Grand Prix Opportunity

APPEX, London

3rd March, 2016

Greg Rock

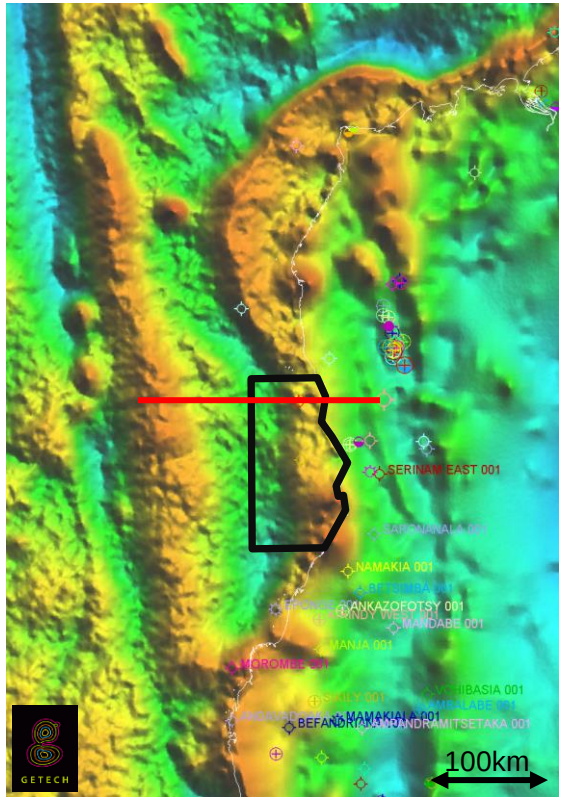
Moving more. Moving the future.

Grand Prix Summary

- OMV 90% and operator, Enermad 10%
- 16,800km^2 offshore license, water depth 0-1800m
- 6,200km 3D seismic on block
- Multiple play types on block, principle focus – Tertiary and Late Cretaceous deepwater clastics (basin floor fans, slope/channel complexes)
- Total un-risked potential on-block ca. 2 billion bbls (mean) recoverable
- Well planned for Q2 2018

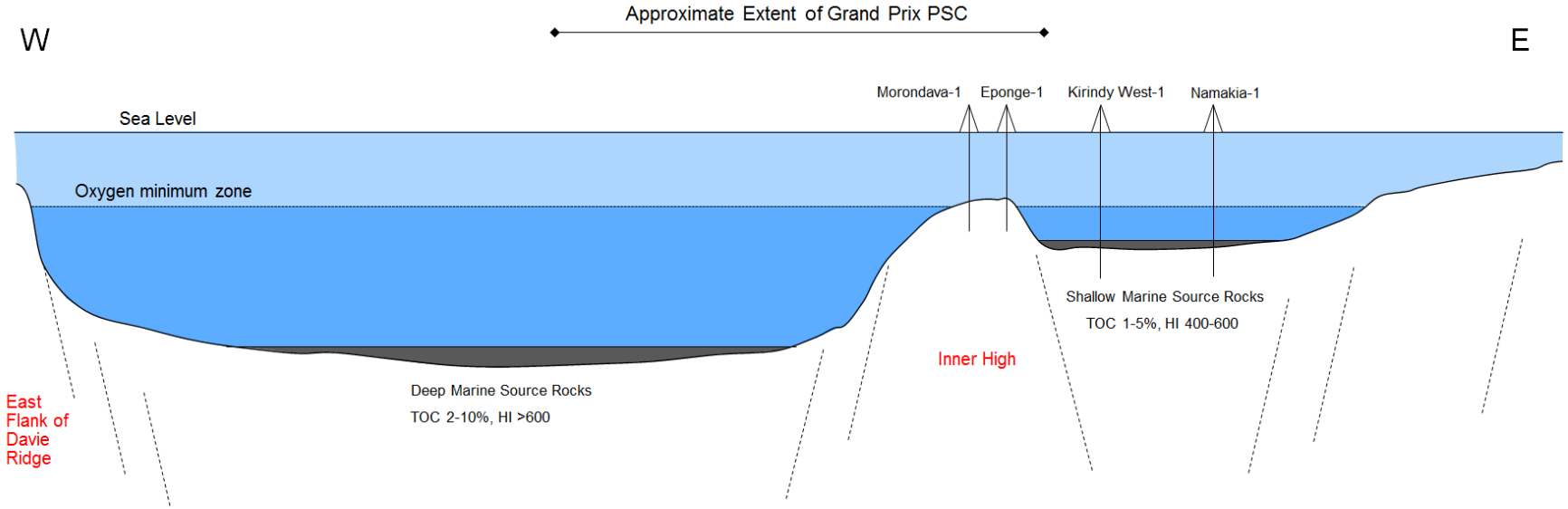
- OMV wish to remain operator through the exploration phase
- Up to 50% equity available
- Data room opened mid-February
- Bids due 1st June 2016

Source
Basin geometry, depositional environment



Regional Free Air Gravity

Approximate model location shown in red



- Restricted basin since early Cretaceous (ca. 118Ma)
- Deep Marine setting from Albian times
- Cretaceous source rock indications from onshore (present day) wells up to 9% TOC and 630HI

Source

3 main candidates, seismic facies, oceanic anoxic event (OAE), analogues

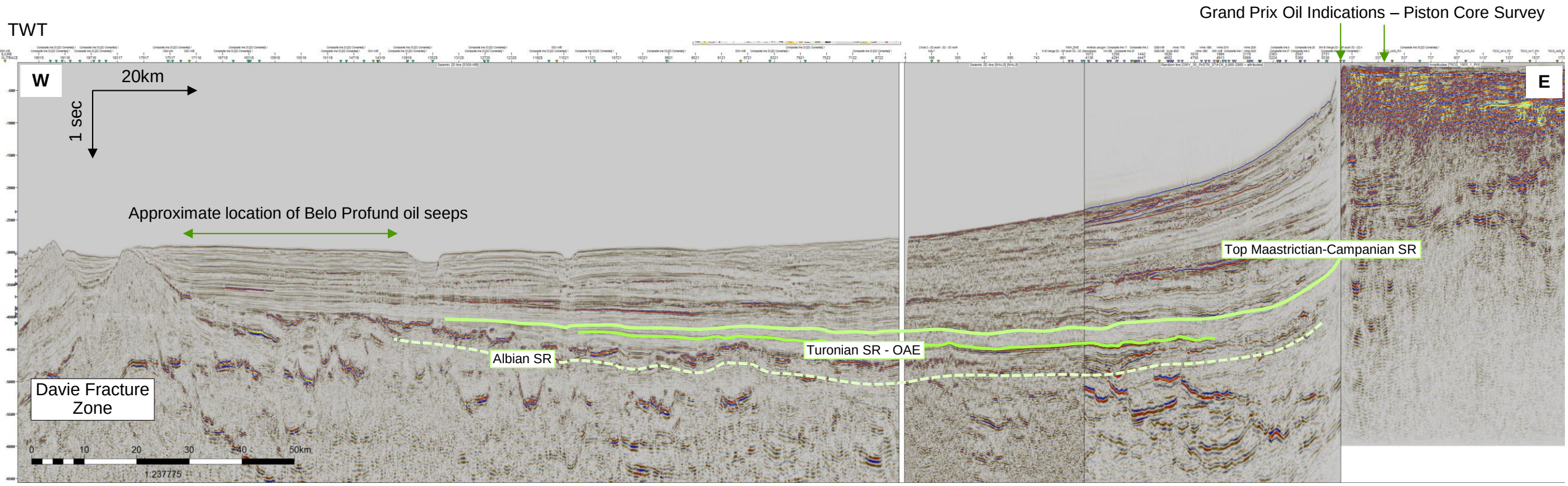


image courtesy of TGS

Grand Prix License

2015 3D | Vintage 2D

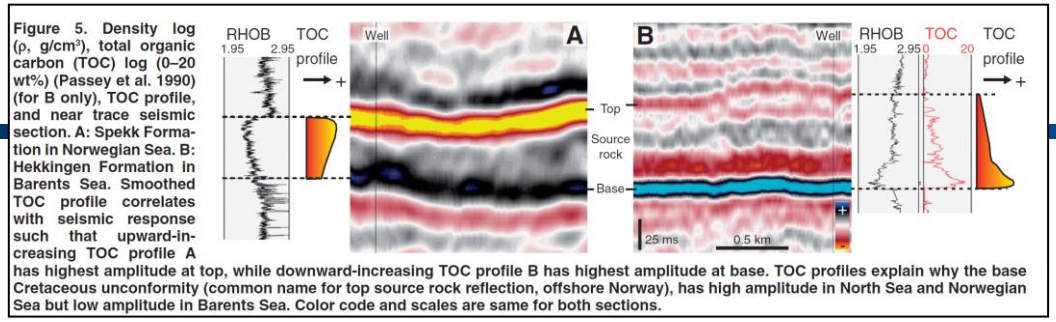


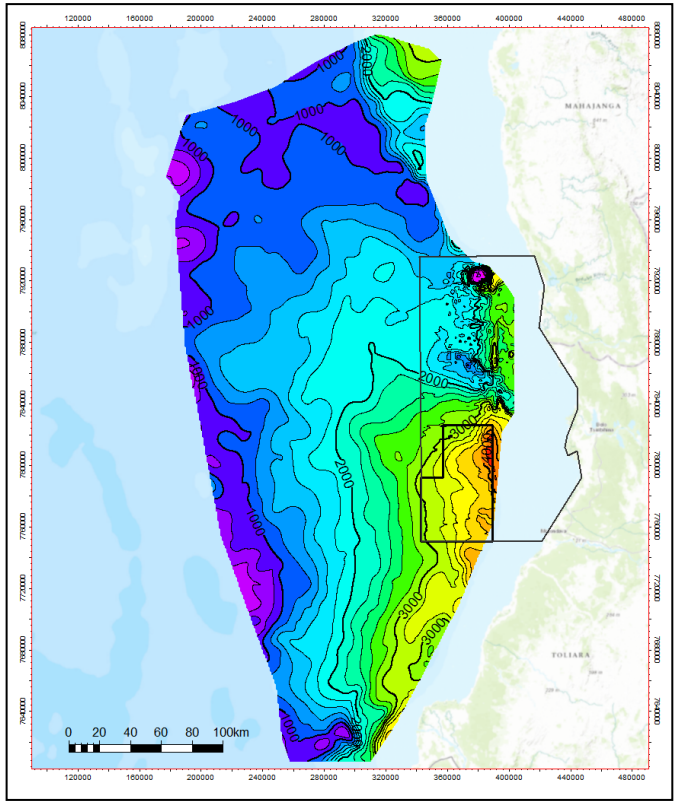
Figure 5. Density log (ρ, g/cm³), total organic carbon (TOC) log (0–20 wt%) (Passey et al. 1990) (for B only), TOC profile, and near trace seismic section. A: Spekk Formation in Norwegian Sea. B: Hekkingen Formation in Barents Sea. Smoothed TOC profile correlates with seismic response such that upward-increasing TOC profile A has highest amplitude at top, while downward-increasing TOC profile B has highest amplitude at base. TOC profiles explain why the base Cretaceous unconformity (common name for top source rock reflection, offshore Norway), has high amplitude in North Sea and Norwegian Sea but low amplitude in Barents Sea. Color code and scales are same for both sections.

