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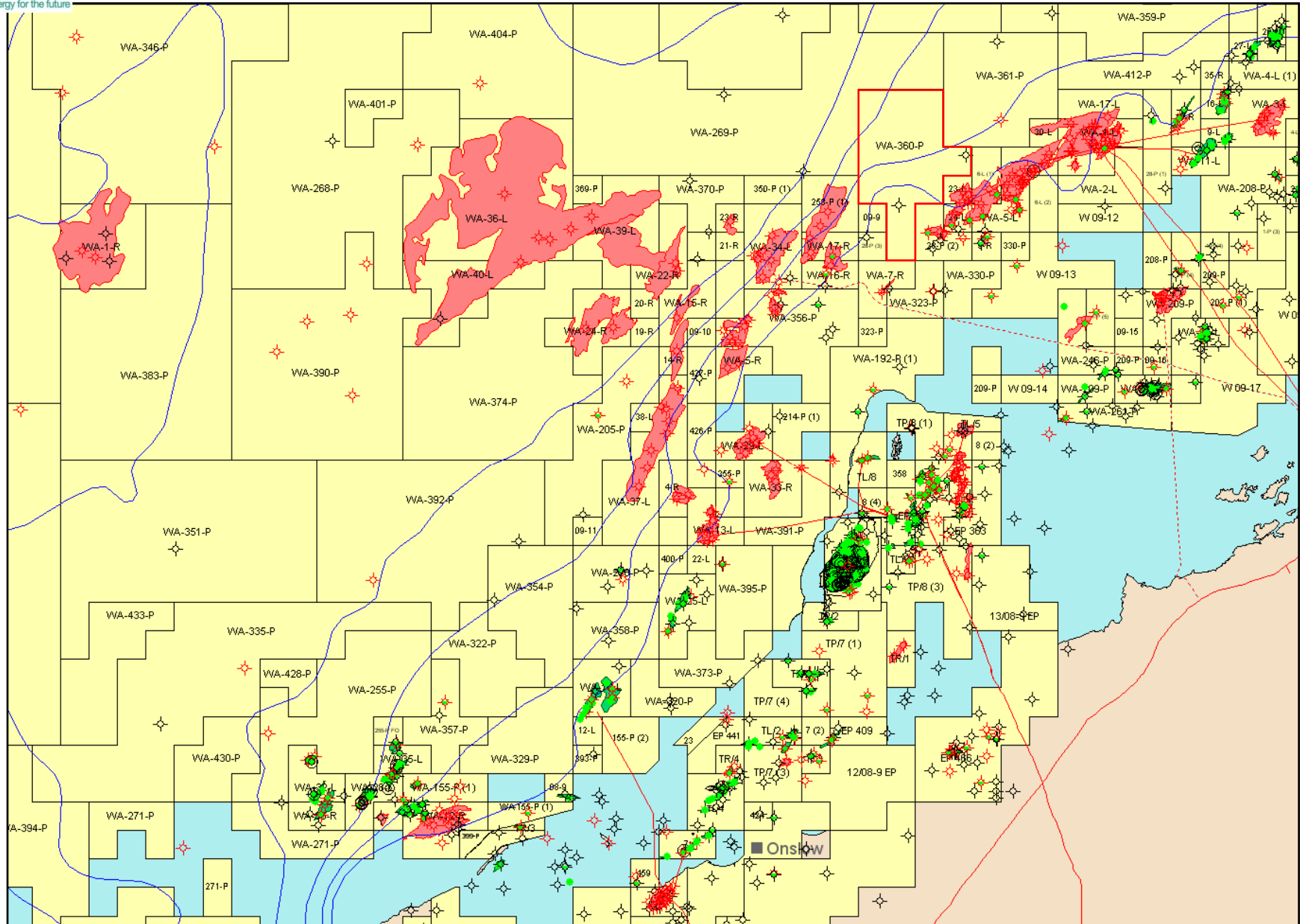
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# Artemis Prospect Overview

Technical Presentation to Shareholders following AGM, November 18<sup>th</sup>, 2009

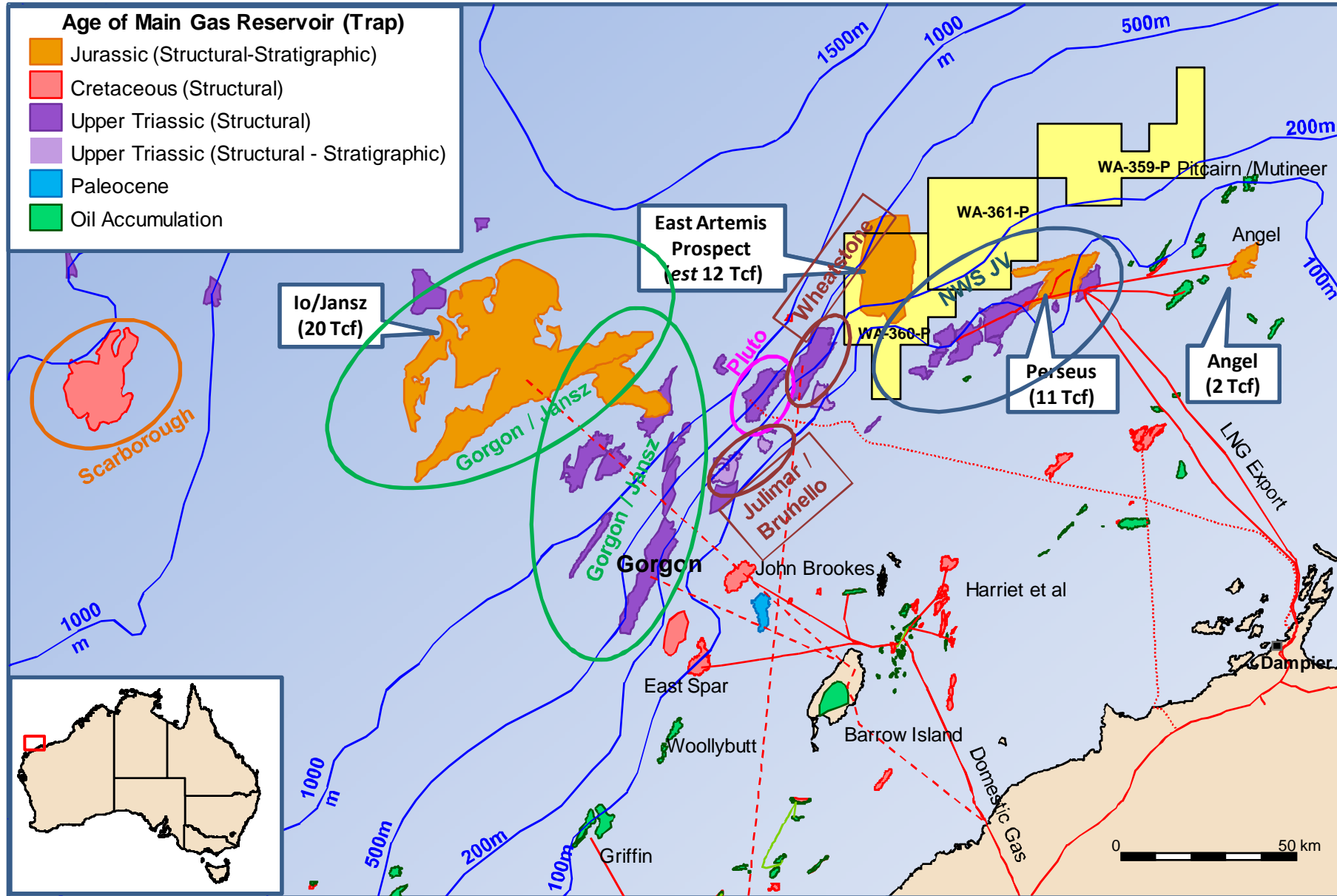
# Carnarvon Basin

## WA-360-P location in highly leased basin



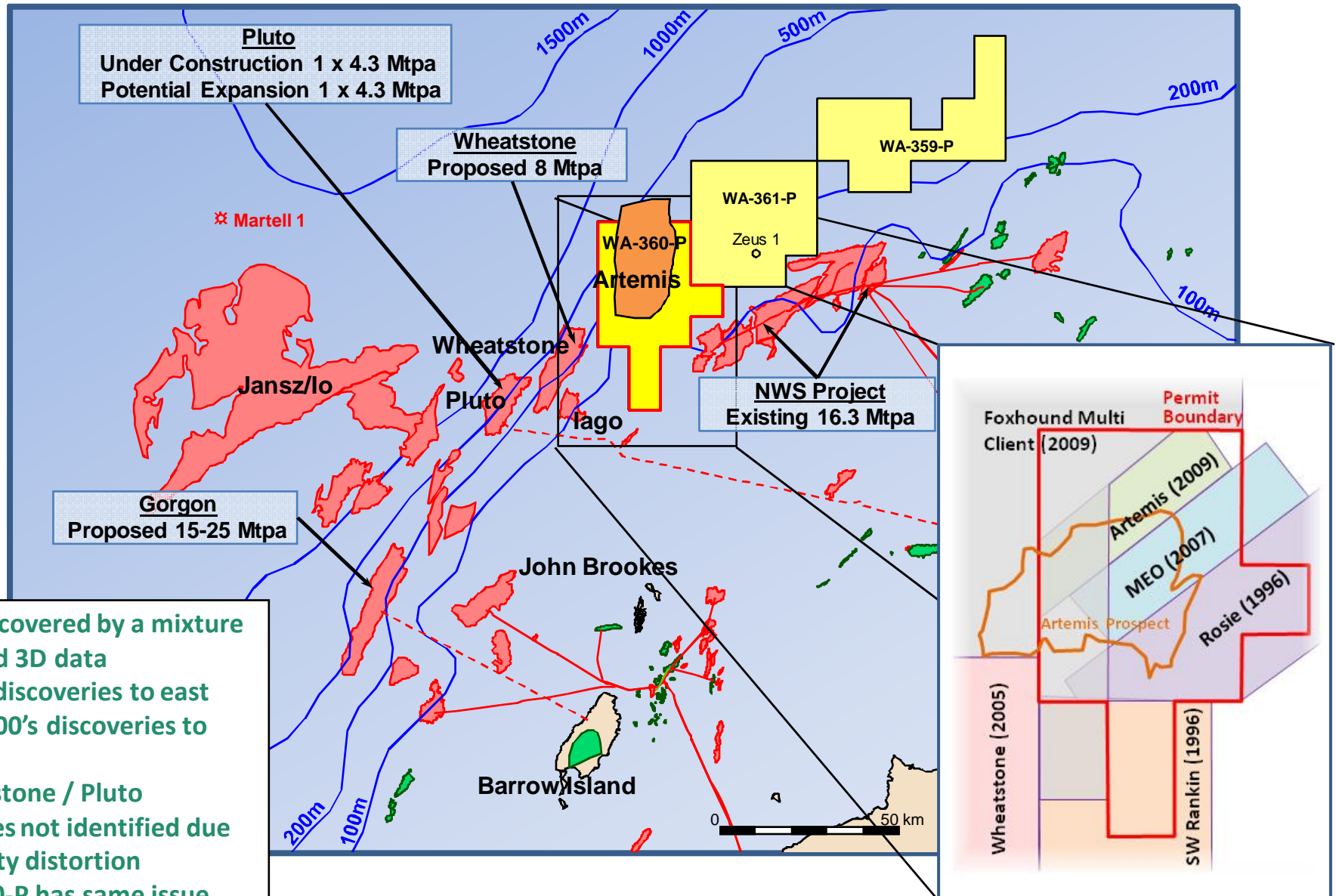
# Carnarvon LNG Developments

## Continuing success, material prospectivity



# WA-360-P

## 3D seismic coverage over permit



- Permit covered by a mixture of 2D and 3D data
- 1970's discoveries to east
- Mid 2000's discoveries to west
- Wheatstone / Pluto structures not identified due to velocity distortion
- WA-360-P has same issue

