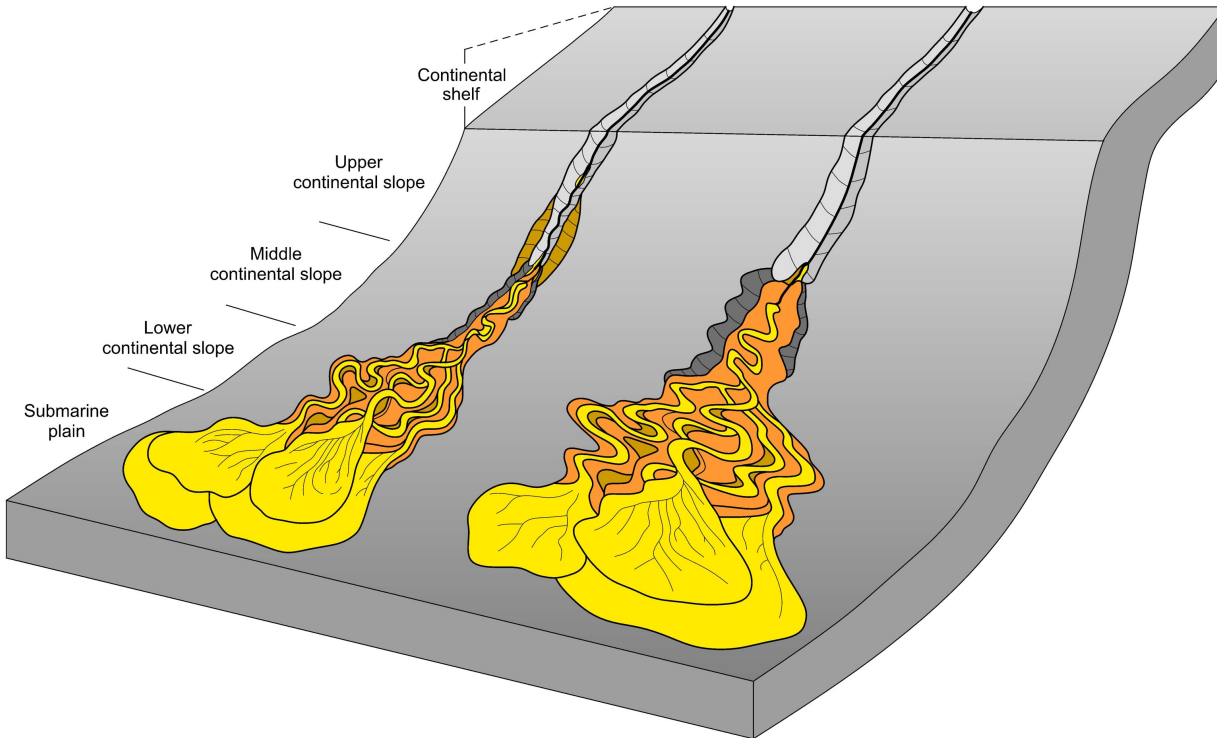
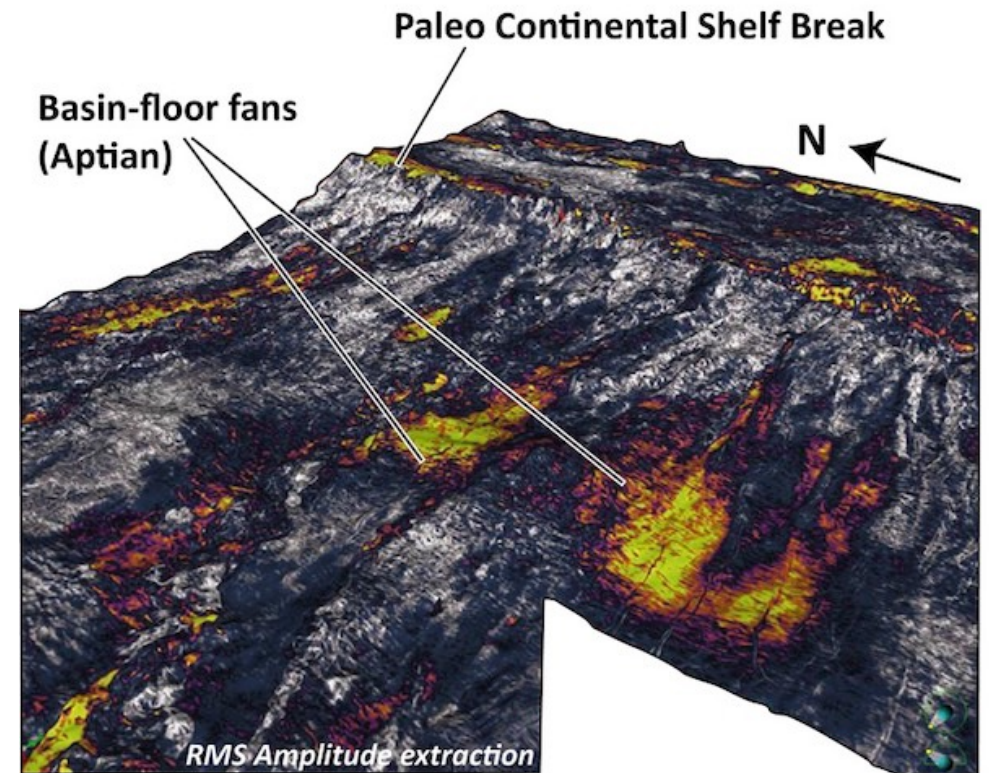