Potential explanation for acoustically hard character of Turonian event

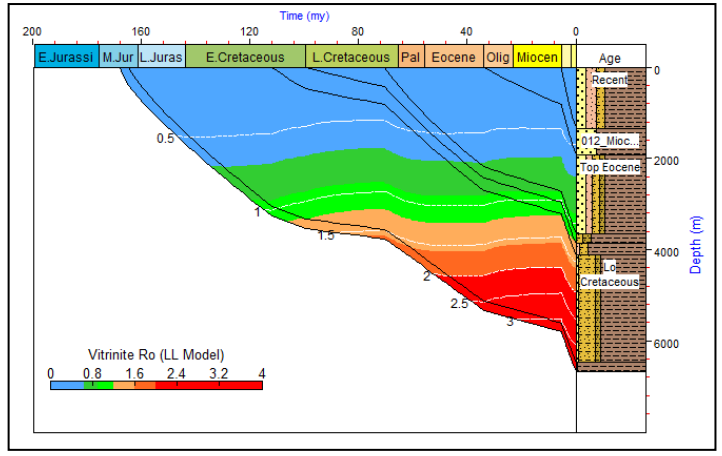
Løseth et al, Geology 2011

Source
burial history, petroleum systems modelling

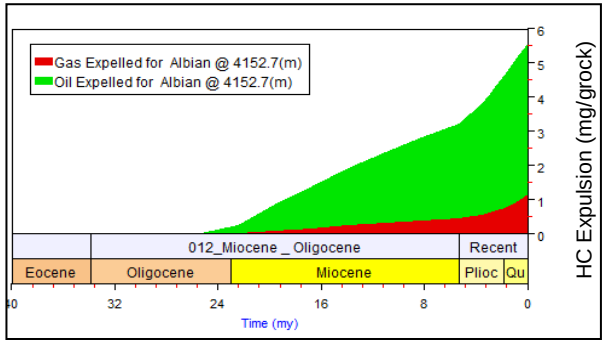
1. Potential for multiple source rocks (Maastrichtian-Albian), 1 good OAE candidate (Turonian)
2. 2 to 4km of overburden (2/3rd Tertiary fill)
3. Simple burial history with geothermal gradient* constrained by exploration wells
4. Onset of main oil generation post dates trap formation (Turonian & Paleocene)
5. End member models both indicate oil generation present day



- *Isopach Seafloor - base Albian SR (m)*



- *1D Model, Vitrinite Reflectance, Burial History*

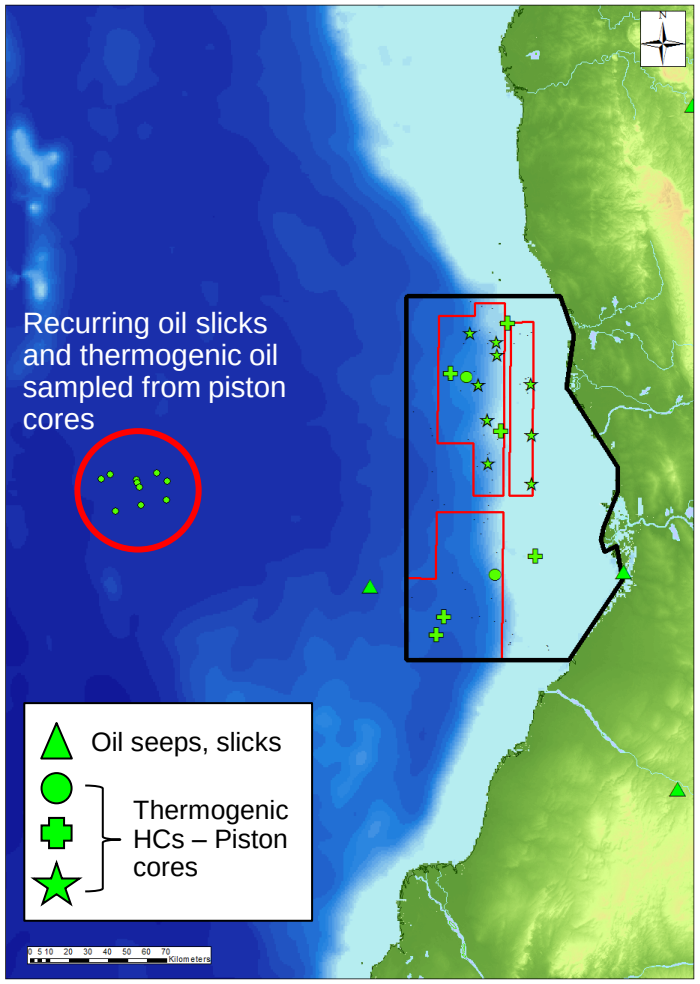


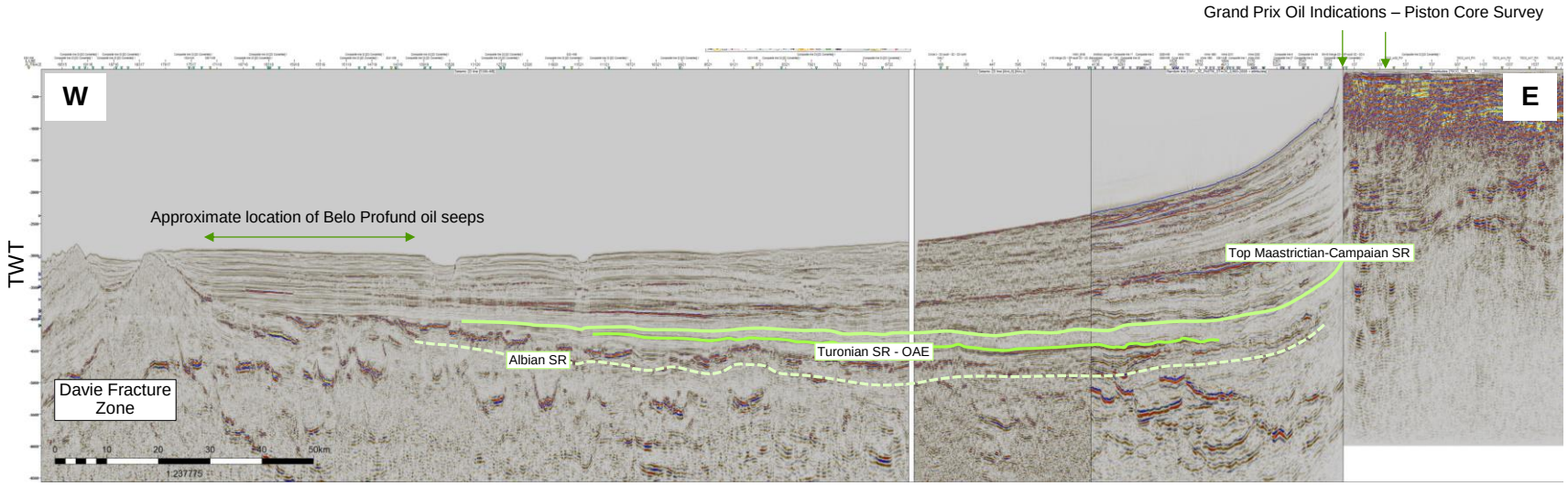
- *Hydrocarbon Expulsion Timing*

*geothermal gradient 3.5-4.0°C/100m, Heat flow 50-65mW/m^2

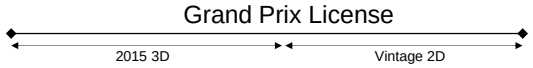
Charge & Migration

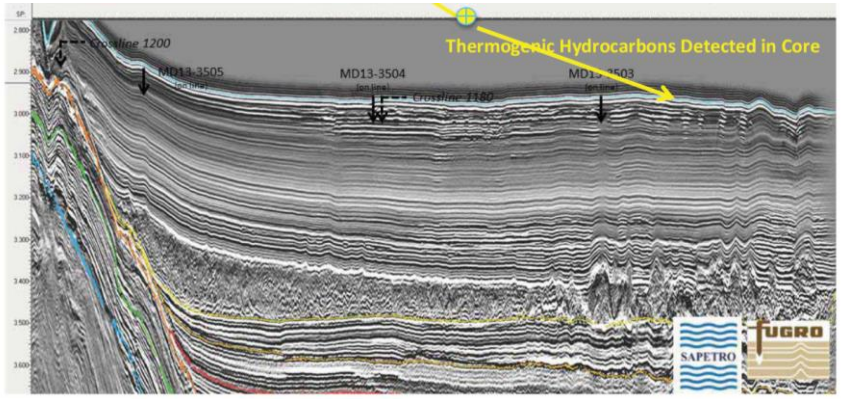
Seeps, Piston Cores, Pockmarks, Offset infomation

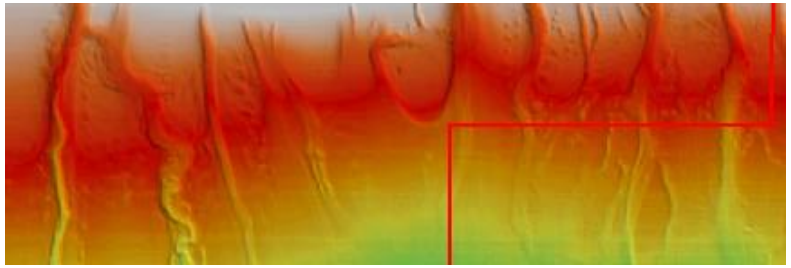




Source: SAPETRO Investor Presentation, 2014



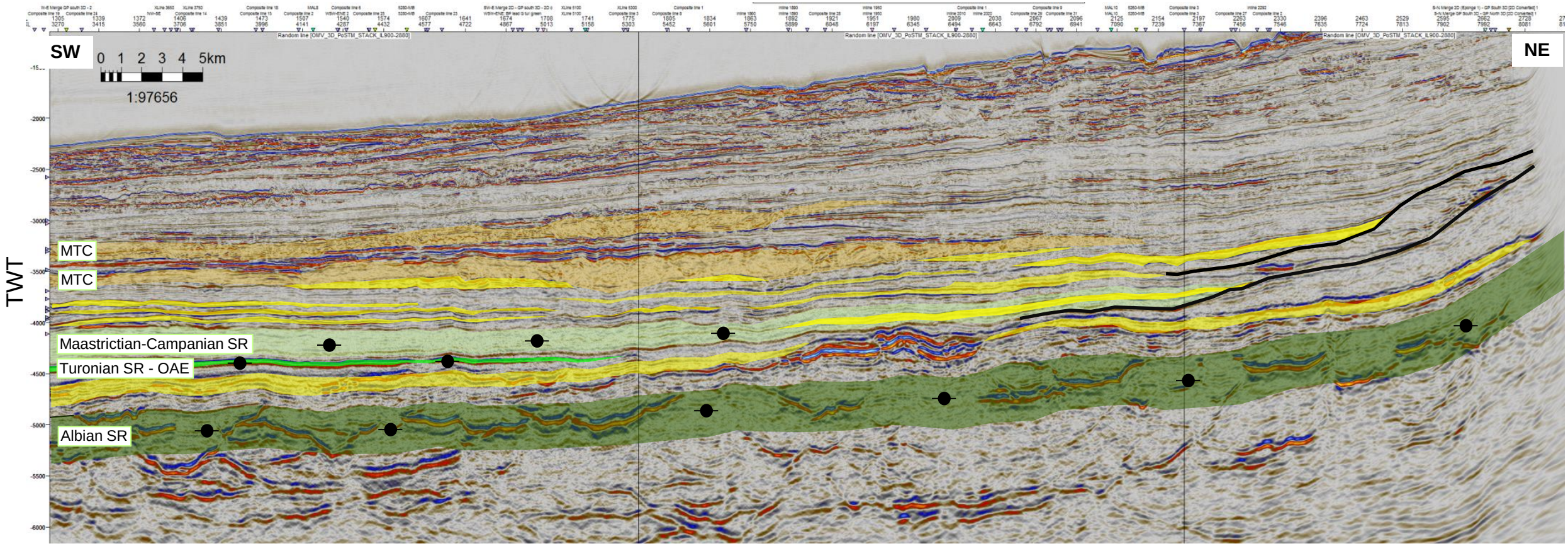




Grand Prix Bathymetry Survey – Pockmarks on shelf edge (image rotated counterclockwise 90°)