# Artemis Prospect

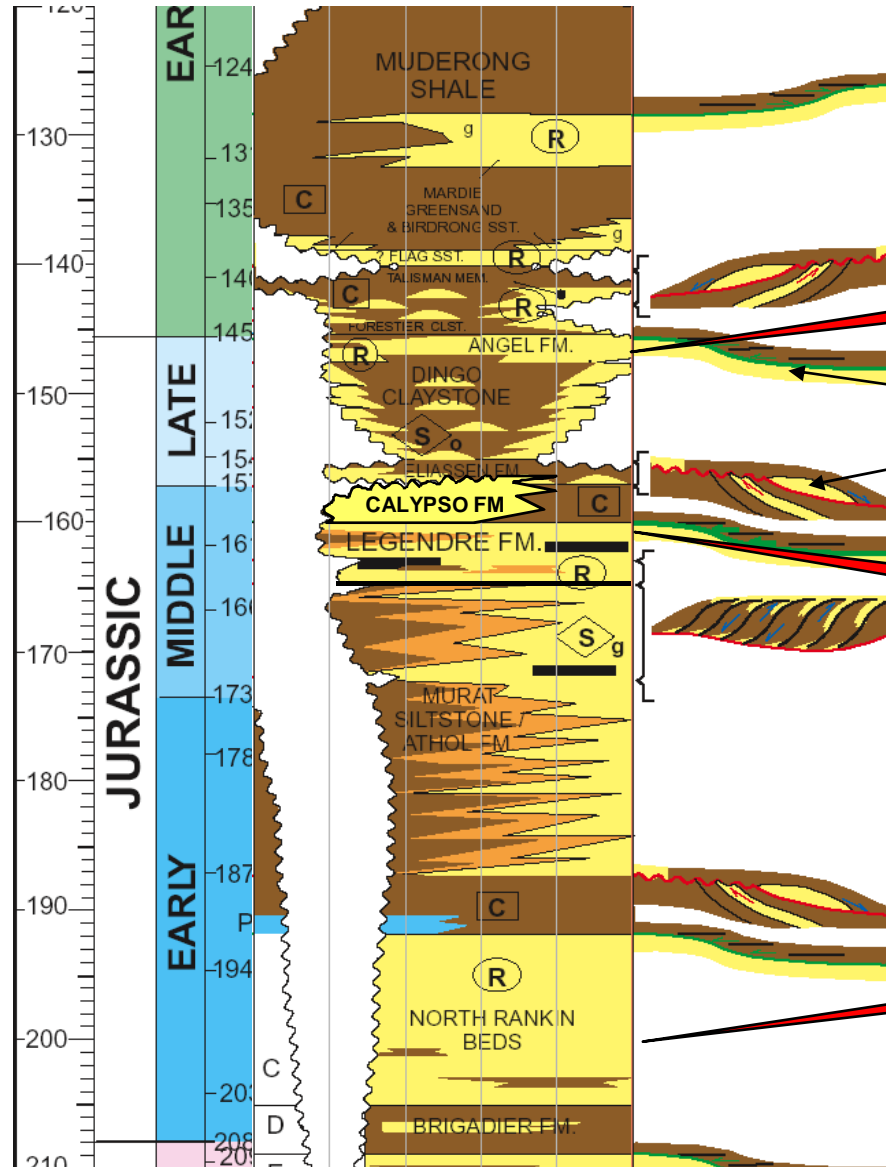
## Prospect Elements

Reservoir	Calypso and Legendre sandstones
Trap	Structural
Seal	Muderong and Athol, fault seal
Source	Mungaroo Coals
Maturation and Migration	Demonstrated, favourable configuration
Timing	Present day
Preservation	Good
DHI's	Amplitude anomalies with common terminations

All prospect elements have analogues in the immediately adjacent fields

# Reservoir

## Key Play Types in Carnarvon Basin, Artemis plays highlighted



### Upper Jurassic Oil Play:

Angel equivalent sands sub-cropping Base Cretaceous Shales with Dingo Claystone as base seal

### Legendre / Calypso Gas Play:

Barrier & shoreface sands in fault sealed and stratigraphic traps

### Analogues:

- Perseus Carnarvon Basin - 12 Tcf
- Persephone Carnarvon Basin - New Discovery

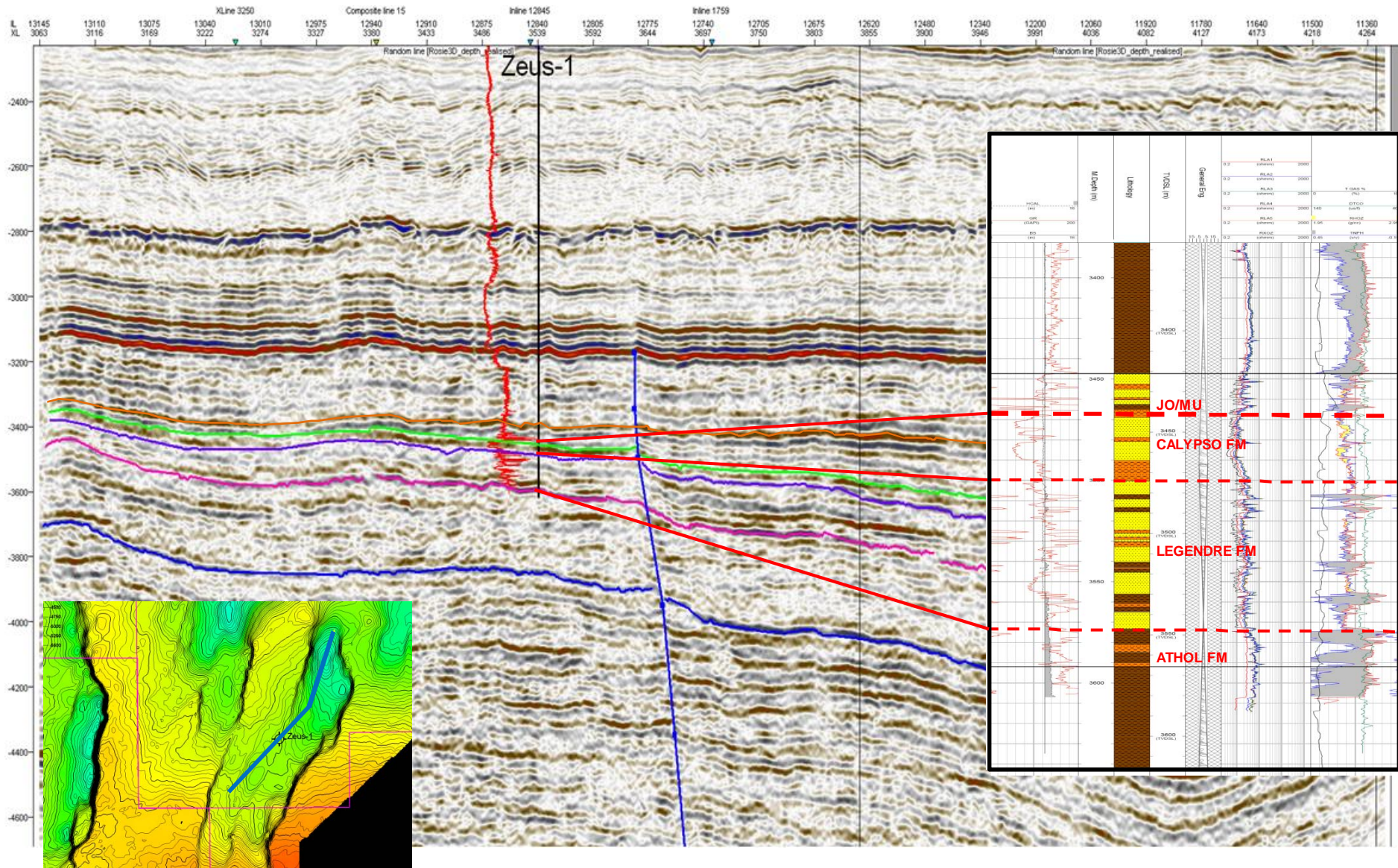
Late Triassic to Early Jurassic North Rankin Gas Play (+/- underlying Mungaroo):

North Rankin look-alike plus deep rollovers



# Reservoir calibration from Zeus-1

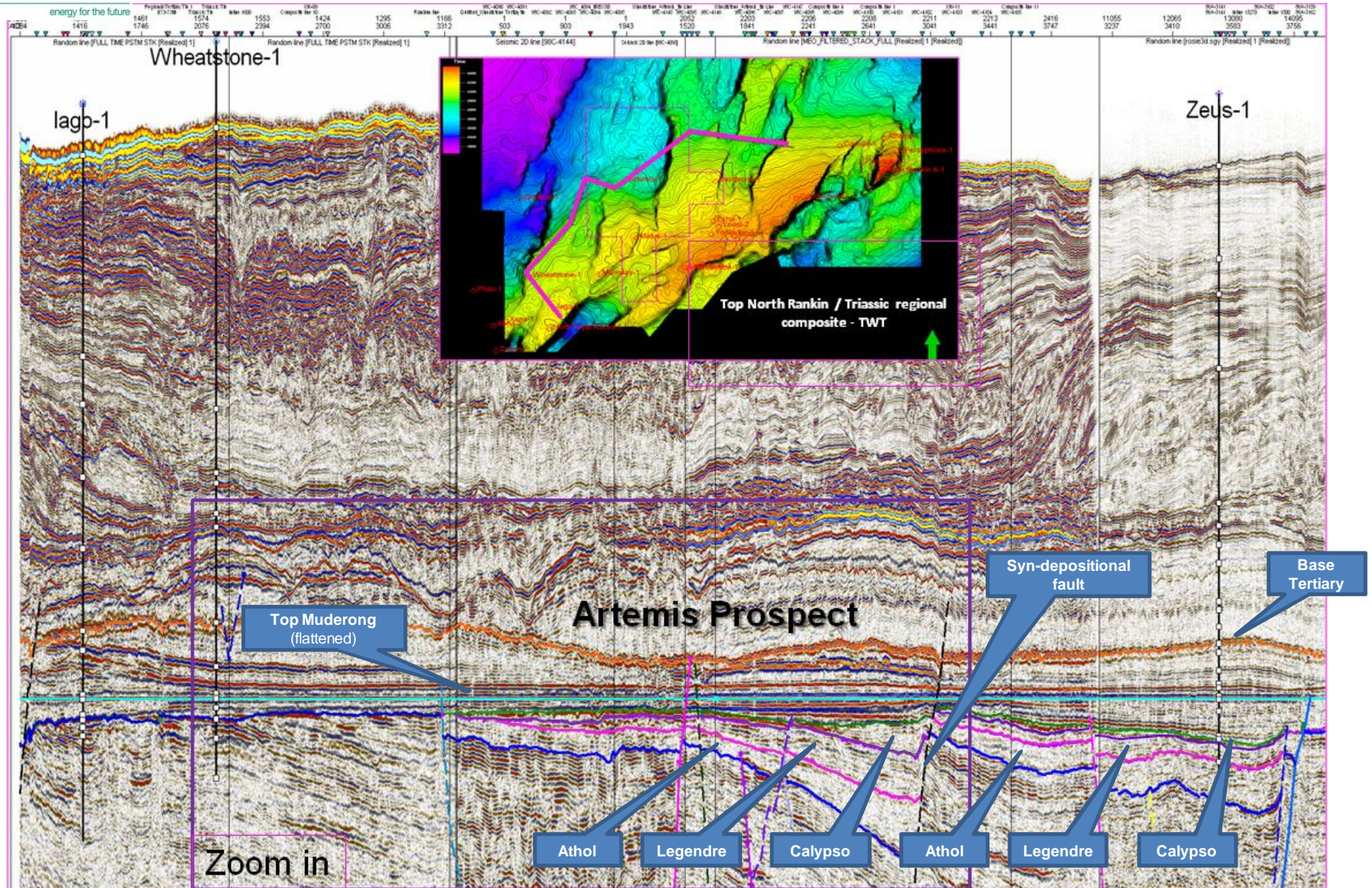
## Well tie showing seismic characteristics of Legendre and Athol