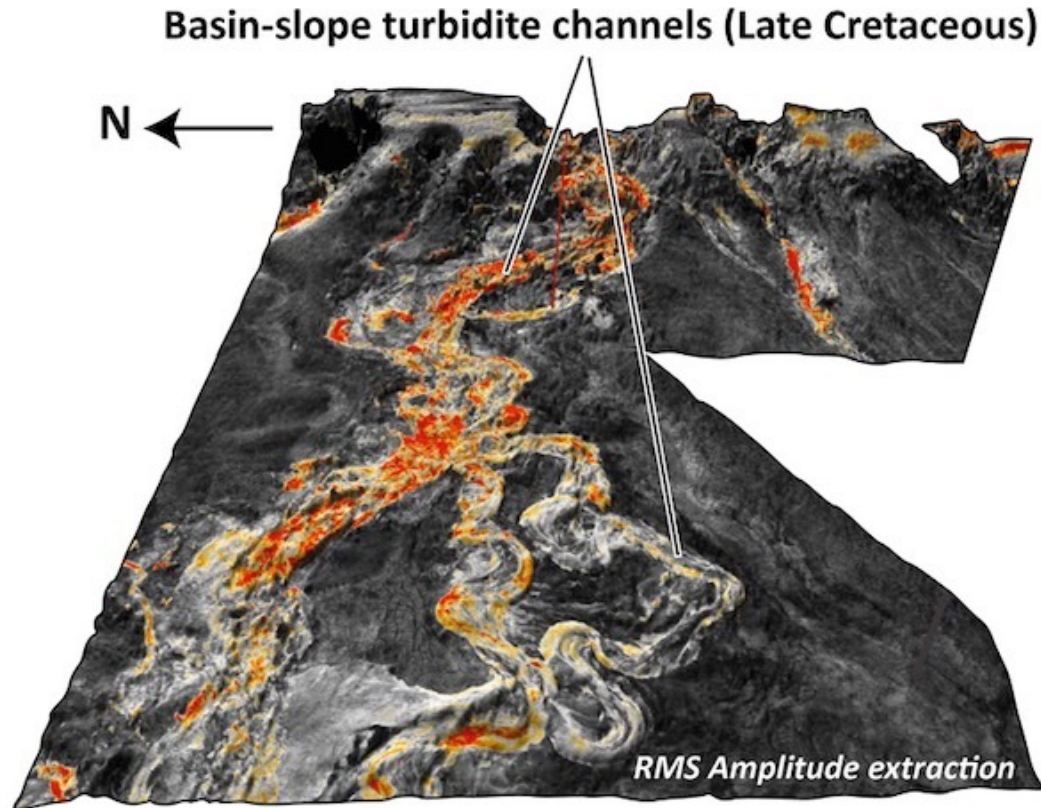