Charge & Migration

Reservoir objectives inter-bedded with or adjacent to source rocks



Mass Transport Complex

Cretaceous Source Rock

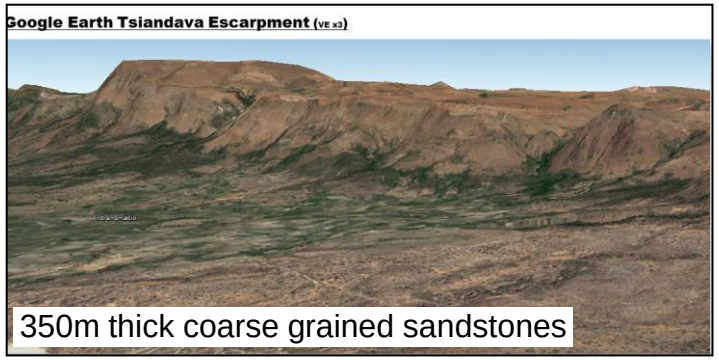
Neogene & Cretaceous Sandstones

Albian SR position inferred from offshore wells

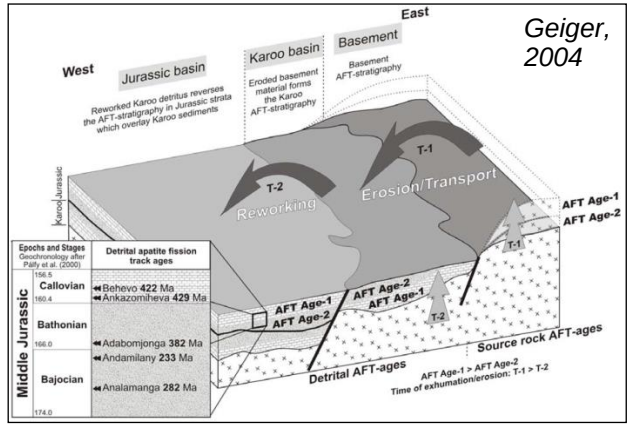
Reservoir

Provenance, drainage, shelf setting, slope and basin floor profile

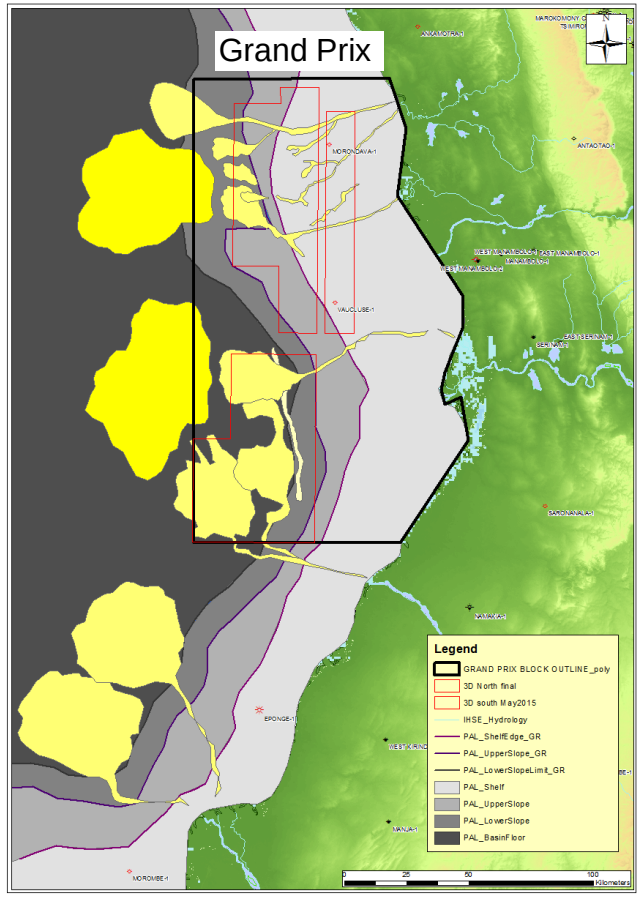
1. Granitic provenance 100-200km from block
2. Good evidence for re-working of thick clastic sediments (Karoo age) – *Apatite fission track*
3. Palaeogeography and drainage (large river systems 350-550km long, >100,000km^2 catchment area, broad sandy shelf re-works sediment)
4. Target trap depths (2-4km bml, ideal for seal development, porosity preservation and well productivity)



350m thick coarse grained sandstones



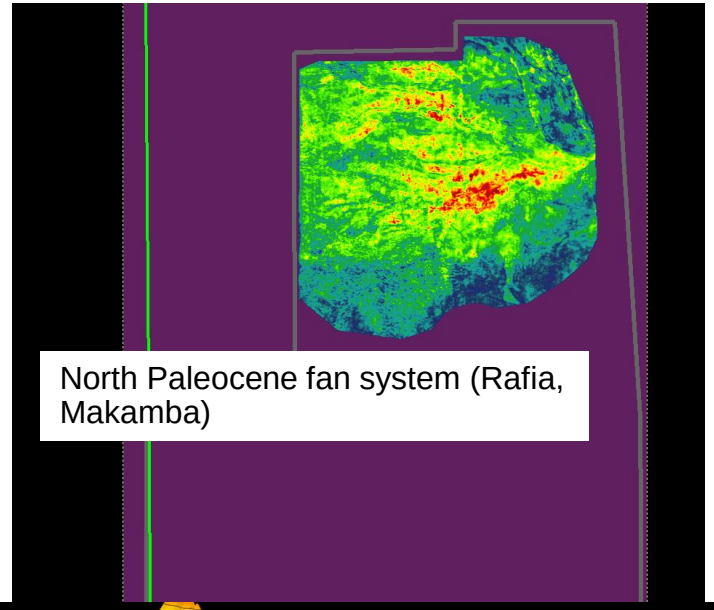
Long lived river systems linked downstream with well defined offshore canyons

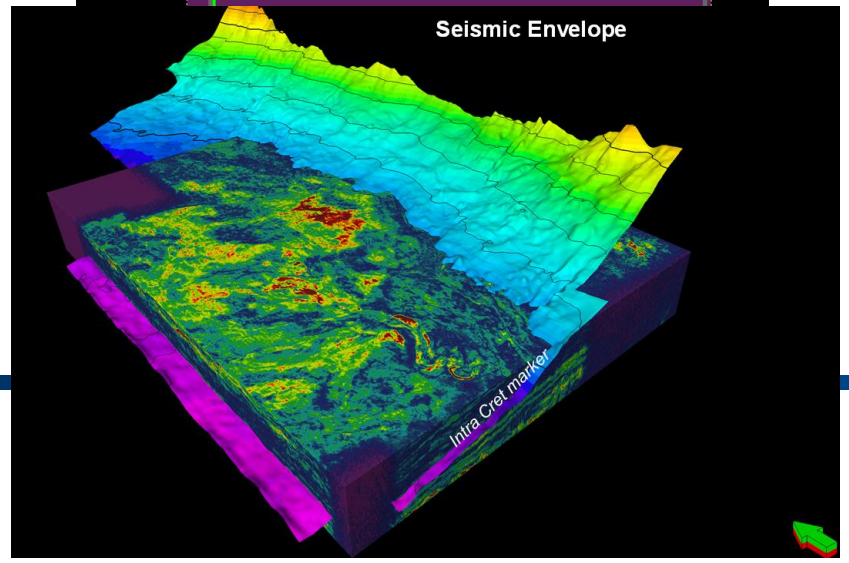


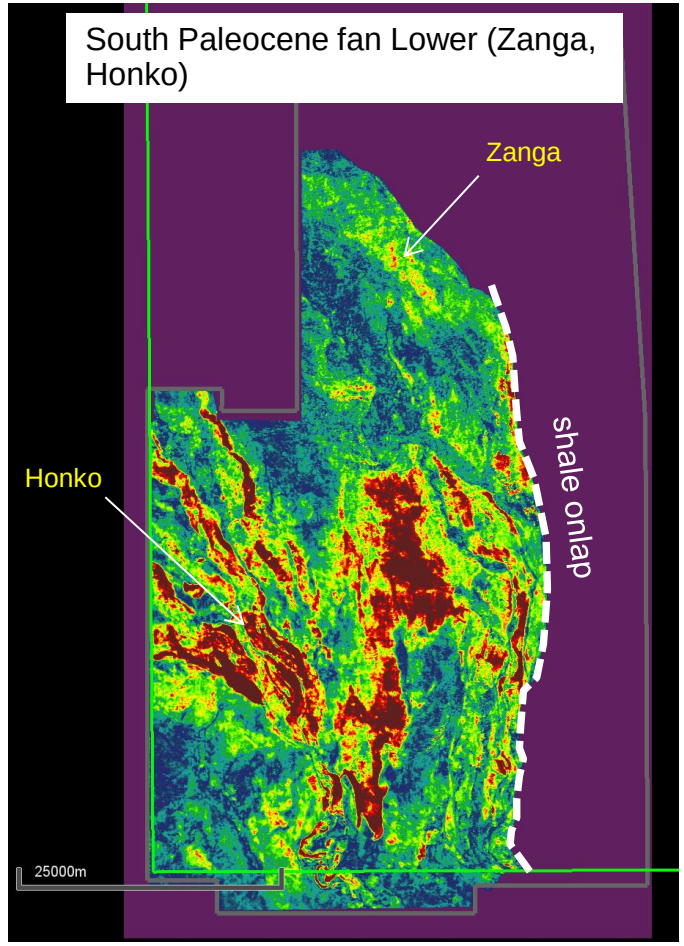
Paleocene Gross Depositional Environment Map

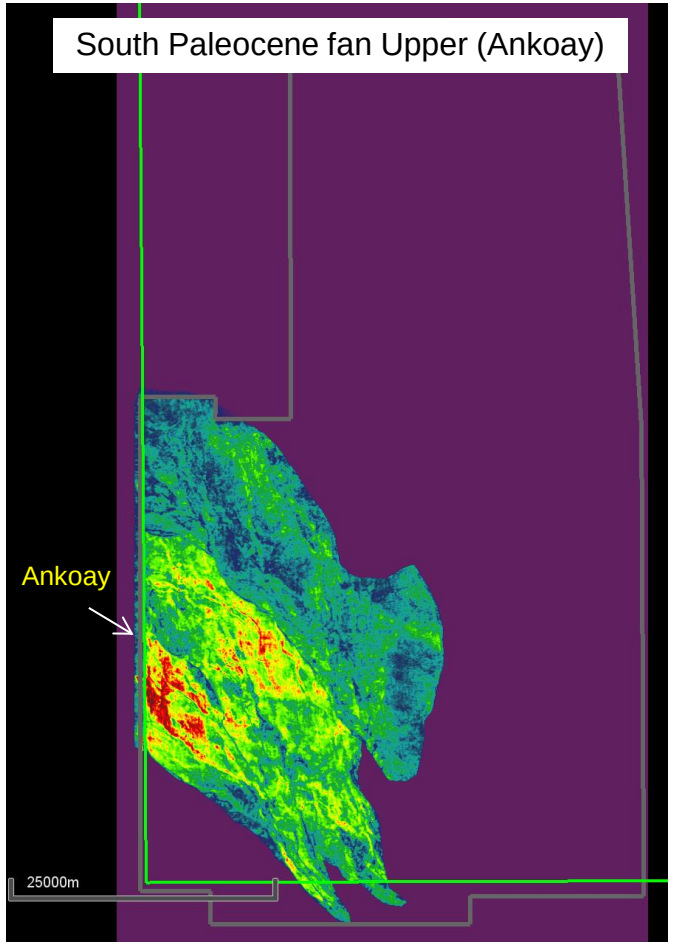
Paleocene fan systems – three discrete objectives