# Reservoir Correlation Zeus to Artemis

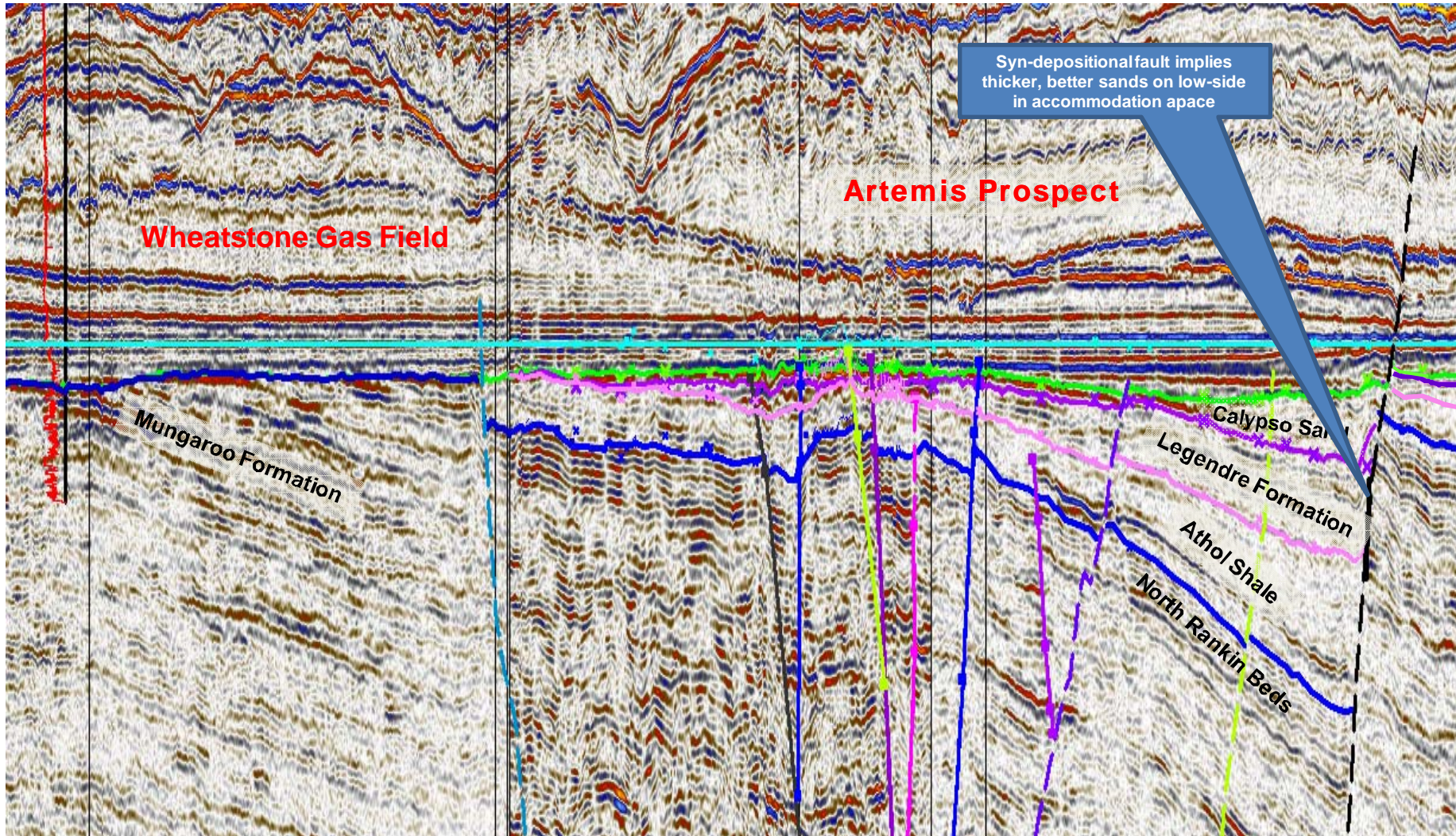
## Composite 2D – 3D Seismic Line





# Zoom In of Composite Line with Artemis Prospect

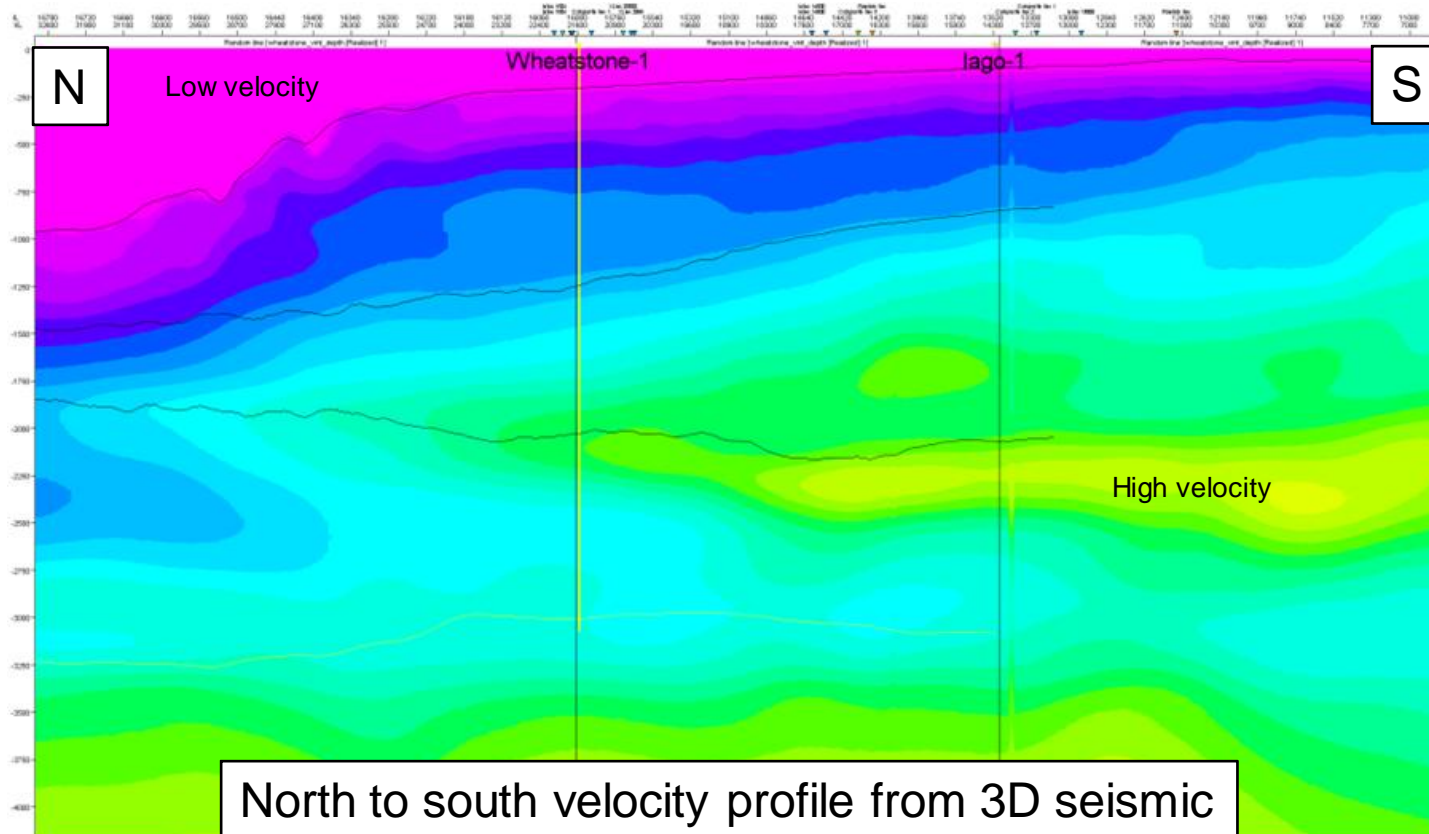
## Datumed on Muderong Shale





# Velocity Controls

Regional and local effects cause velocity variations making Depth Conversion difficult



- Water depth
- Thickness of carbonate units
- Shallow reefs causing pull up
- Slow velocity in interpreted slope shale deposits
- Facies change shale to carbonate
- Seismic anisotropy
- Shelf slope effects
- Long wavelength / short wavelength effects



# Trap

Structures not apparent in TWT as depressed in north by velocities  
Velocity data from new 3D seismic provides best solution

- Time structure distorted compared to depth by extreme velocity variation
- Malus-1 well located on time high of fault block, but off depth structure
- Guilford shallower than Wheatstone & Iago