Figure: Sedimentary model of turbidite systems

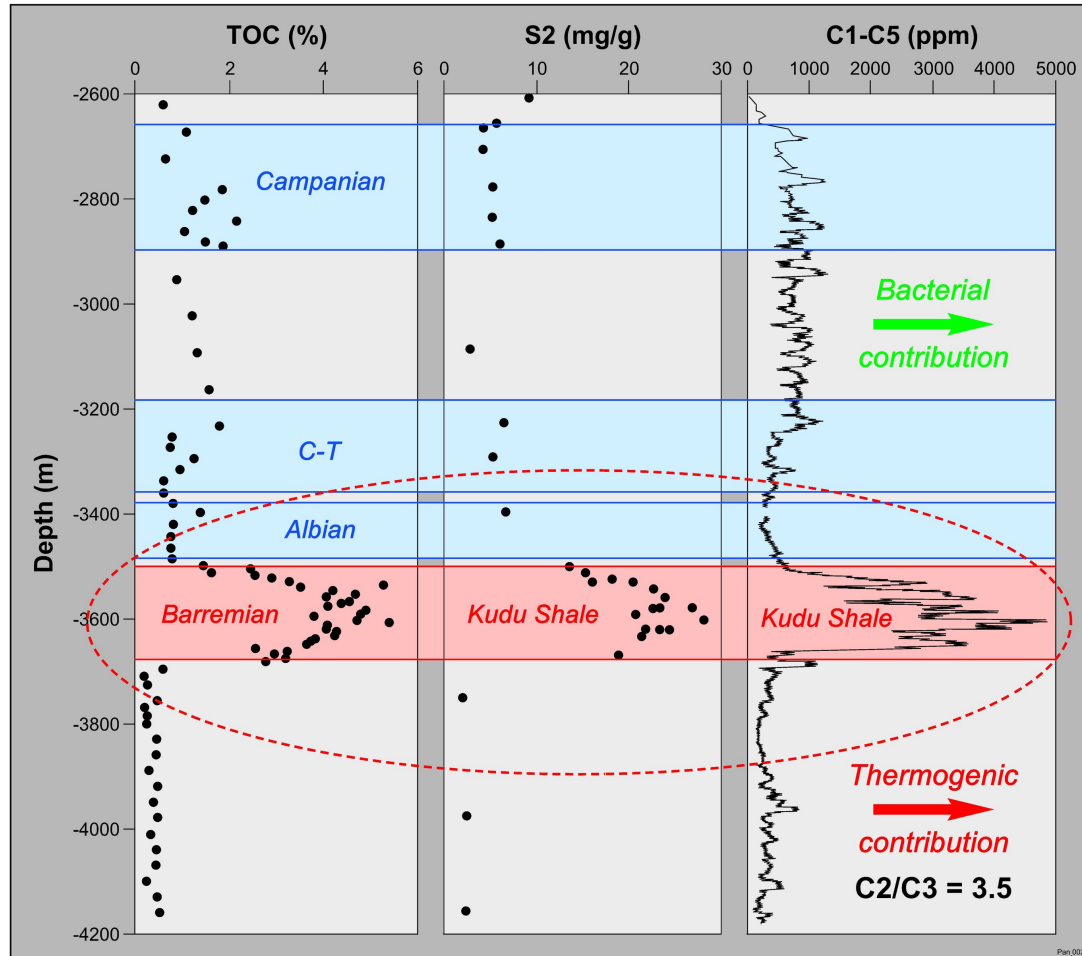
- Delivery mechanism for reservoir sands from major river systems into a deep water setting – where organic rich source formations are typically found
- Delivered via submarine density flows, from discrete point-source at continental shelf break; can travel for 100's of kms.
- Vast petroleum reserves discovered within turbiditic systems either side of South Atlantic Margin
- Considered the most prolific petroleum reservoir system offshore West Africa
- Complex internal geometries, with distinct proximal channels, mounds and turbidite lobes leading to distal basin floor fans
- 3D seismic essential

# Namibian Turbidite Systems - Seismic Examples



Walvis Basin Examples. Source: <https://www.eliis-geo.com/south-atlantic-austral-segment-the-new-exploration-hotspot-a.html>