Sweetness Attribute Extractions / Southern Fans overlie Cenomanian-Turonian Prospects



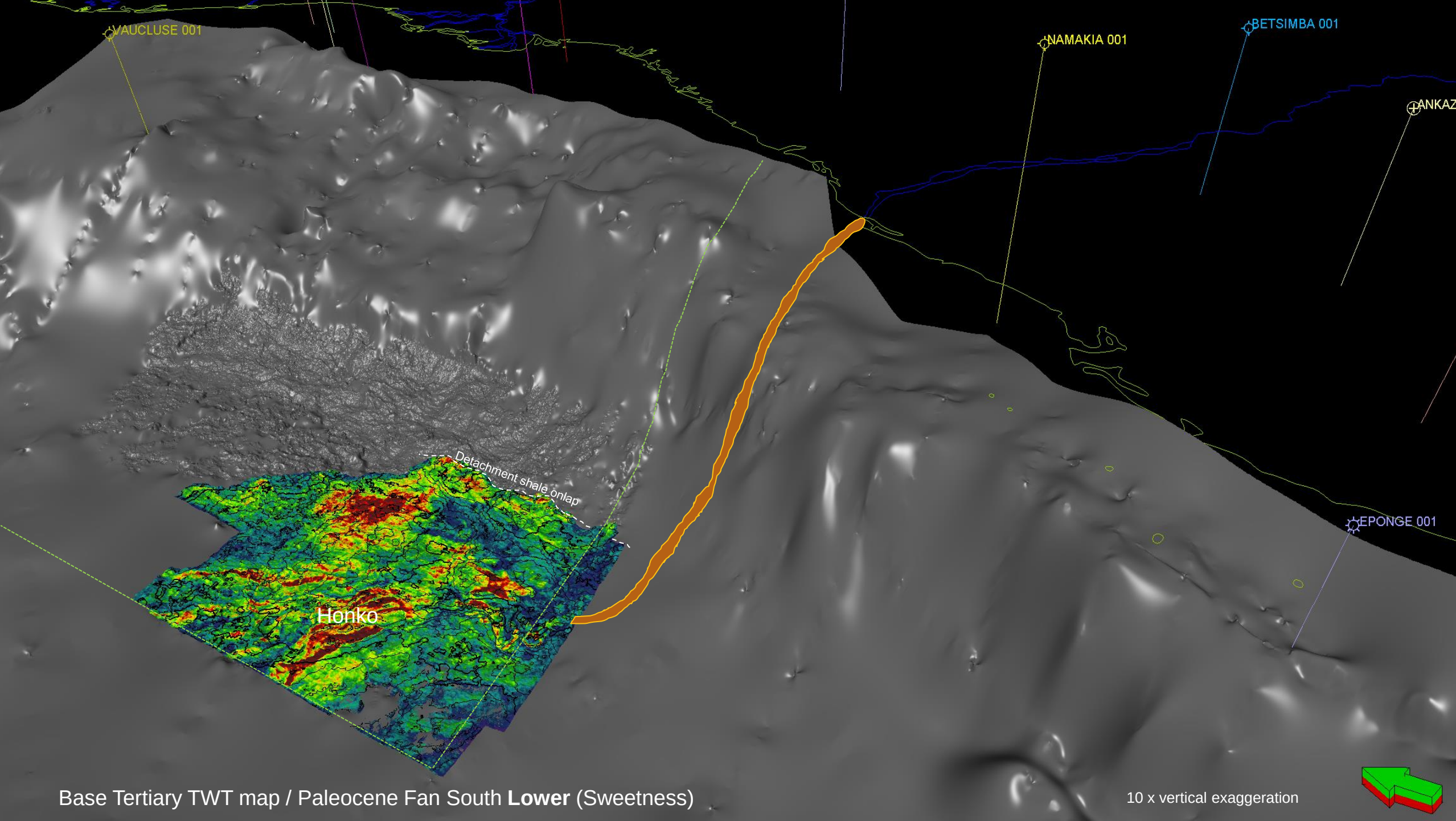






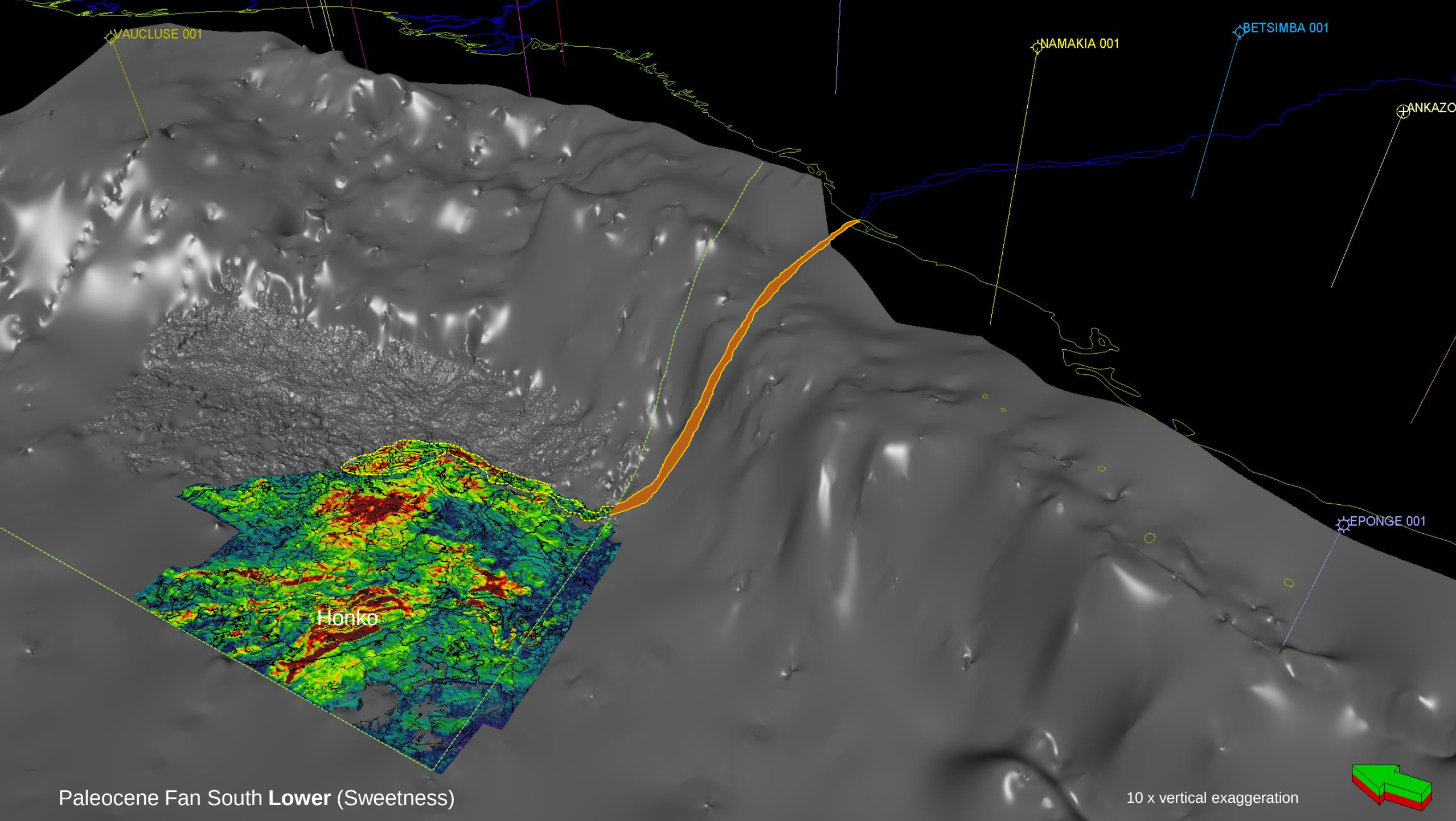
Paleocene attribute screening / relationship with eastern onlap surface

Sweetness=Envelope/SQRT(Inst. Frequency)



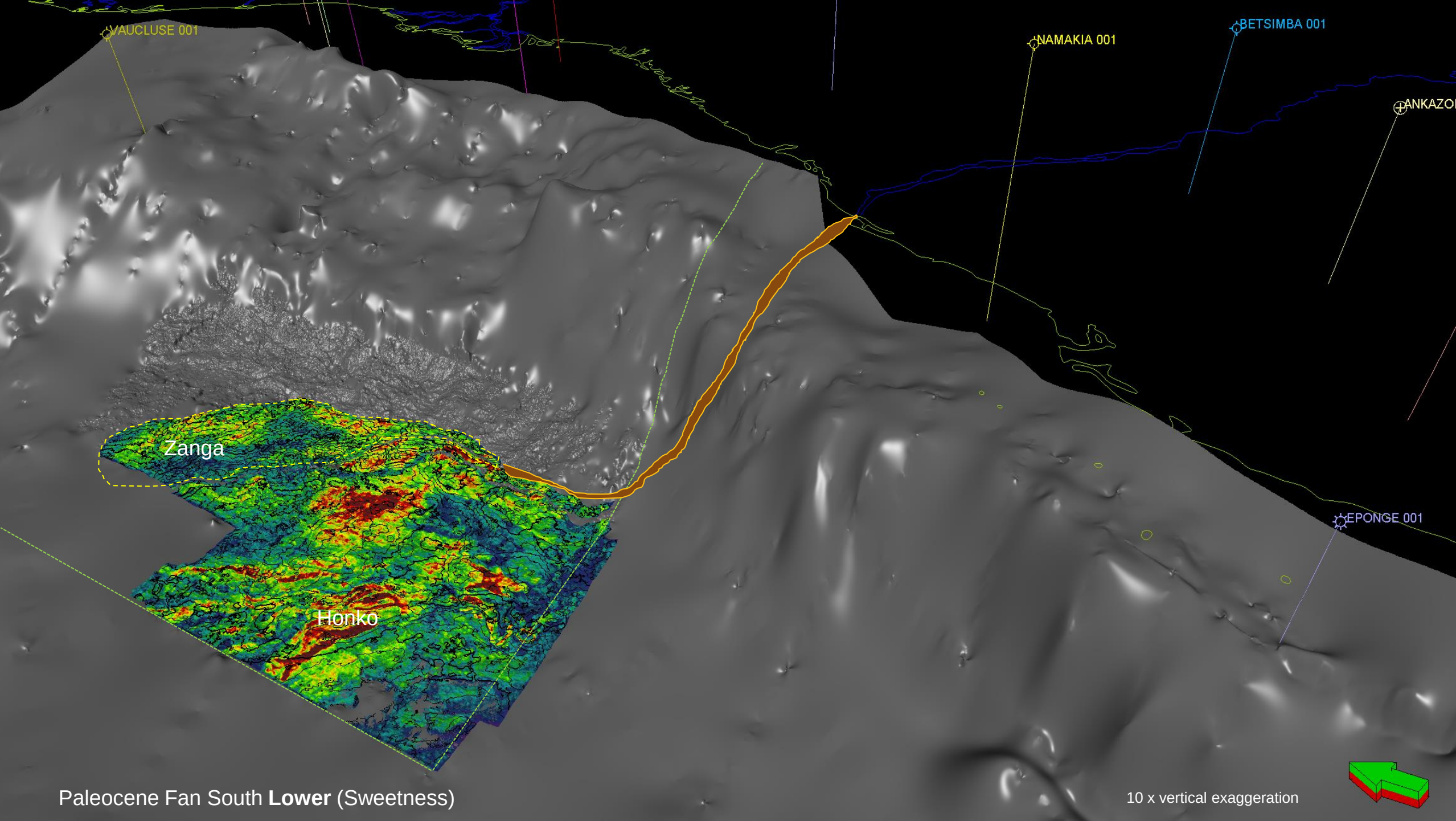
Base Tertiary TWT map / Paleocene Fan South **Lower** (Sweetness)