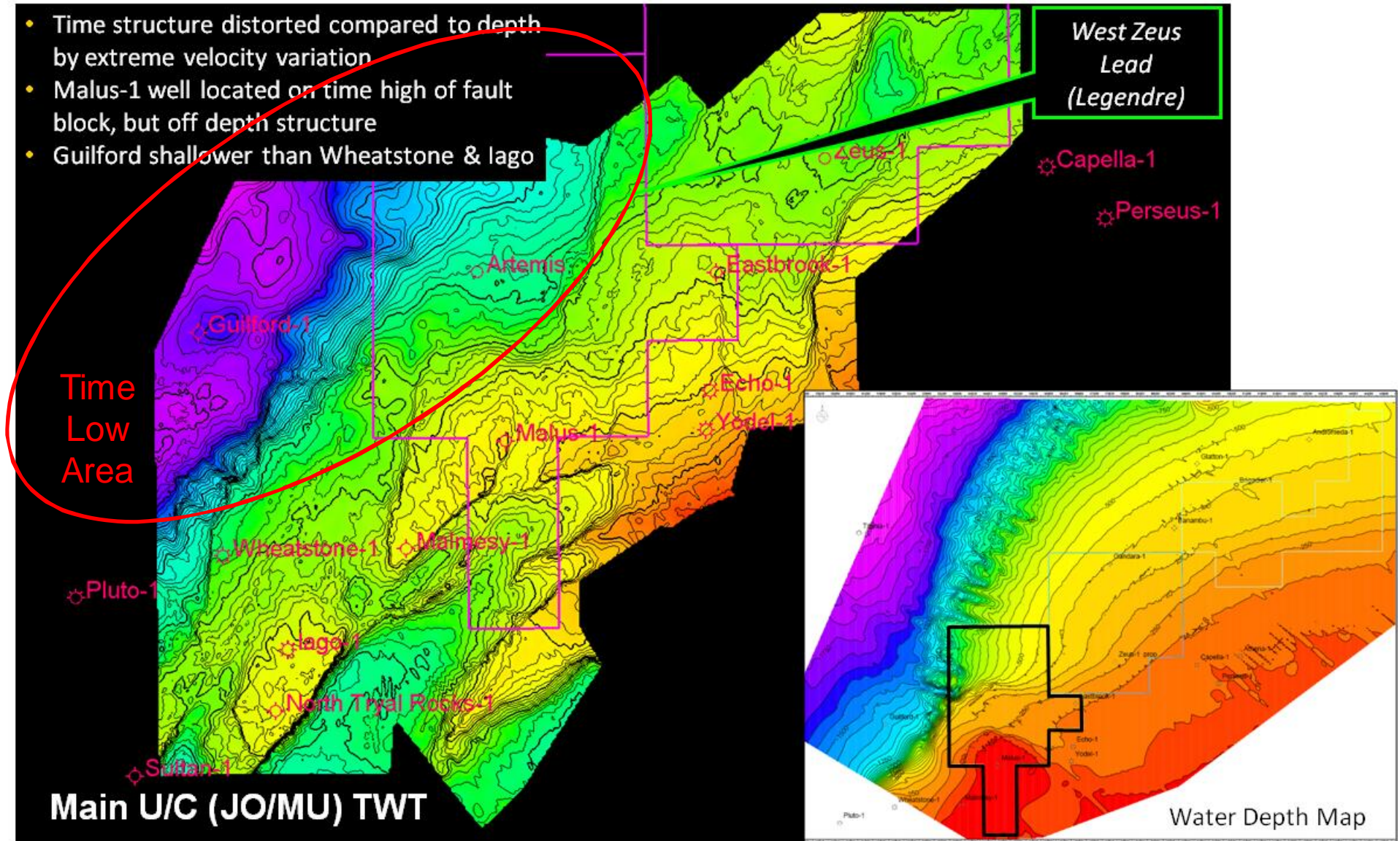
West Zeus  
Lead  
(Legendre)

Capella-1  
Perseus-1

Time  
Low  
Area

Main U/C (JO/MU) TWT

Water Depth Map



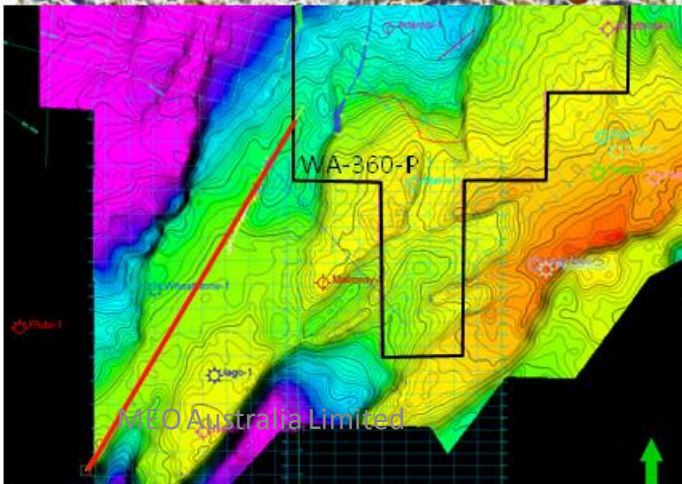
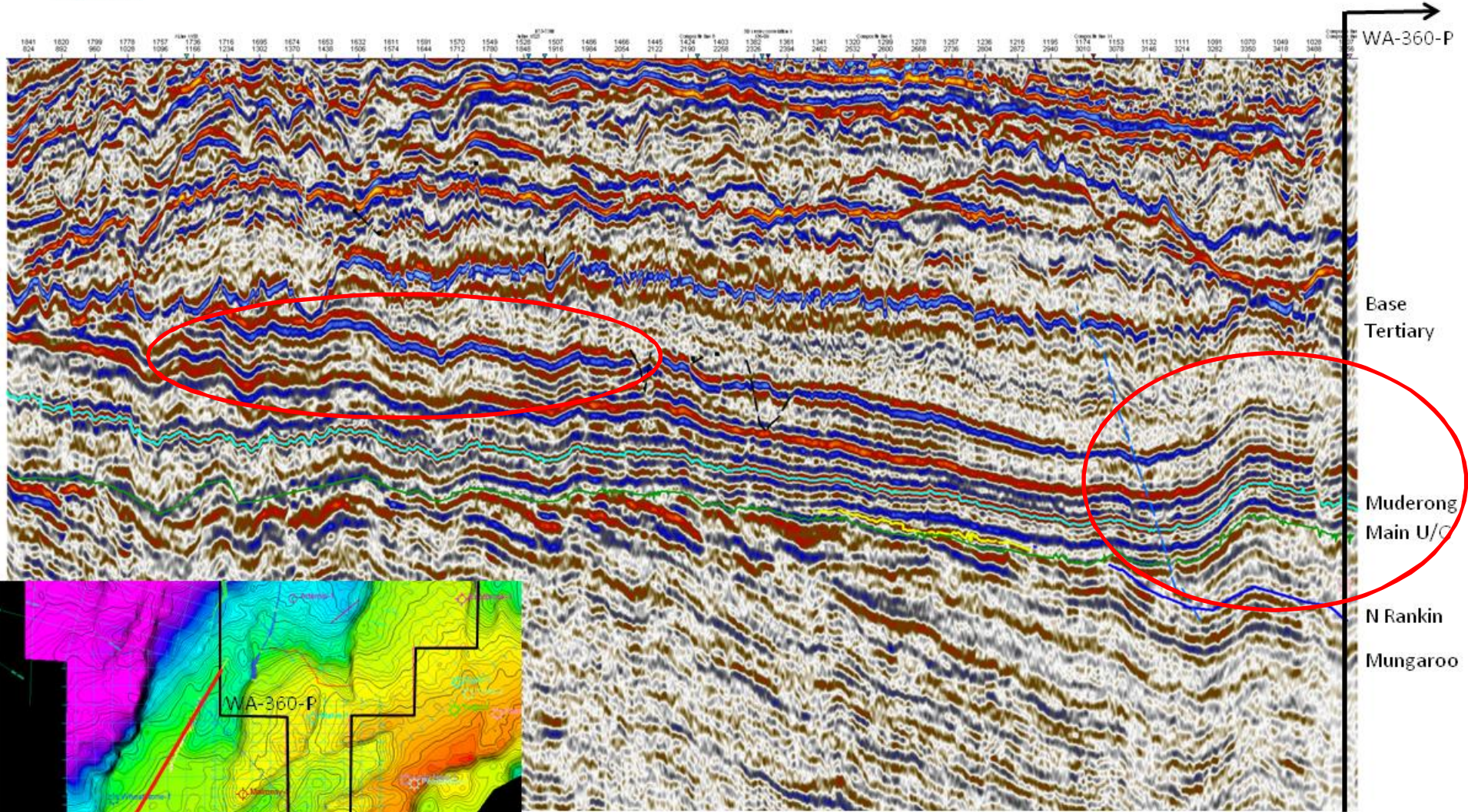




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# Wheatstone 3D line

“Strike” line along slope, velocity pull-up artefacts caused by channels, reefs

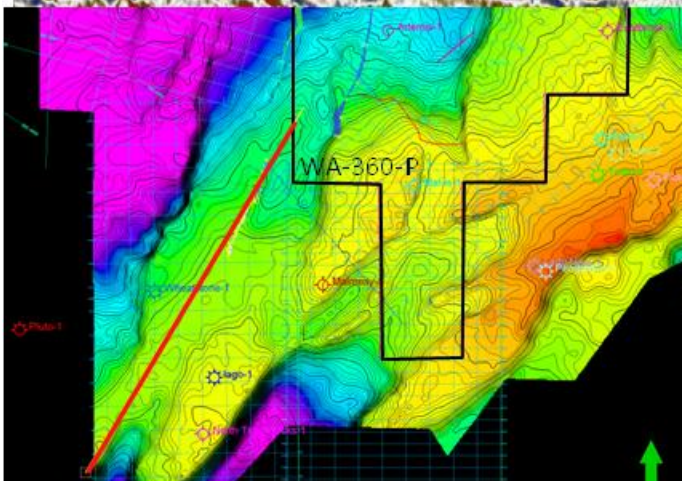
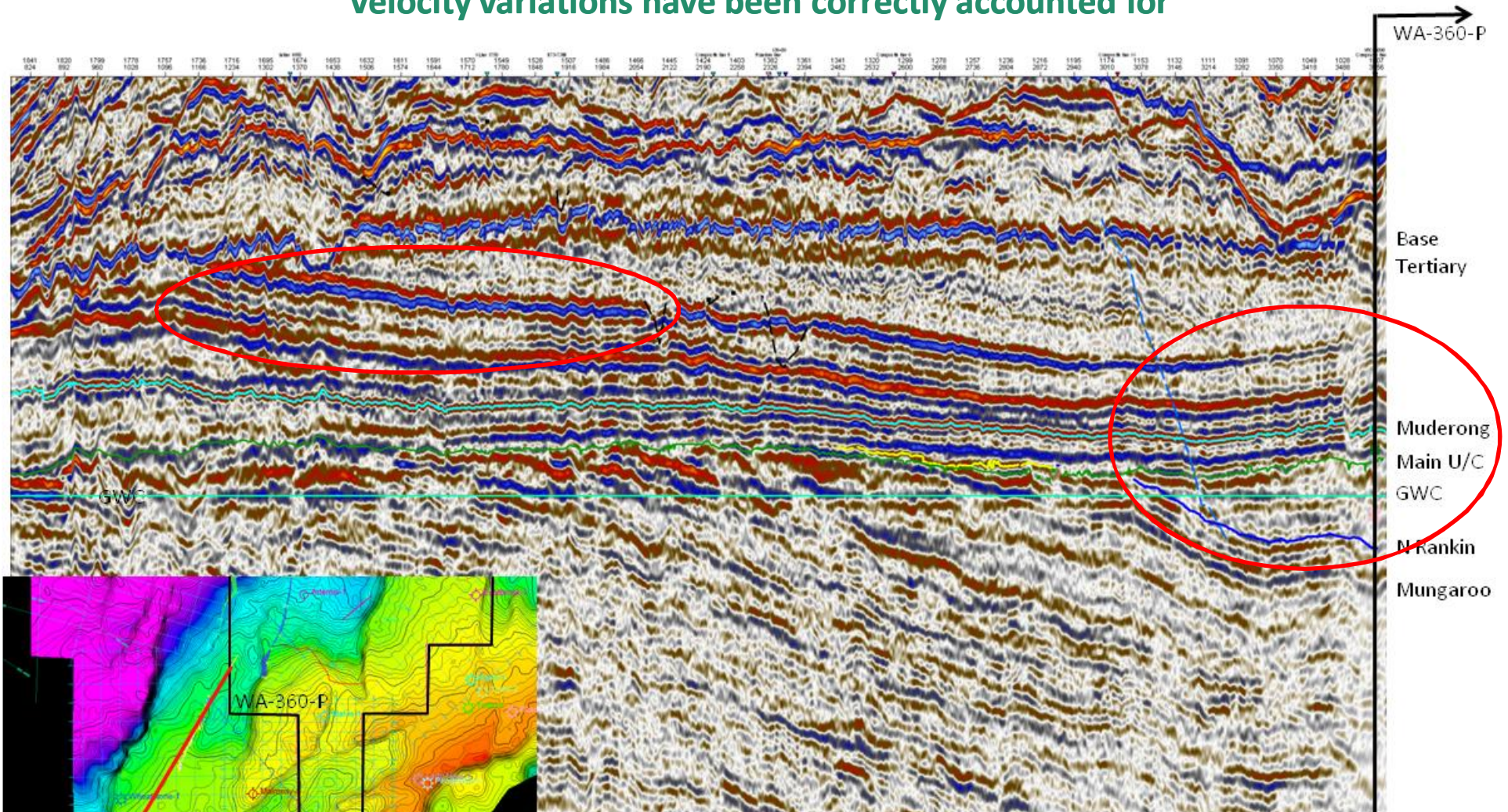