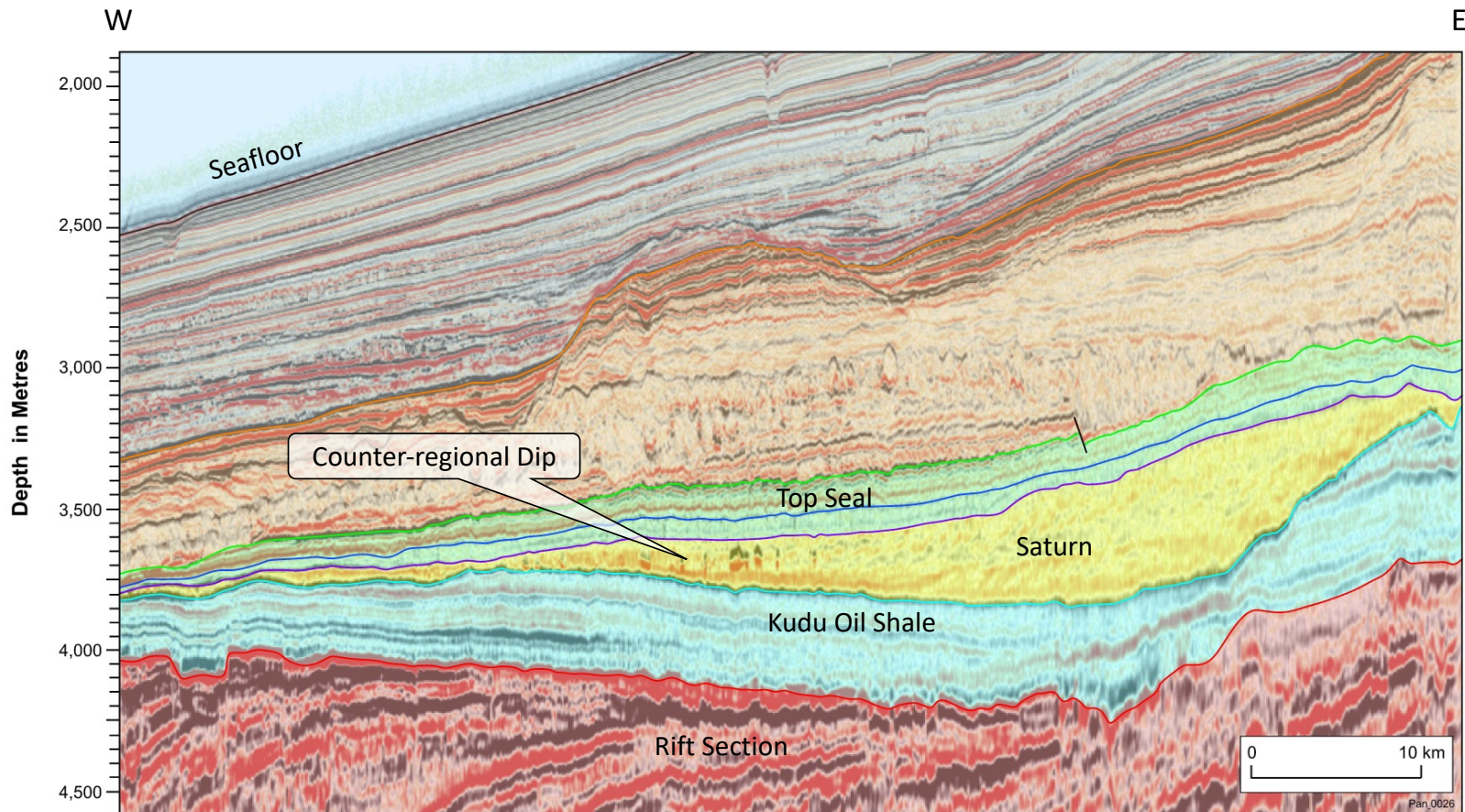
# The Kudu Shale



Moosehead-1X Kudu Shale Analysis

- Kudu Shale was deposited across vast area during early stages of Atlantic margin opening during Late Barremian-Aptian
- Limited marine influence led to restricted, anoxic conditions – ideal for source rock deposition
- High Total Organic Content – up to 14%
- TOC > 5% in Moosehead-1X
- Proving to be a prolific source rock