10 x vertical exaggeration



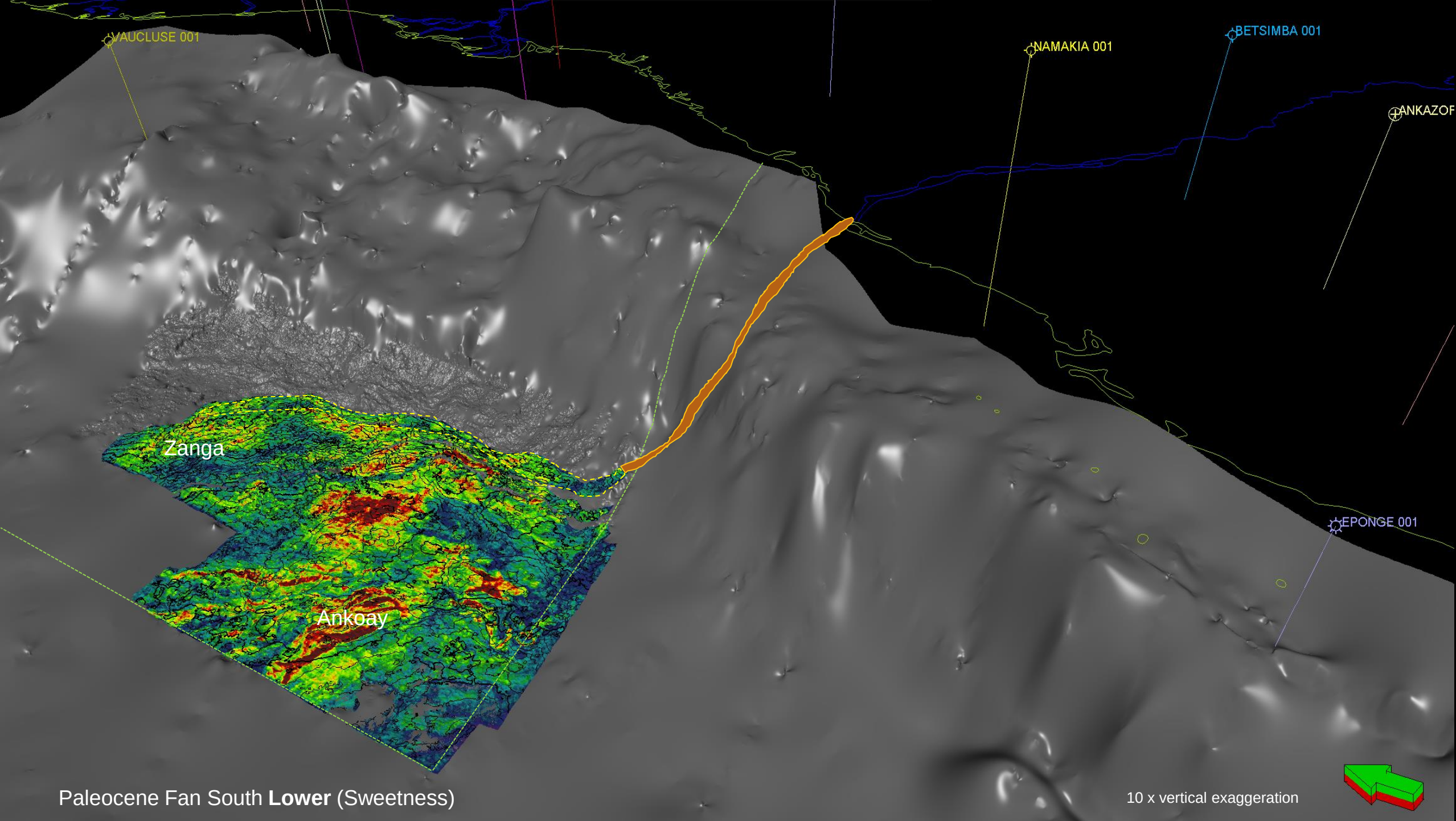
Paleocene Fan South **Lower** (Sweetness)

10 x vertical exaggeration



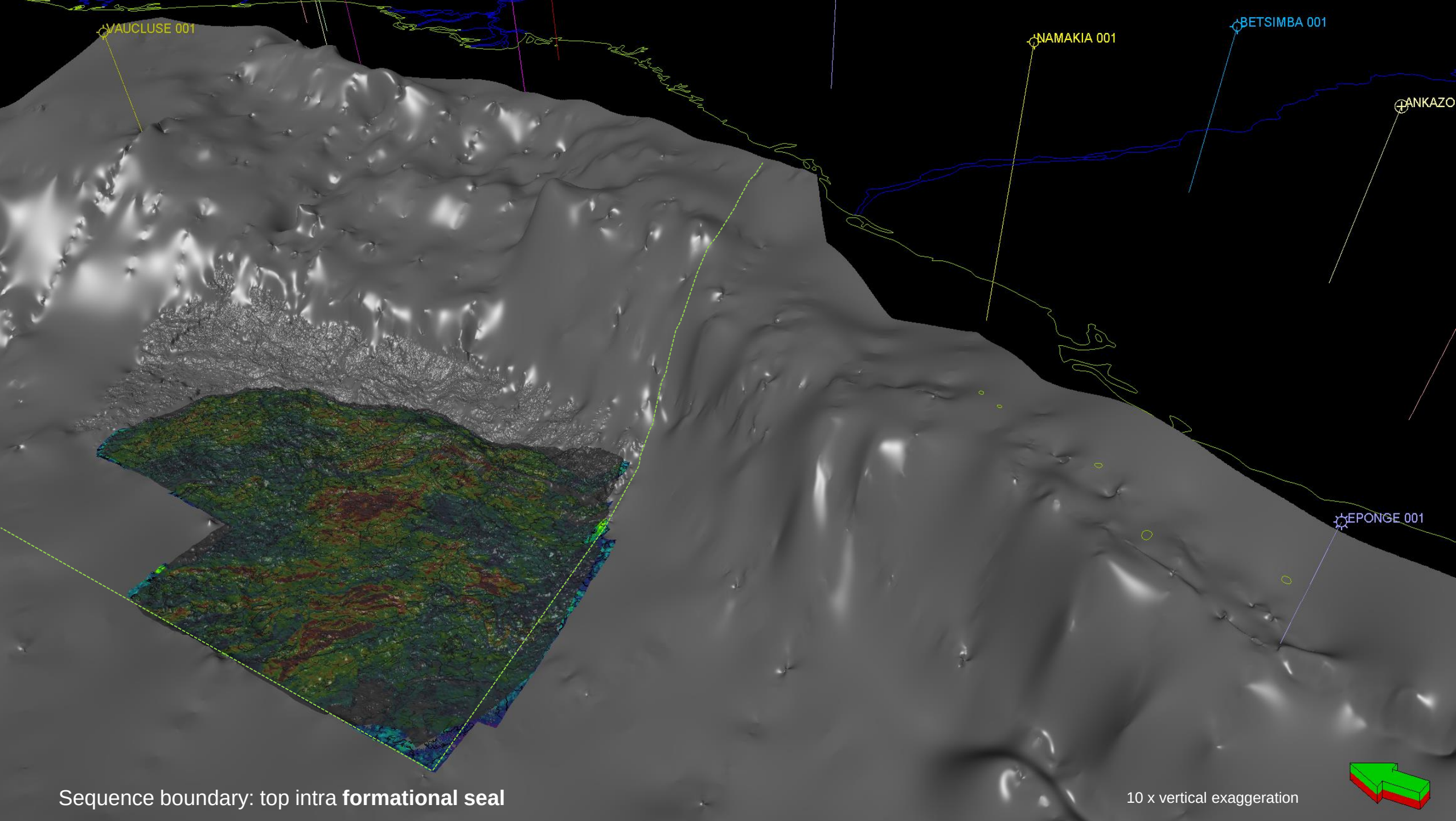
Paleocene Fan South **Lower** (Sweetness)

10 x vertical exaggeration



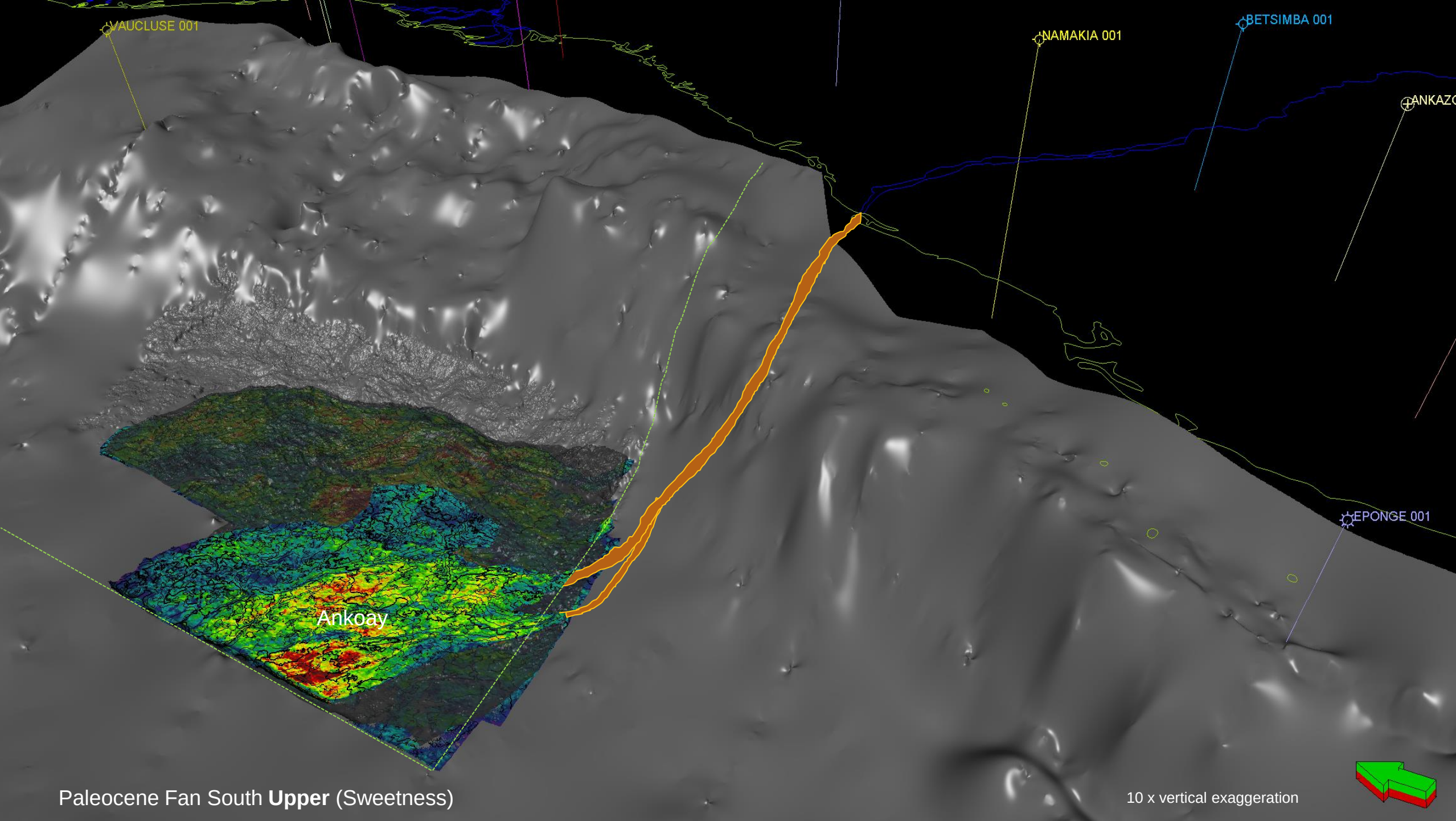
Paleocene Fan South **Lower** (Sweetness)