Line touches WA-360-P, velocity distortion apparent, DHI visible, depth to GWC known



# Seismic datumed on Wheatstone GWC

Flattening on GWC has smoothed the overlying horizons, implying the velocity variations have been correctly accounted for

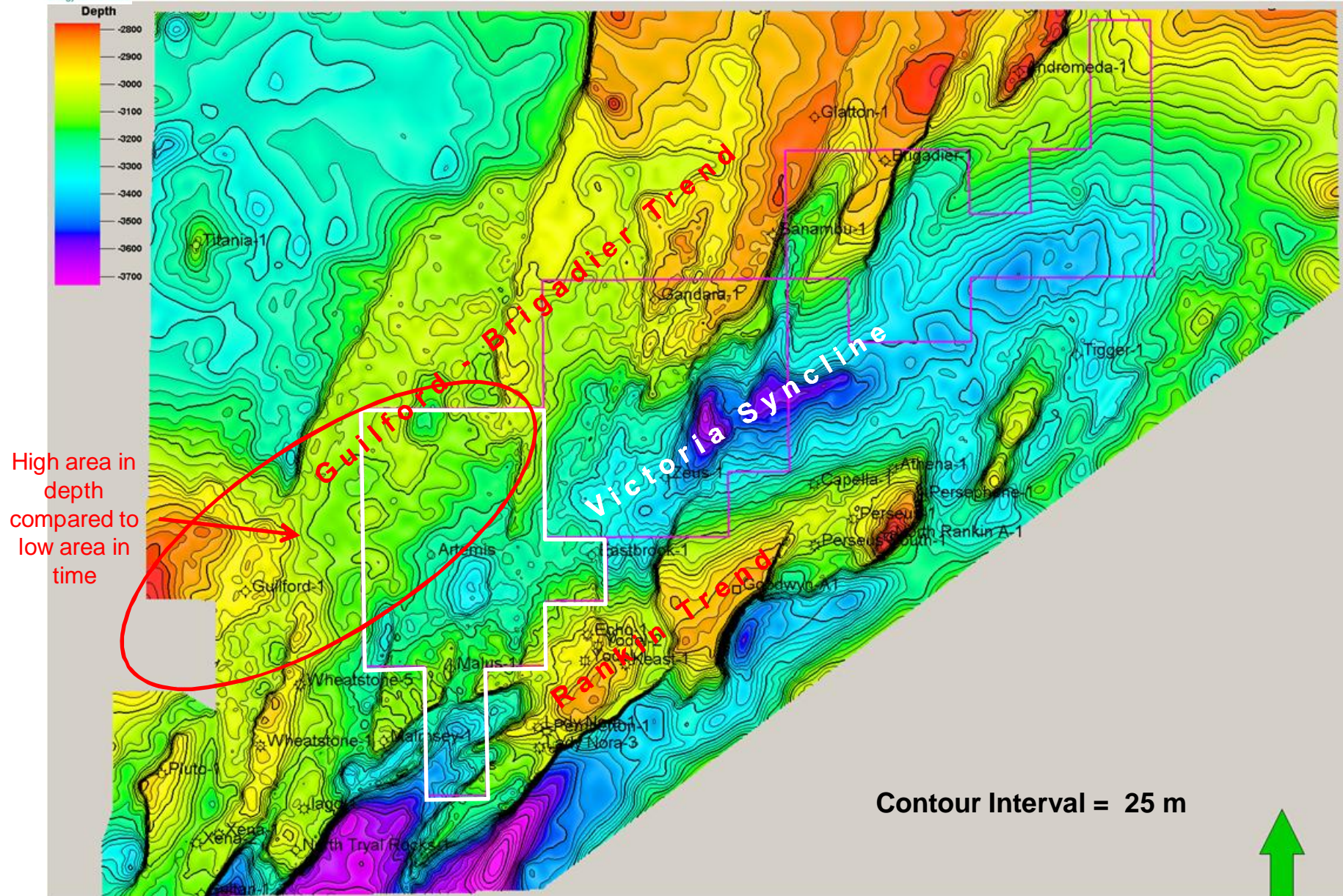


Amplitude terminations, flat-lyer extend gas towards WA-360-P  
Base of regional seal structure extends into WA-360-P (isopach thinning)