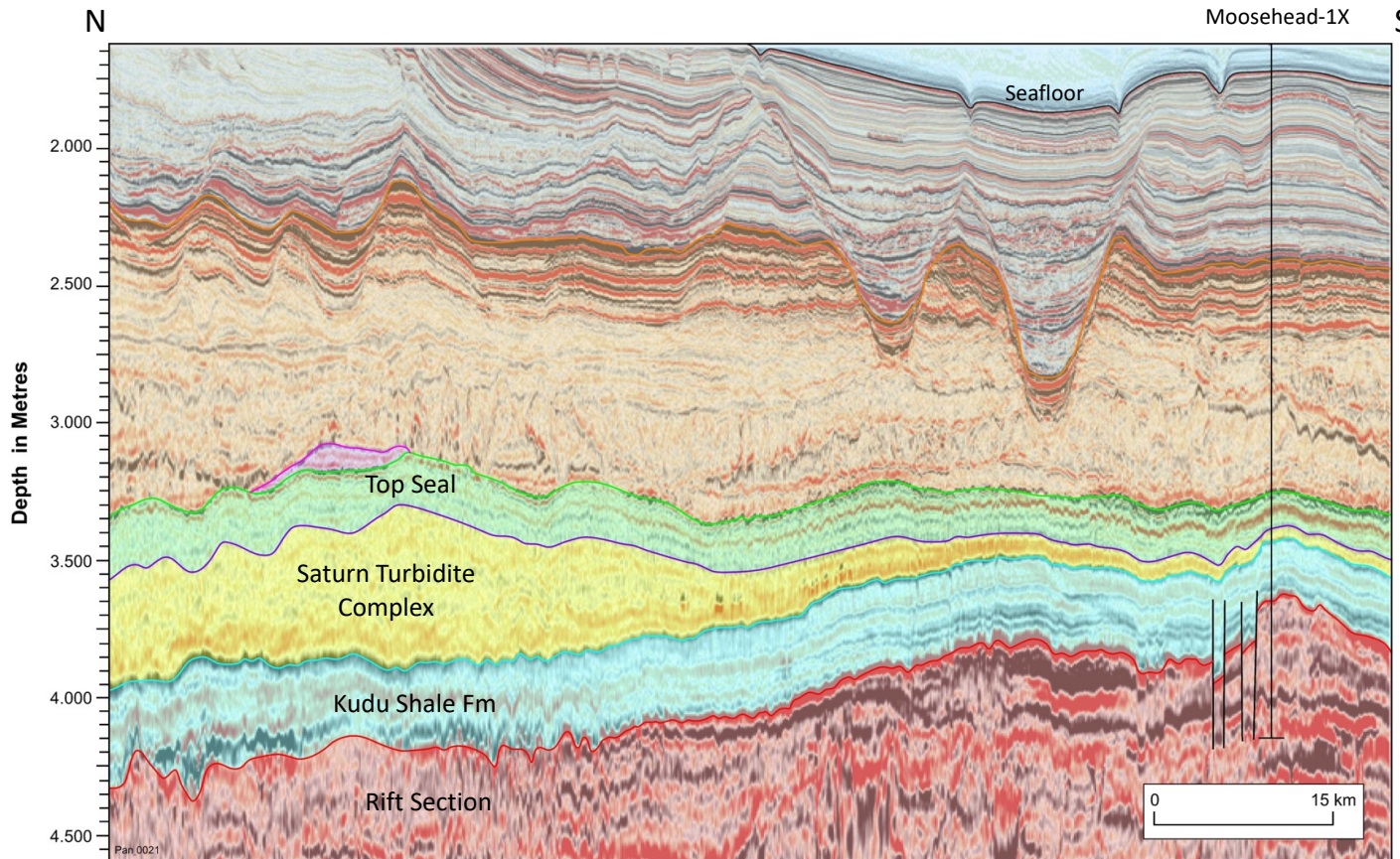
# Saturn Turbidite Complex



Fast-tracked 3D PSDM Example – Dip Line

- Saturn interpreted to cover  $\sim 4,000 \text{ km}^2$  with a core area of  $2,400 \text{ km}^2$
- Same stratigraphic level as Venus discovery and shares the same source and sealing formations
- Exhibits apparent counter-regional dip – a key contributing factor to the Venus field
- Directly overlays Kudu oil source formation
- The entire complex is interpreted to be enveloped in sealing shale, and is expected to host various discrete prospects and leads
- Target depths in range 3,500m to 4,000m (subsea)
- Quantitative Interpretation (QI) techniques likely to influence prospect-ranking (e.g. AVO)