10 x vertical exaggeration



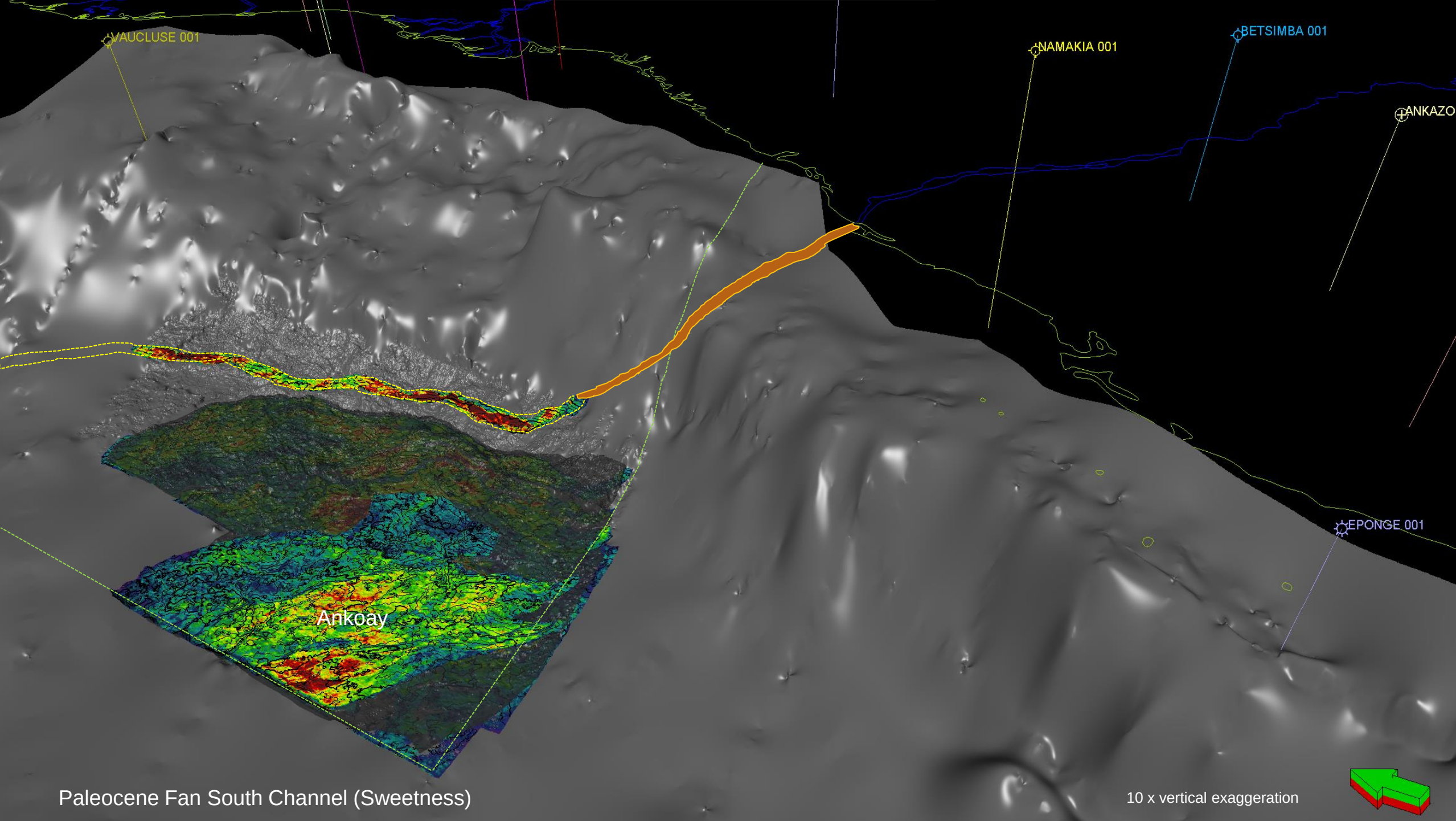
Sequence boundary: top intra **formational seal**

10 x vertical exaggeration



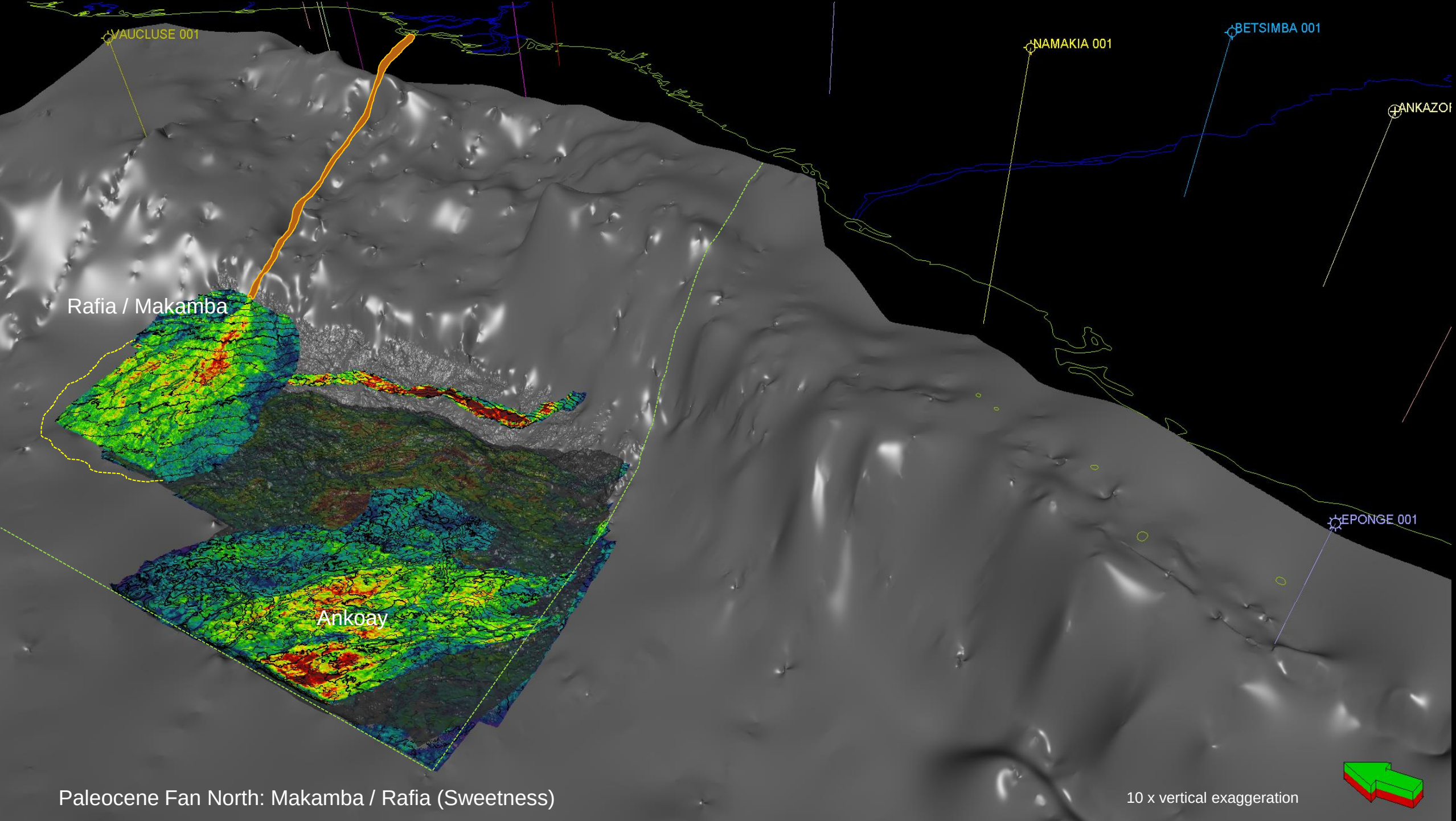
Paleocene Fan South **Upper** (Sweetness)

10 x vertical exaggeration



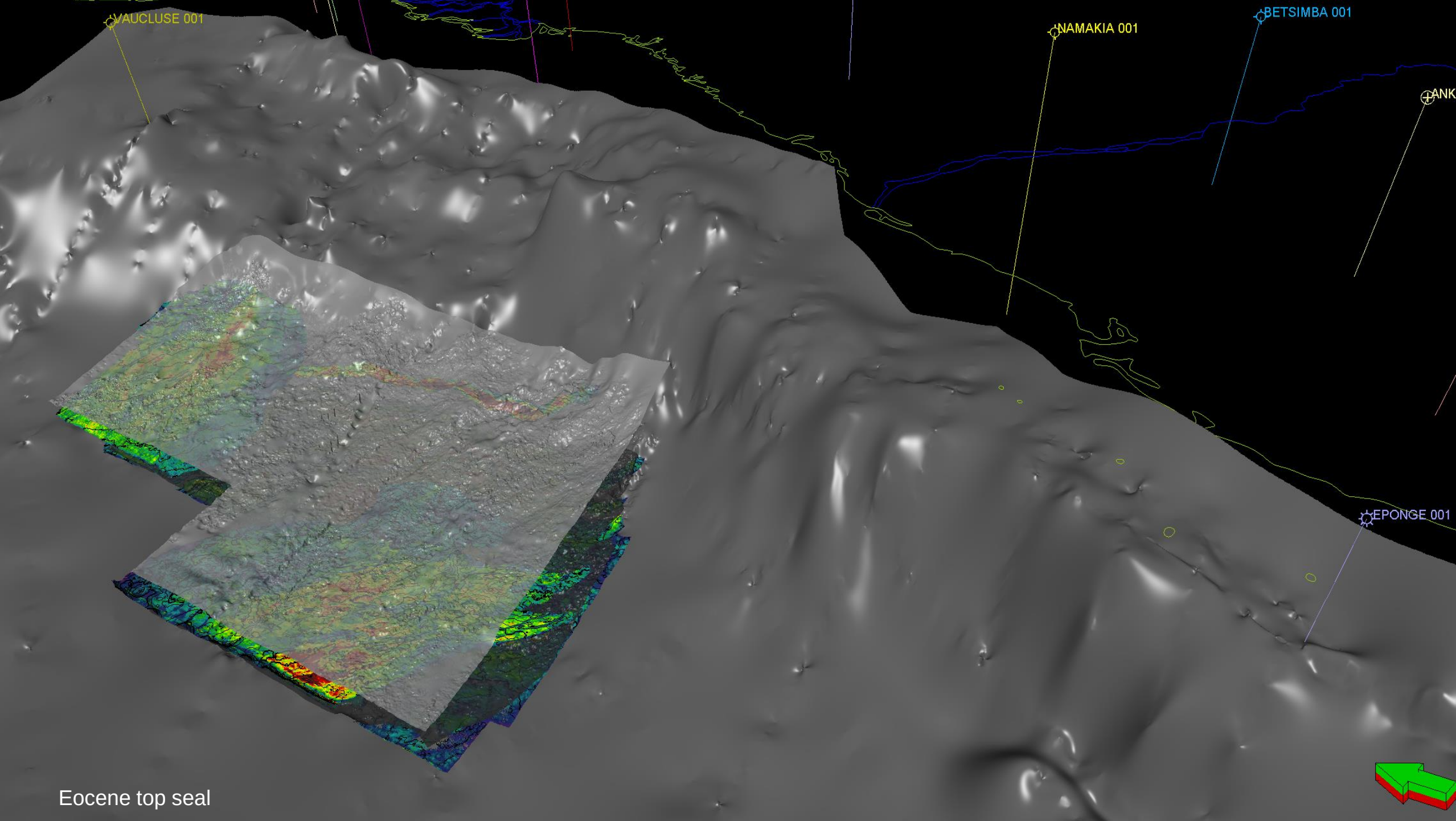
Paleocene Fan South Channel (Sweetness)