# JO/MU Regional Depth Structure Map

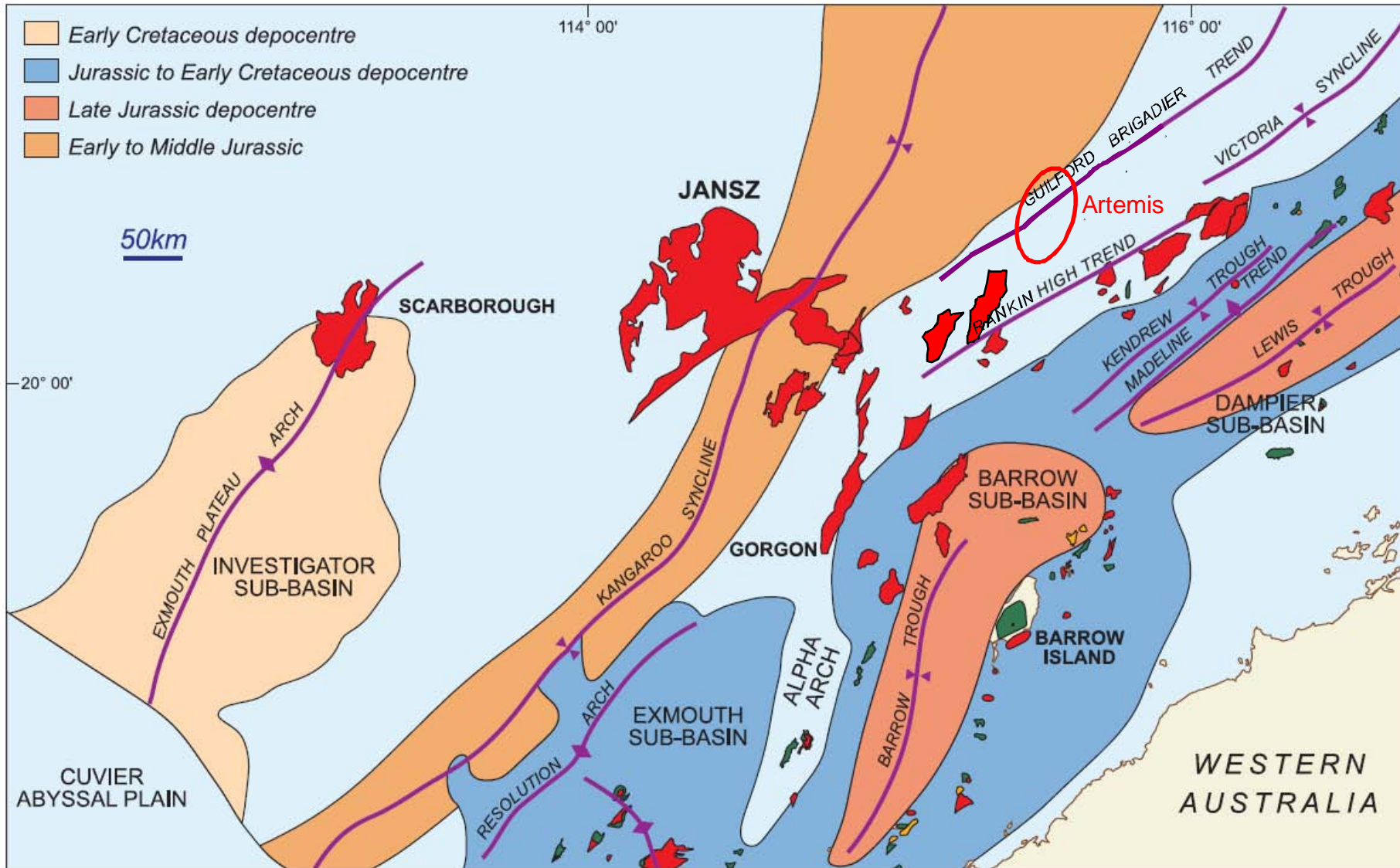
After depth conversion using 3D seismic





# Carnarvon Basin Structural Elements

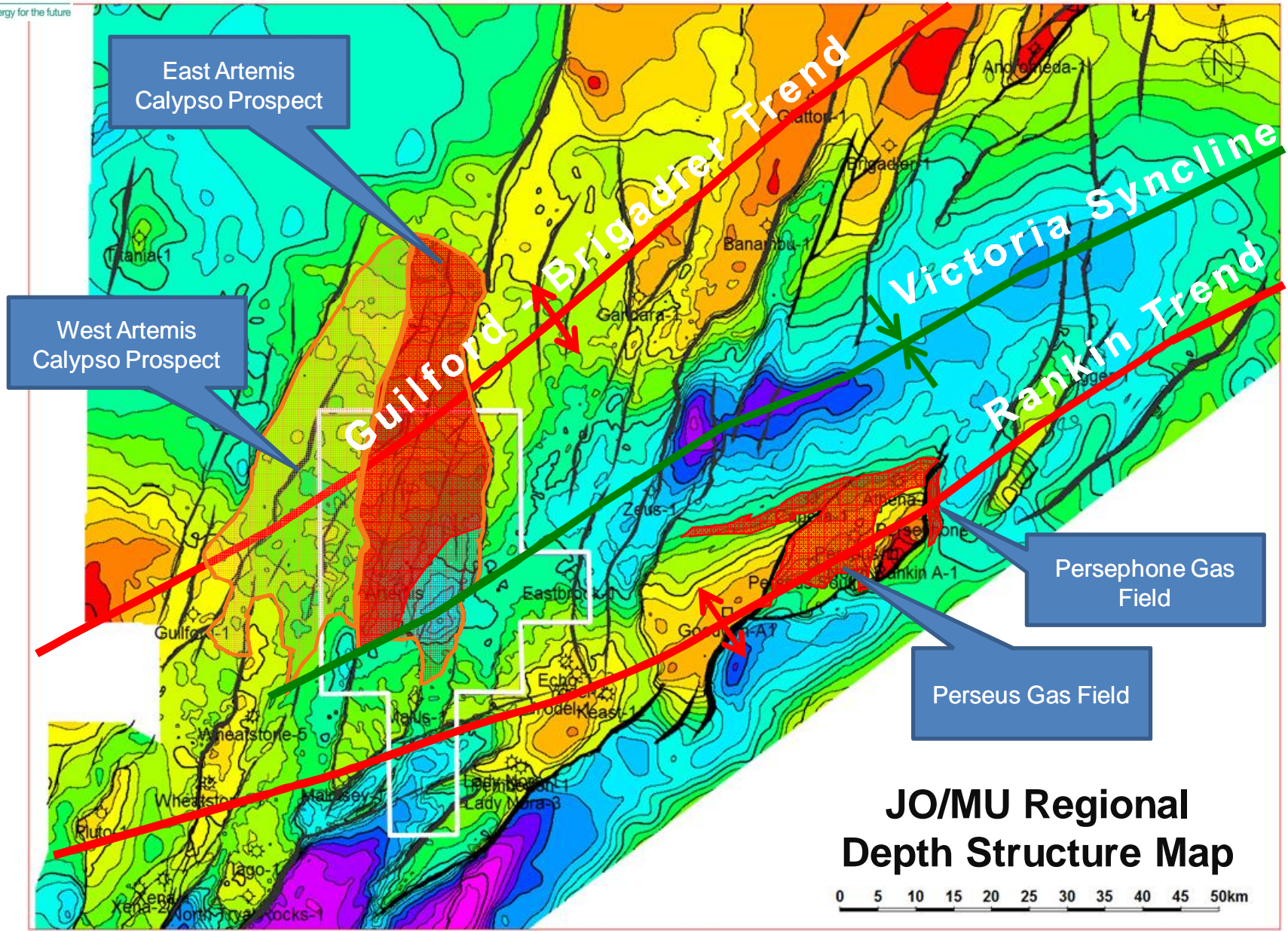
Artemis structure is part of observed structural grain



**Figure 2.** Major structural elements of the Carnarvon Basin. The Jansz gas field is located on the western limb of the Kangaroo Syncline. Gas fields are shown in red and oil fields are shown in green.



# Structural Elements at Main Unconformity (JO/MU)



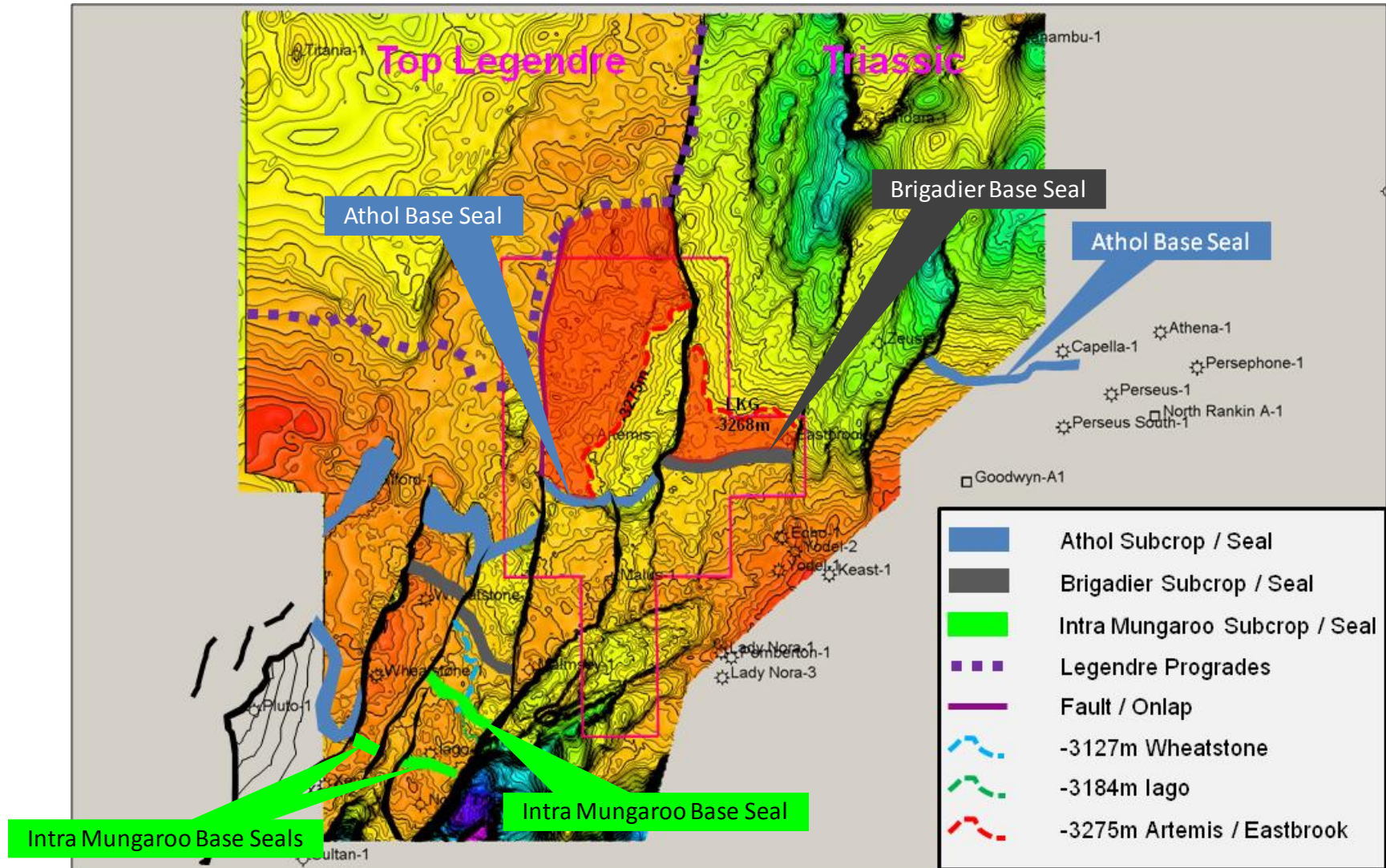
**JO/MU Regional  
Depth Structure Map**

0 5 10 15 20 25 30 35 40 45 50km



# Multiple proven sub-cropping seals on structural highs

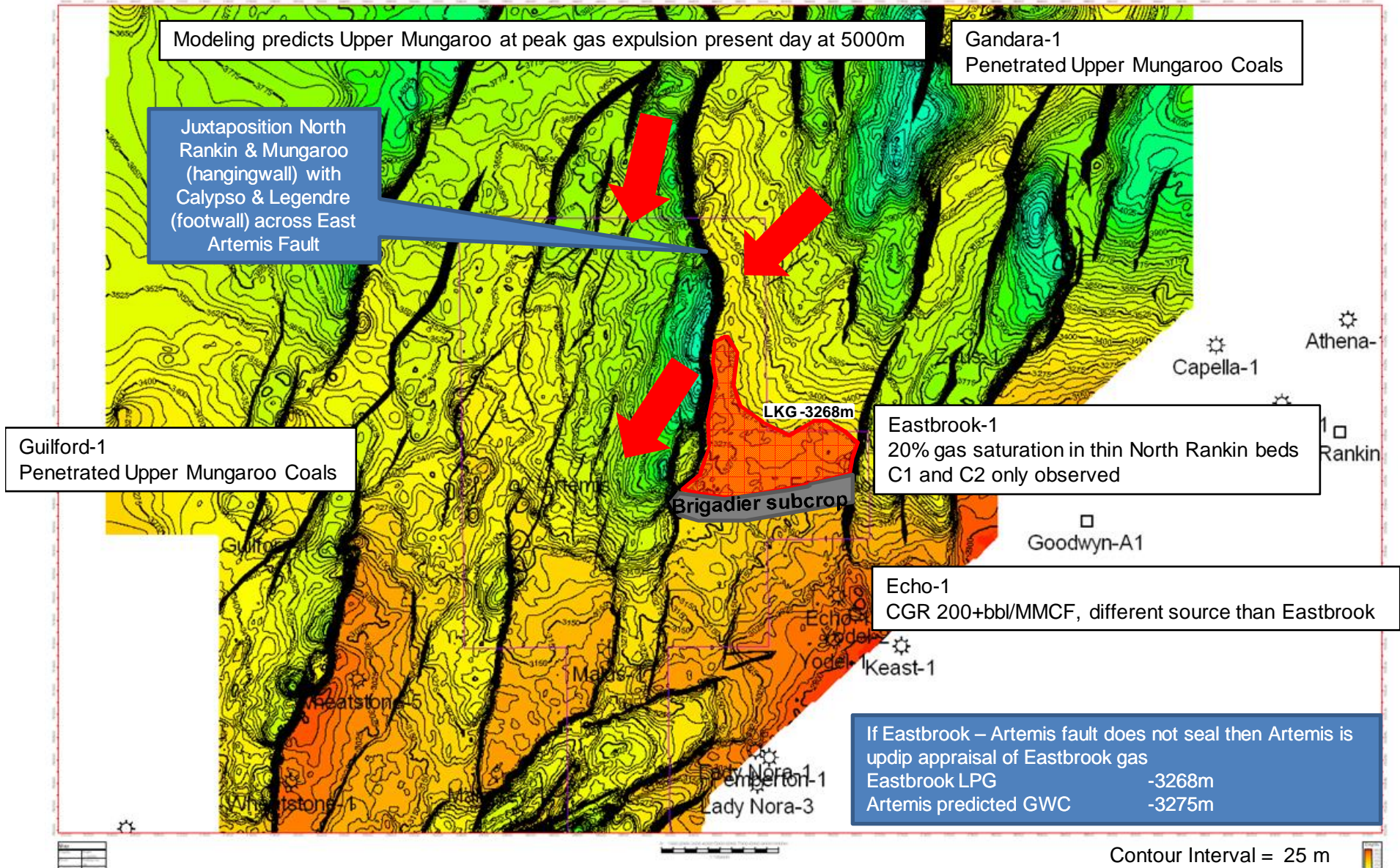
## Combined Top Legendre and Triassic depth map