# Moosehead-1X Well

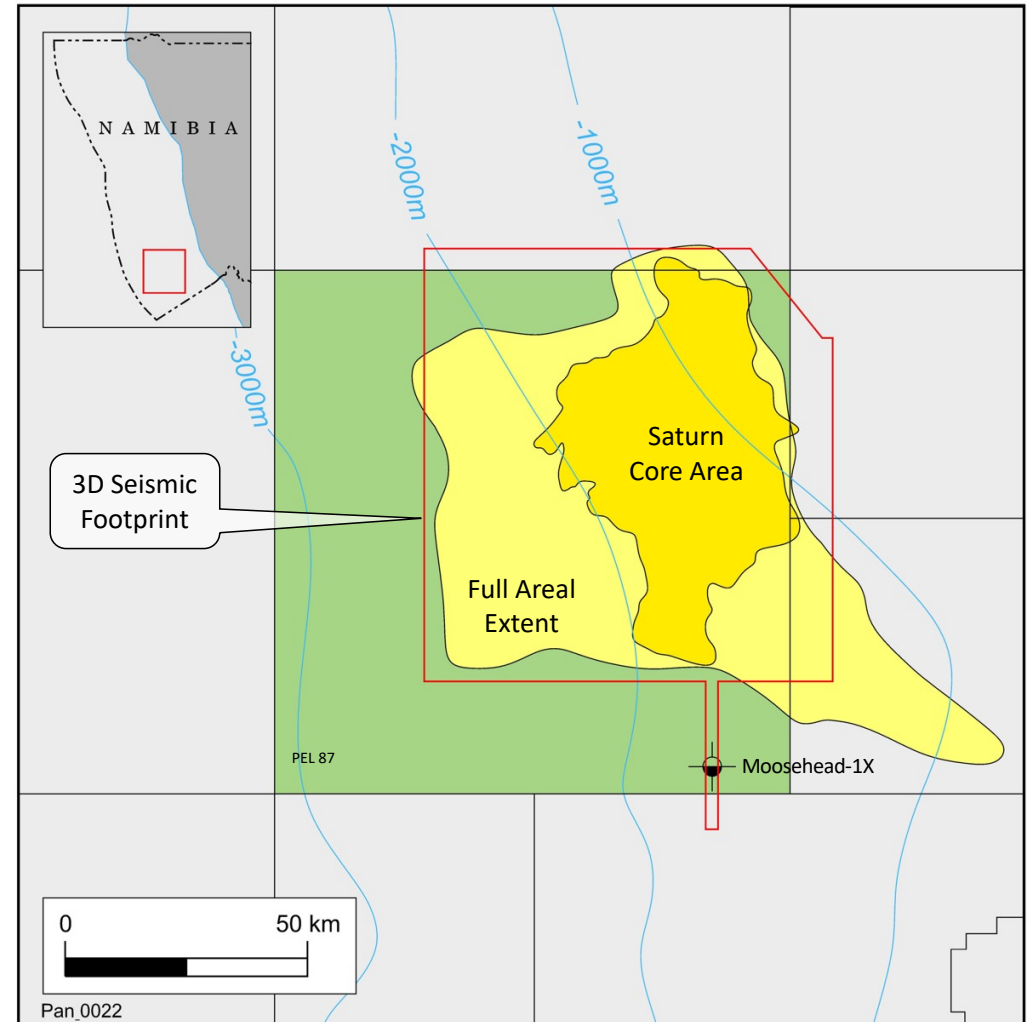


Fast-tracked 3D PSDM Example – Strike Line

- Drilled by Brazilian Co. HRT in 2013
- Targeted huge carbonate structure of Barremian age; encountered tight reservoir
- Intersected mudstones at Saturn level – as expected in a distal location
- Encountered thick top sealing formation to Saturn
- Intersected thick, high quality Kudu Oil Shale
- Kudu samples indicate early-onset maturity for oil at Moosehead-1 location
- Kudu interpreted to be significantly deeper beneath Saturn, based on recent 3D PSDM data
- Bodes well for source maturity beneath Saturn