10 x vertical exaggeration



Paleocene Fan North: Makamba / Rafia (Sweetness)

10 x vertical exaggeration

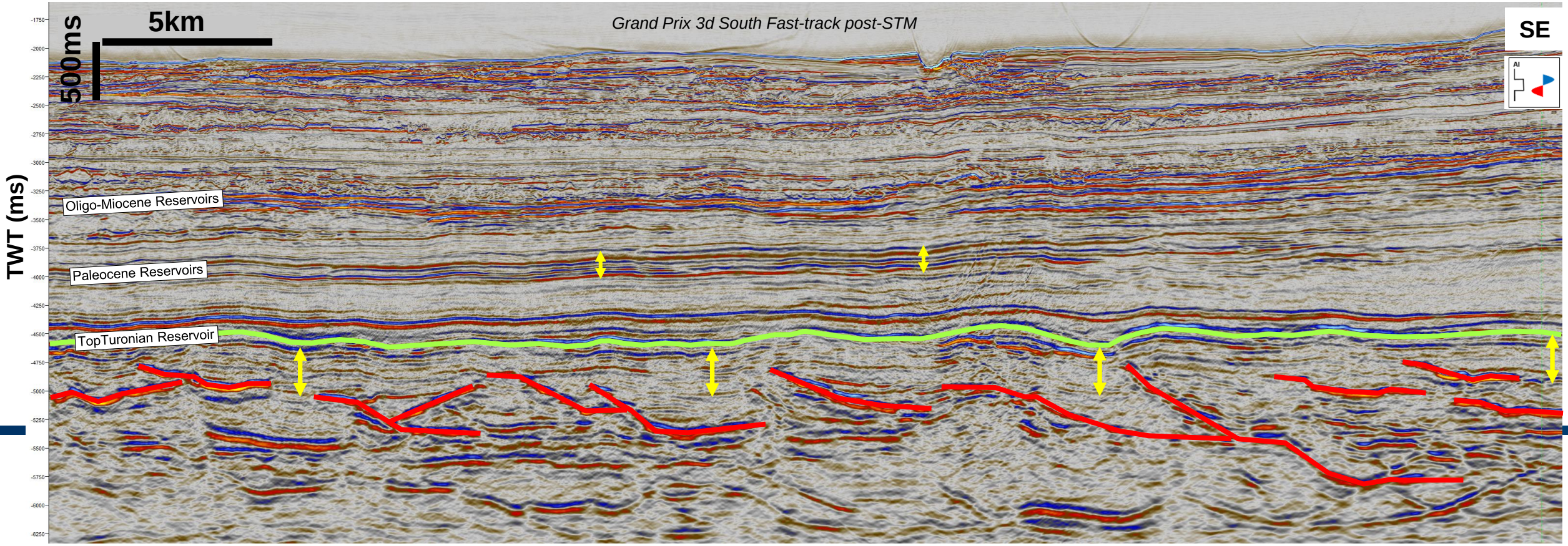


Eocene top seal

Seal / Trapping Styles

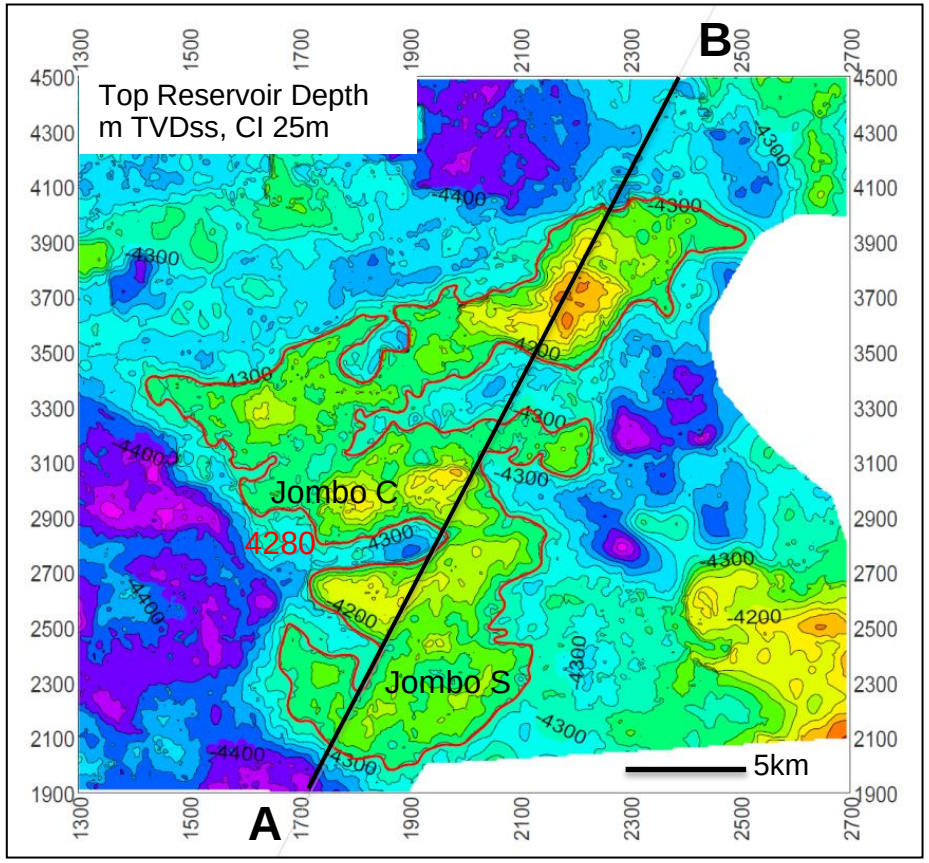
Depositional environment, seismic control

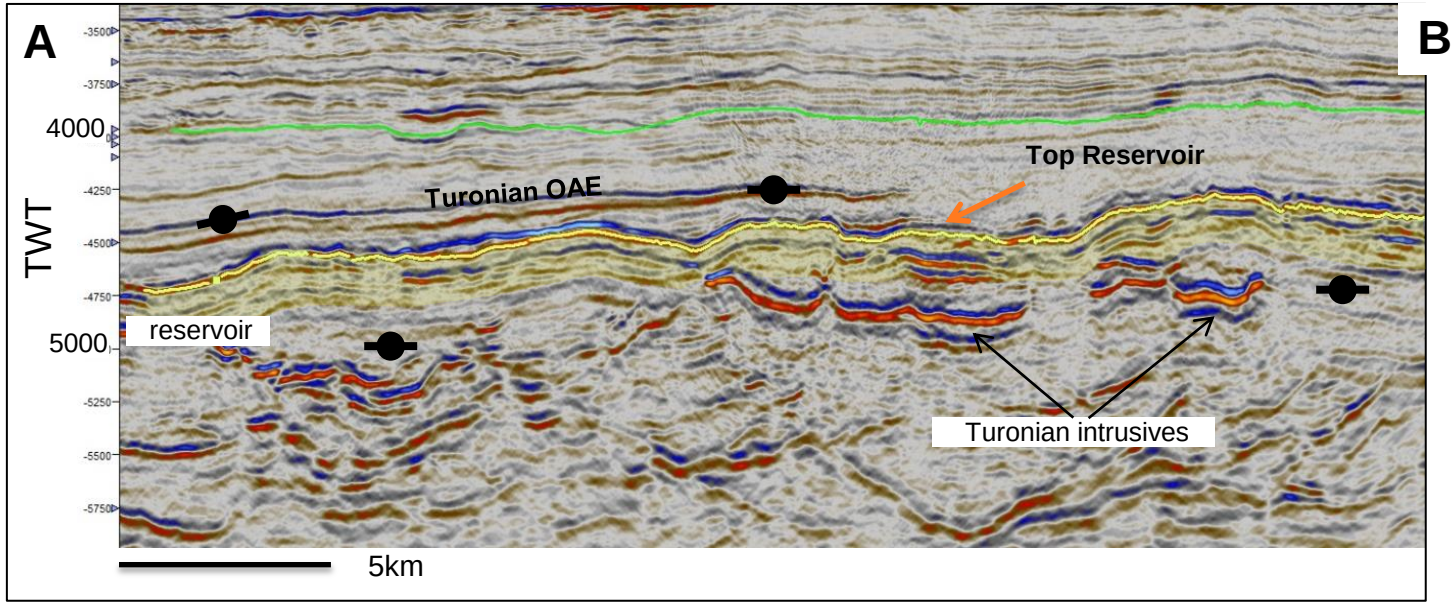
1. Turonian traps are 4-way dip closed and related to underlying intrusives
2. Paleocene traps are combination, structural/stratigraphic (updip faulting and pinchout)
3. Seismic facies indicates thick sealing shale intervals above both the Paleocene and Turonian deepwater fairways
4. Immediately up dip shelf-edge wells very shale prone



Turonian-Cenomanian Trap Example – Jombo (250km²)