# Hydrocarbon charge from Upper Mungaroo Fm

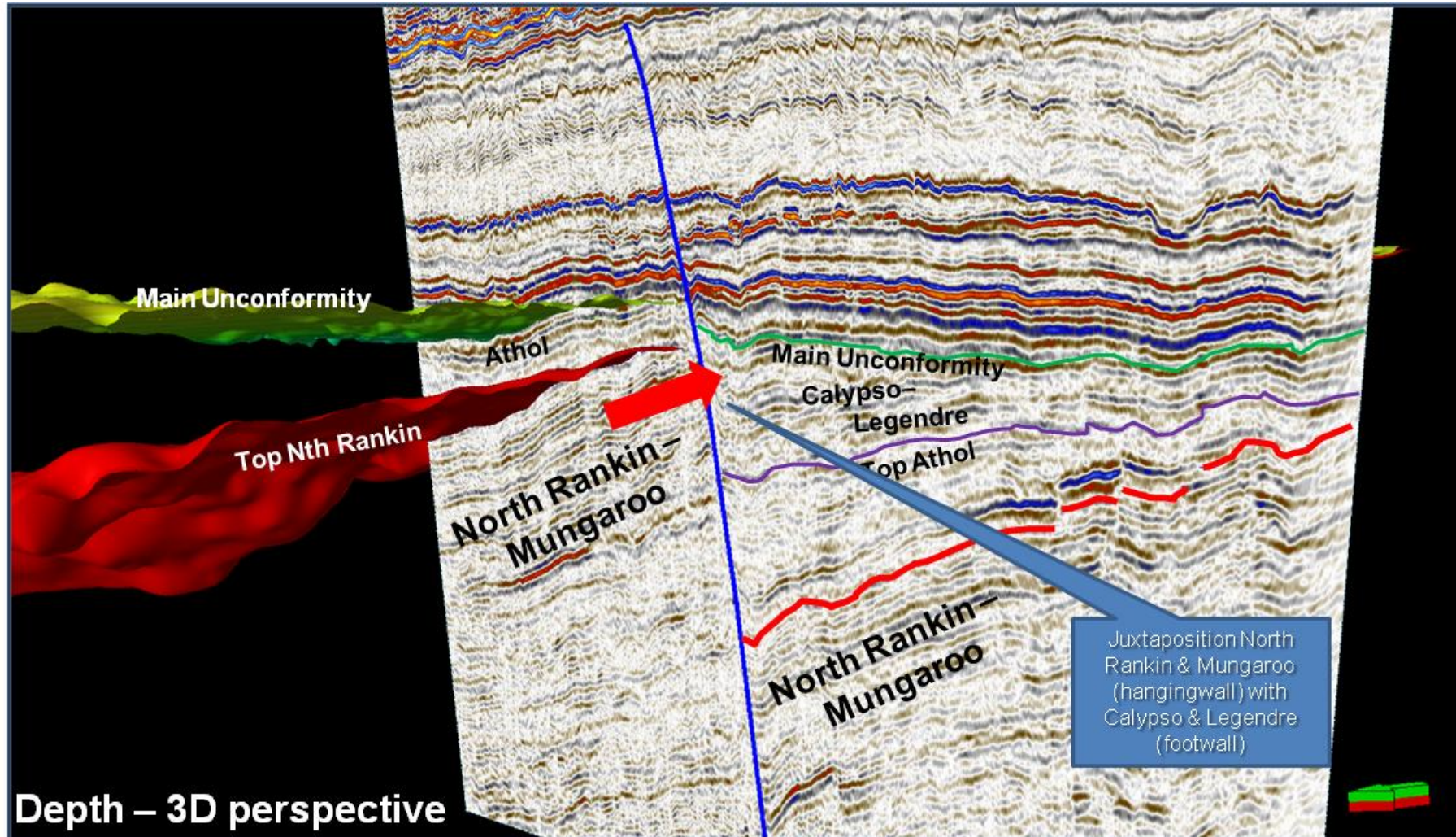
## Depth Top North Rankin Beds





# MEO IL2344 across East Artemis bounding fault

North Rankin & Mungaroo in hangingwall (Eastbrook) juxtaposed with  
Legendre & Calypso reservoirs in footwall (Artemis)