# 3D Seismic Survey

- Woodside-funded 3D seismic survey completed over most prospective portion of PEL 87
- Originally ~5,000 km<sup>2</sup> at cost of US\$35 million; subsequently increased by Woodside to 6,593 km<sup>2</sup> (no modification to Option Deed terms)
- Survey completed late May 2023 with “fast-track” Prestack Depth Migration data received early October 2023
- Data is of excellent quality – significant uplift from legacy 2D seismic data
- Final Prestack Depth Migration (PSDM) dataset due within coming weeks
- This final dataset will facilitate quantitative interpretation (e.g. AVO analysis), the aim of which is to identify potential Direct Hydrocarbon Indicators (DHIs)

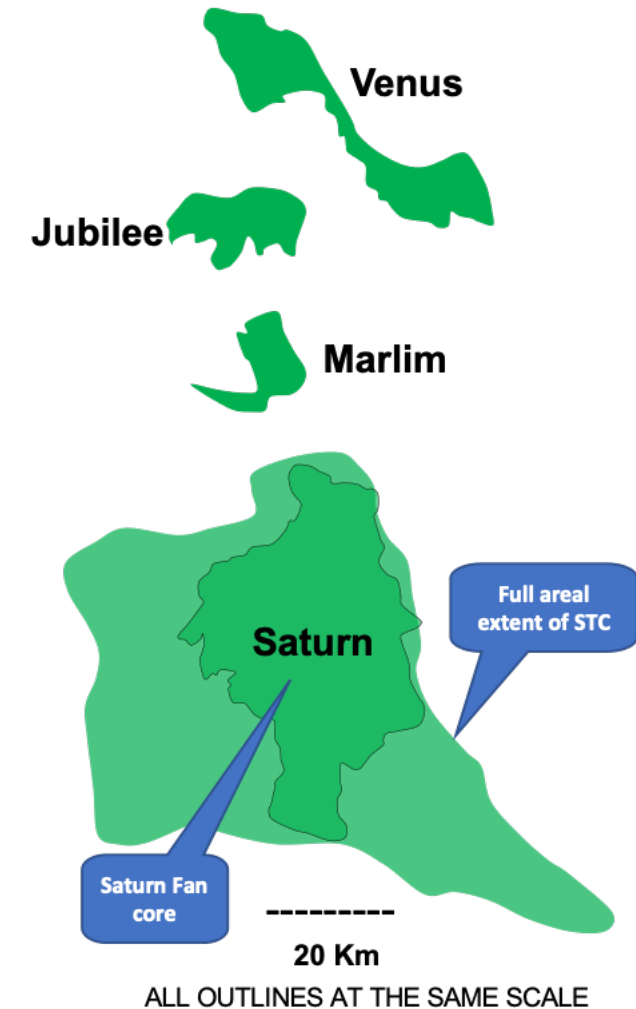


# Africa's Largest Prospective Oil Target?

The recent major discoveries in Namibian Orange Basin highlight PEL 87's potential for hosting a world-class oil discovery. The scale and resource potential is considered by PCL to be comparable to giant turbidite-associated discoveries with analogous geology offshore Brazil, Guyana, etc.

- **Venus** Fan discovery, offshore Namibia (**600 km<sup>2</sup>**) reportedly has estimated recoverable reserves exceeding **3 billion** barrels recoverable oil <sup>1</sup>
- **Jubilee** Fan Oil Field (**180 km<sup>2</sup>**) offshore Ghana, estimated recoverable reserves of approx. **1 billion** barrels recoverable oil <sup>2</sup>
- **Marlim** Oil Field (**152 km<sup>2</sup>**) offshore Brazil, estimated to hold approx. **1.7 billion** barrels recoverable oil <sup>3</sup>
- **Saturn** exhibits a core area of ~ **2,400 km<sup>2</sup>**, entirely undrilled

Sources: <sup>1</sup> WoodMackenzie; <sup>2</sup> Tullow Oil; <sup>3</sup> Petrobras





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## Thank you

Level 2  
30 Richardson St  
West Perth WA 6005  
T: +61 8 6363 7090

[pancon.com.au](http://pancon.com.au)

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