Mean resources – 675mmbbls

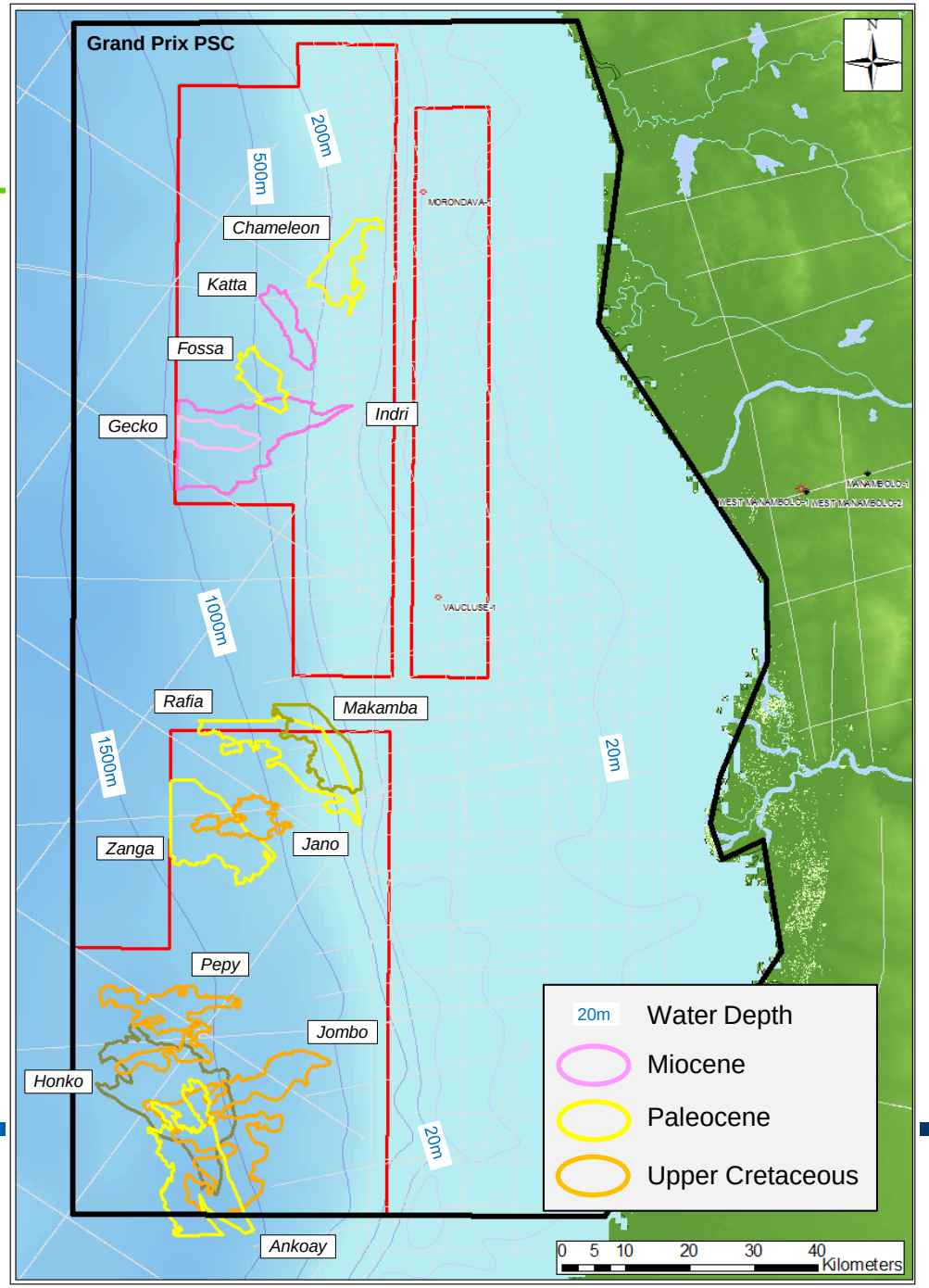




Prospect & Lead Inventory (3D only)

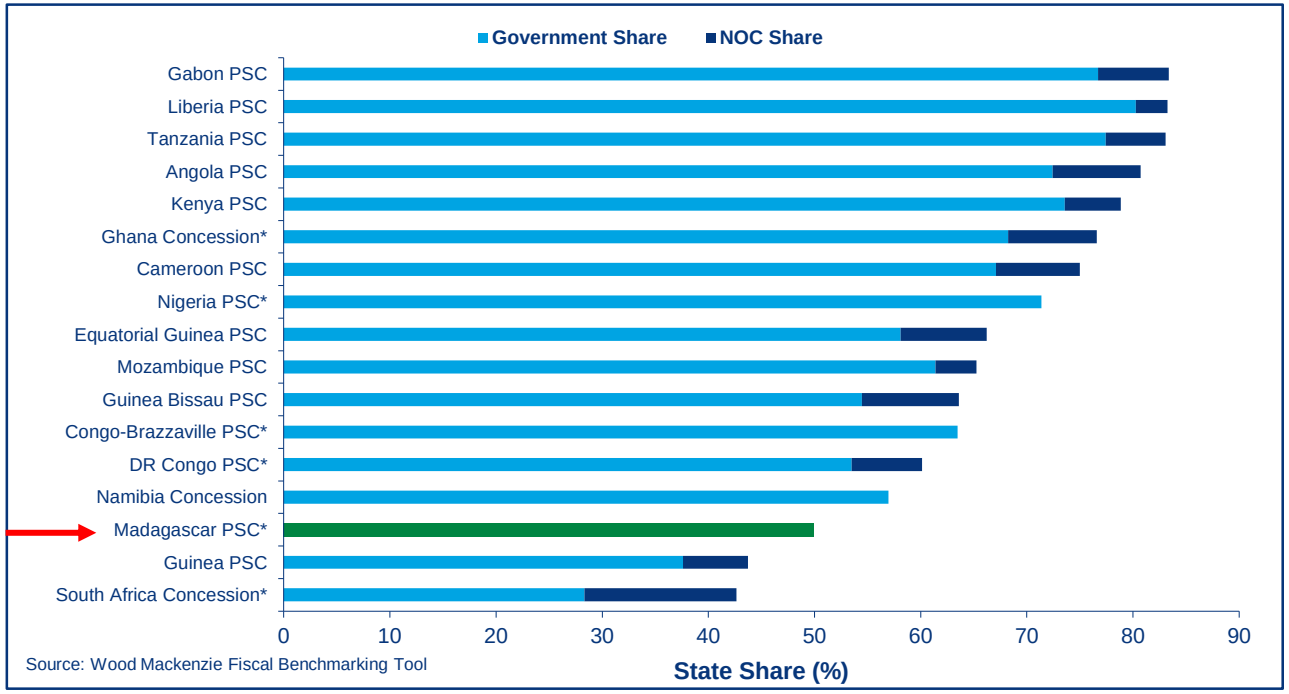
Status	Name	Reservoir Age	Trap Type	Data Coverage	Mean	P10
Prospect	Jano	Turonian-Cenomanian	4-way	2015 3D	154	390
Prospect	Pepy	Turonian-Cenomanian	4-way	2015 3D	197	336
Prospect	Jombo	Turonian-Cenomanian	4-way	2015 3D	308	1151
Prospect	Makamba	Paleocene	Combination	2015 3D	191	401
Prospect	Zanga	Paleocene	Combination	2015 3D	100	294
Prospect	Rafia	Paleocene	Combination	2015 3D	310	779
Lead	Honko	Paleocene	Combination	2015 3D	207	1200
			Total Mean Unrisked Resources		**1467**	

Prospect	Fossa	Paleocene	Combination	2010 3D	91	214
Prospect	Indri	Miocene	Combination	2010 3D	253	620
Lead	Chameleon	Paleocene	Combination	2010 3D	135	
Lead	Gecko	Miocene	Combination	2010 3D	42	
Lead	Katta	Miocene	Combination	2010 3D	110	318
			Total Mean Unrisked Resources		**631**	



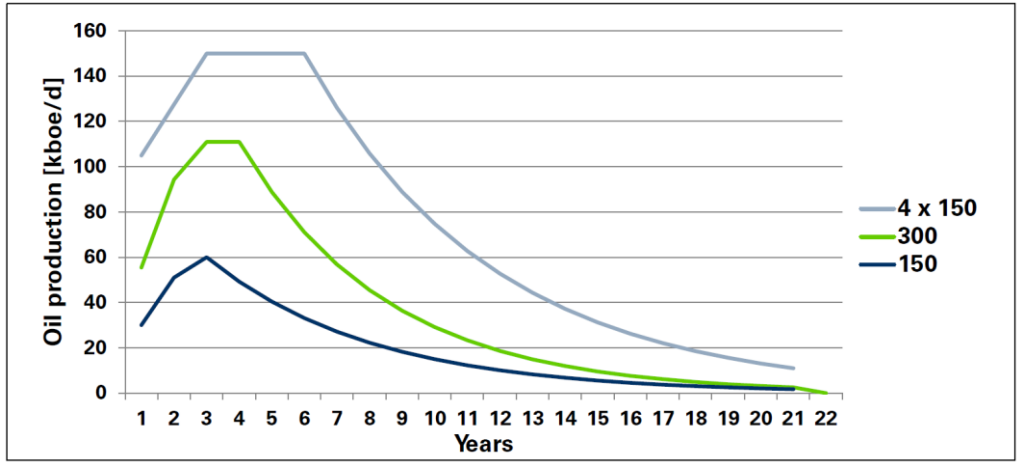
Grand Prix Value Proposition
Supportive E&P environment, Competitive fiscal terms

Madagascar fiscal terms rank favourably among SSA*



Note: WM Madagascar terms are onshore and/or heavy oil; **Grand Prix contractor profit share** up to **25% higher**

- Healthy NPV10 >USD 1 billion (300 mn bbl Pmean resources)
- Conservative CAPEX of USD20/bbl+
- Conservative long-term oil price of USD75/bbl flat
- Deepwater MEFS of around 150 mn bbl



Grand Prix Development Scenarios

* Source: Wood Mackenzie, "State share for future shelf oil projects at US$50/bbl"; generated using "State Share % Pre-Share NPV" metric, Fiscal Benchmarking Tool, Q4 2015. Discount Rate: 0%, Price $50.00/bbl (real 2014 terms), Size: Large (400 mmbbl), Cost: Medium (US$20/bbl, 2014 terms). Countries with asterisks do not have proposed fiscal changes reflected in data.

Thank-you

GP-B

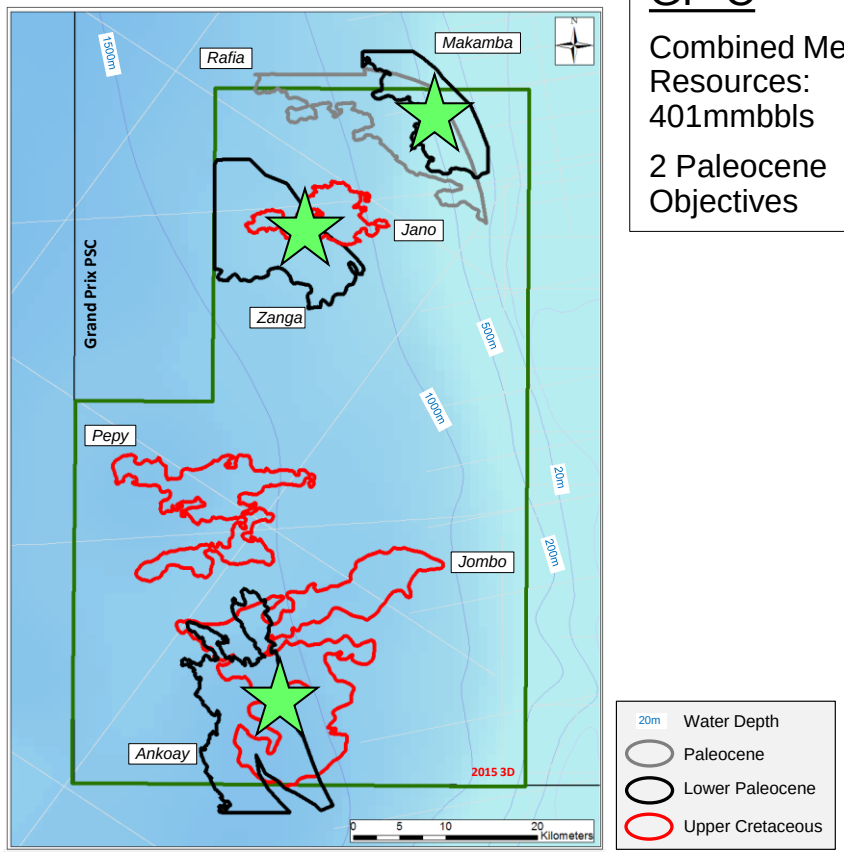
Combined Mean Resources: 254mmbbls

Paleocene / Upper Cretaceous

GP-A

Combined Mean Resources: 763mmbbls

Paleocene / Upper Cretaceous



GP-C

Combined Mean Resources: 401mmbbls

2 Paleocene Objectives