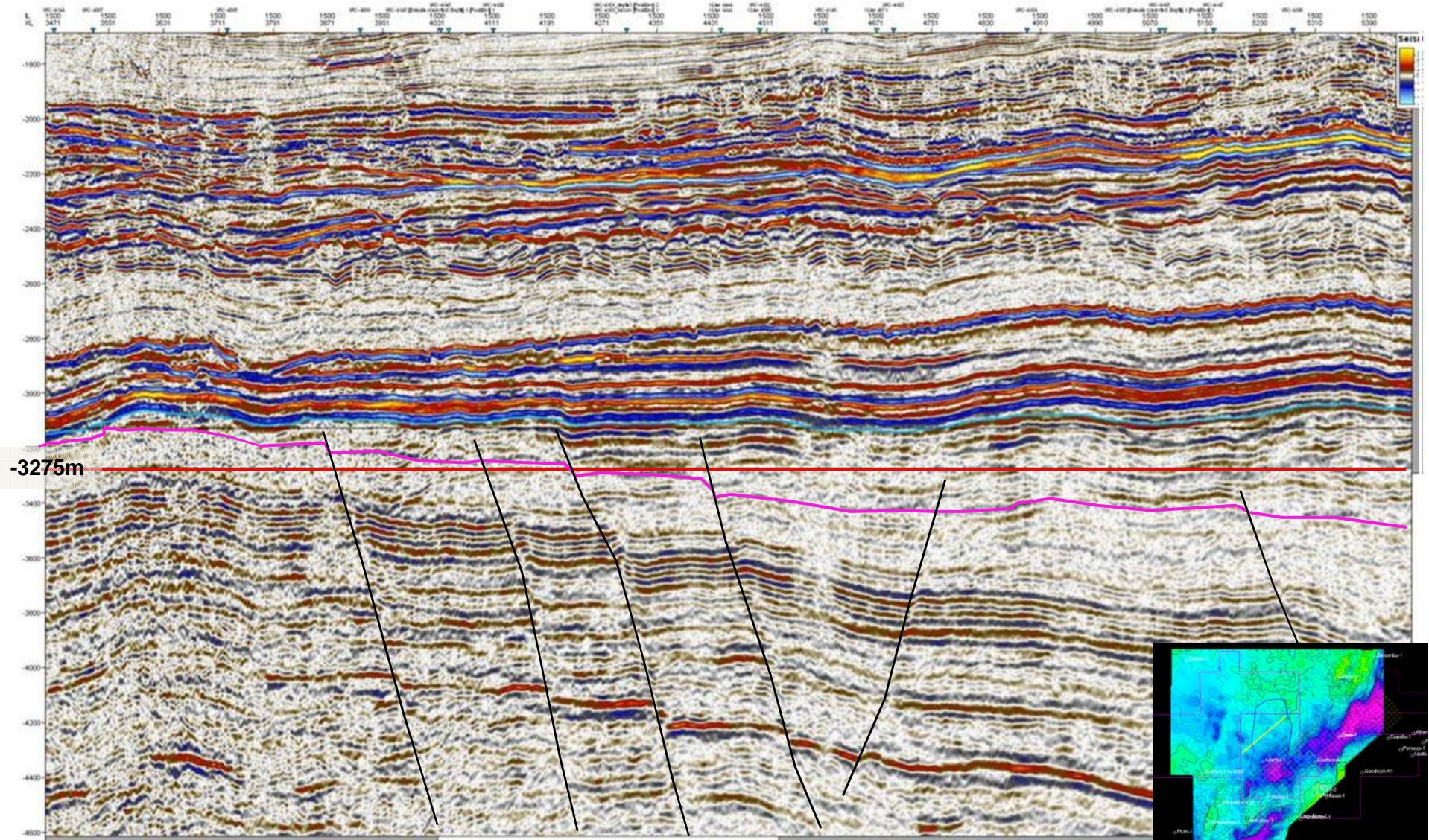


# DHI (amplitude anomaly) common termination

## Artemis 3D Depth Line IL1500

SW

NE



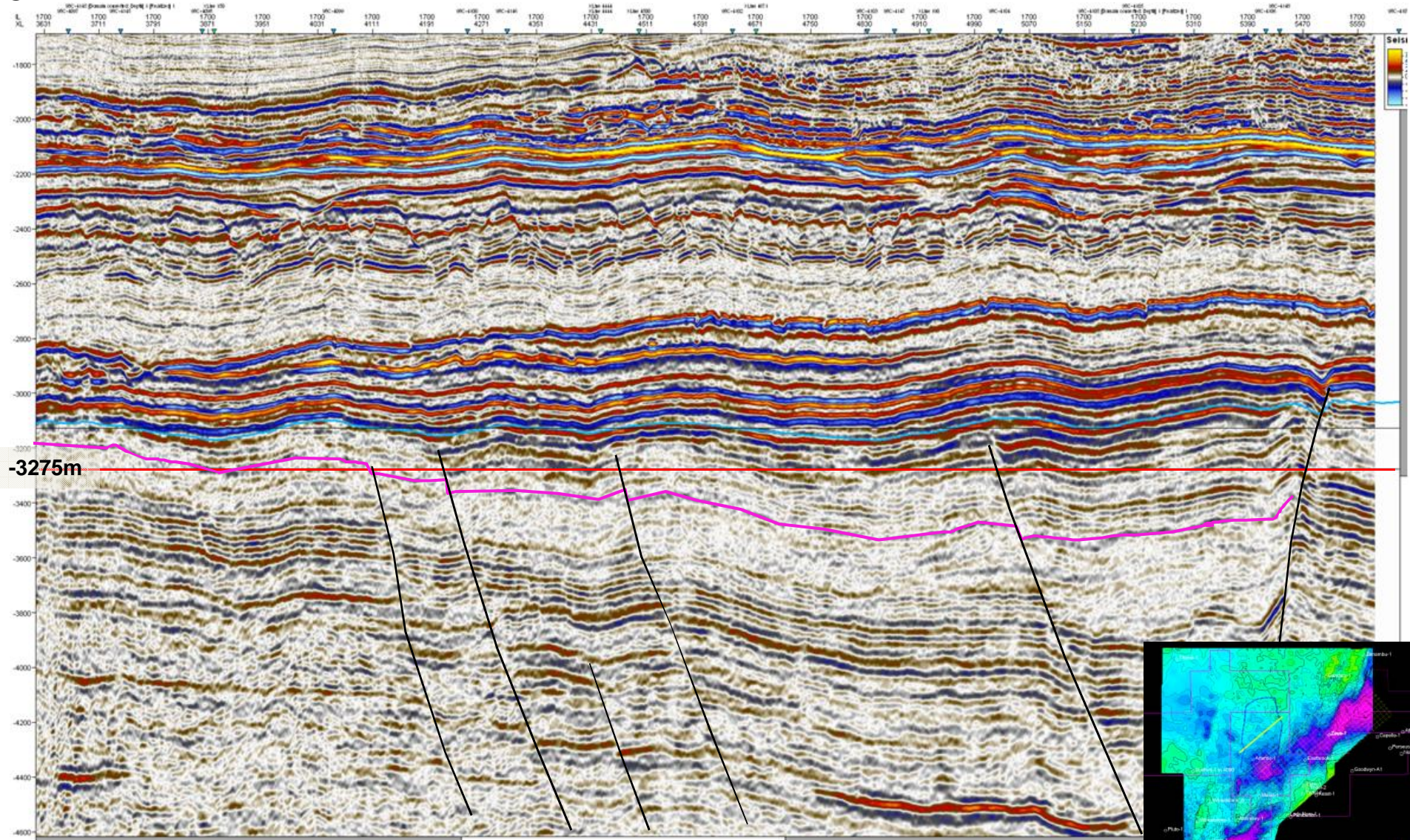


# DHI (amplitude anomaly) common termination

## Artemis 3D Depth Line IL1700

SW

NE



-3275m

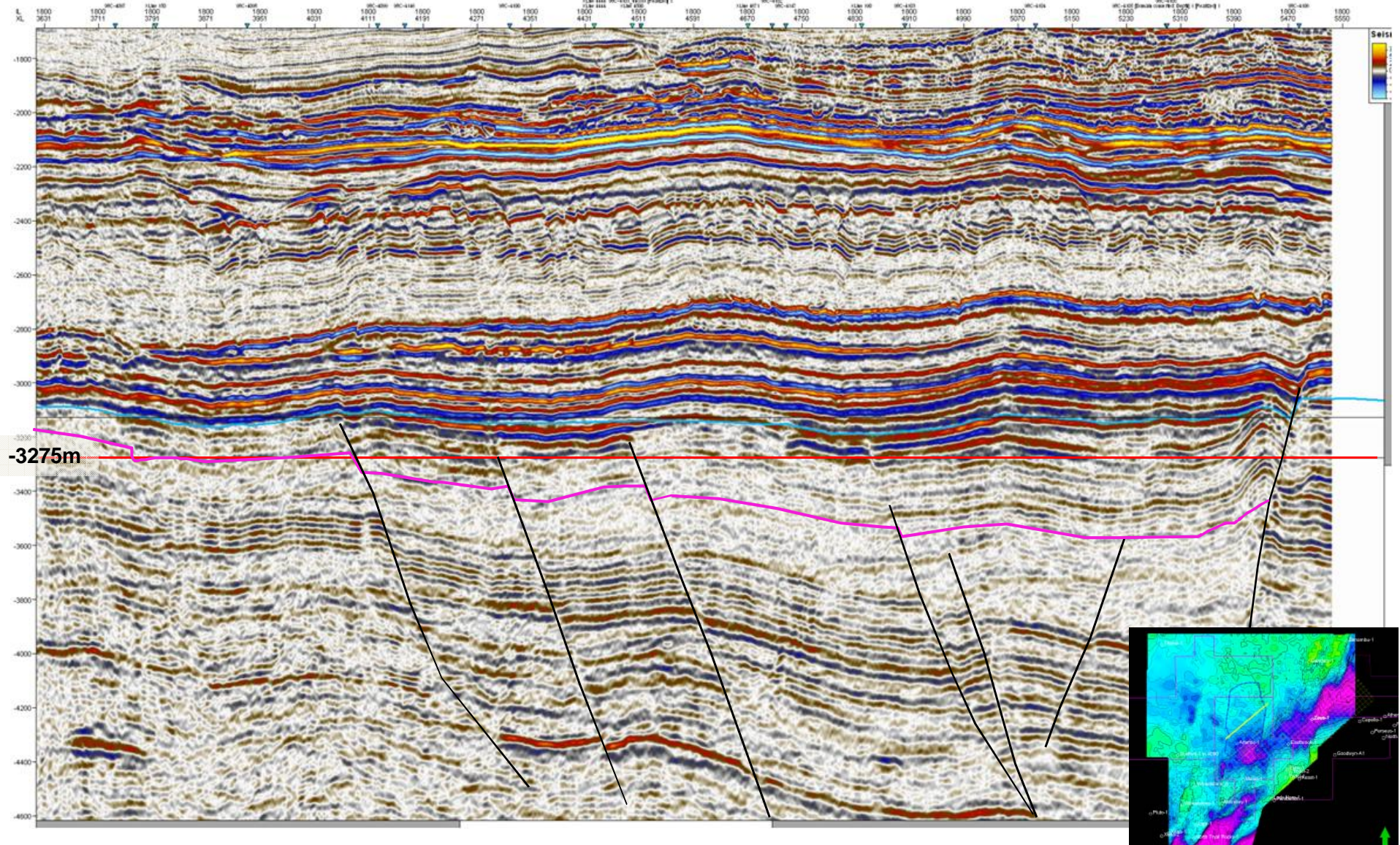


# DHI (amplitude anomaly) common termination

## Artemis 3D Depth Line IL1800

SW

NE



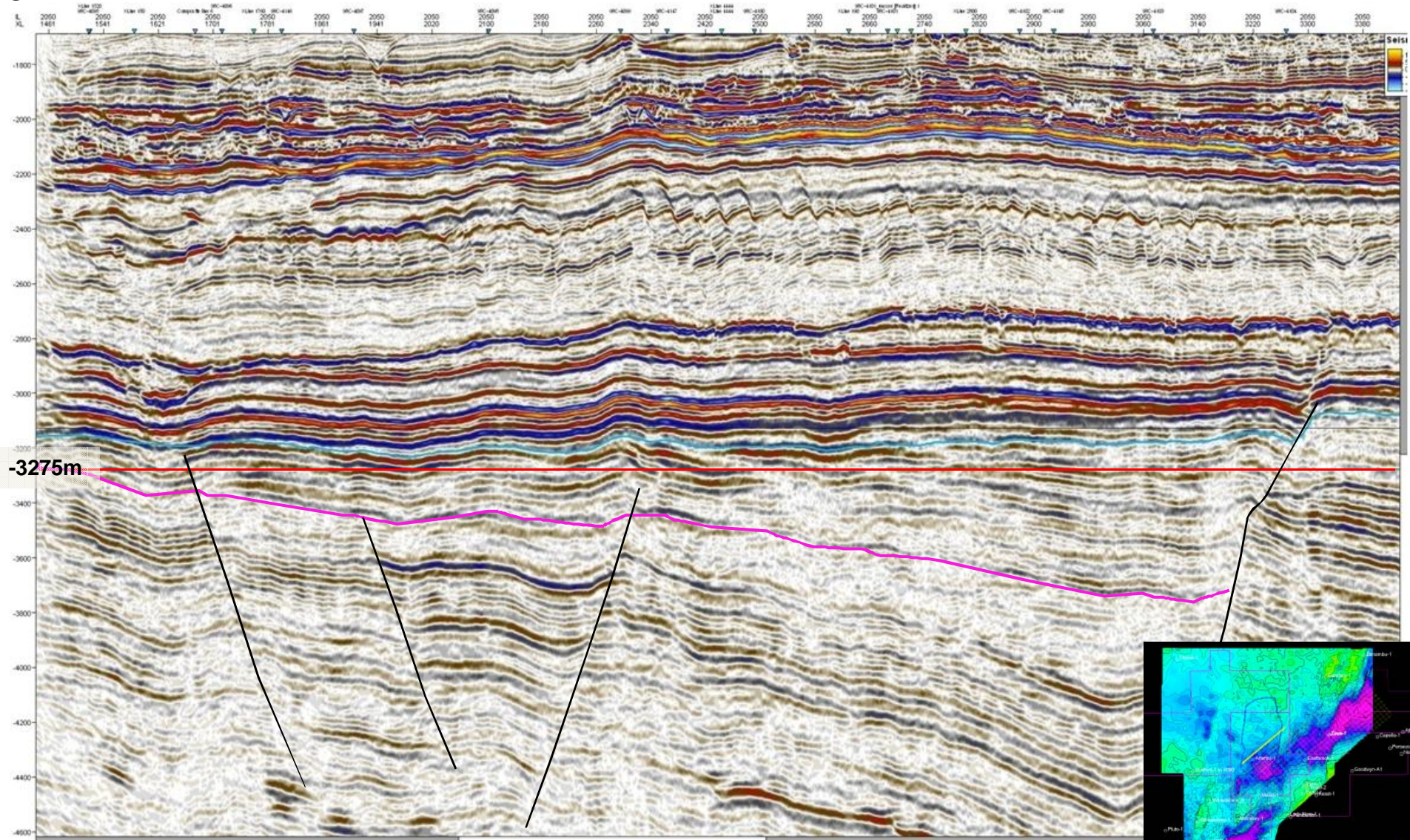


# DHI (amplitude anomaly) common termination

## MEO 3D Depth Line IL2050

SW

NE



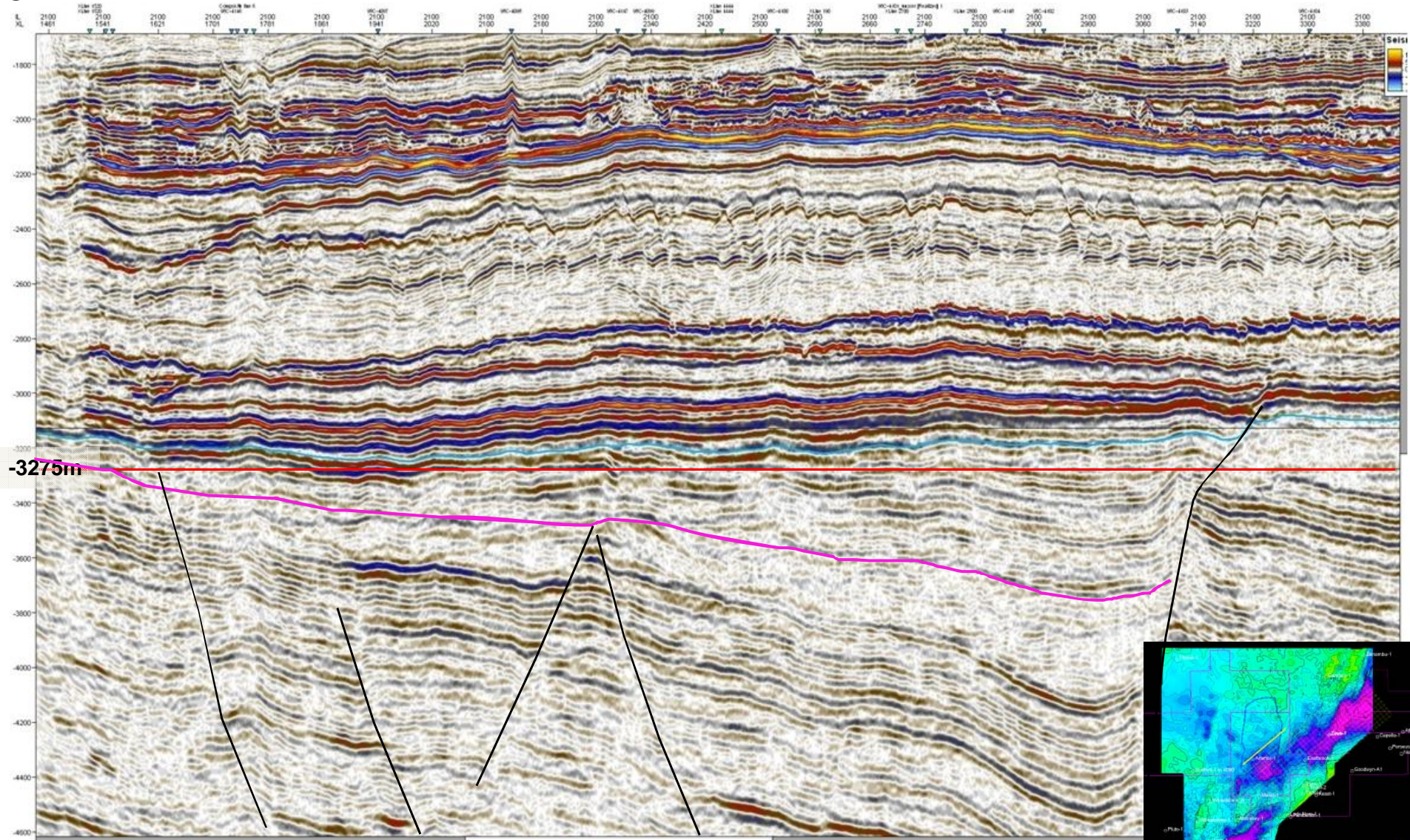


# DHI (amplitude anomaly) common termination

## MEO 3D Depth Line IL2100

SW

NE







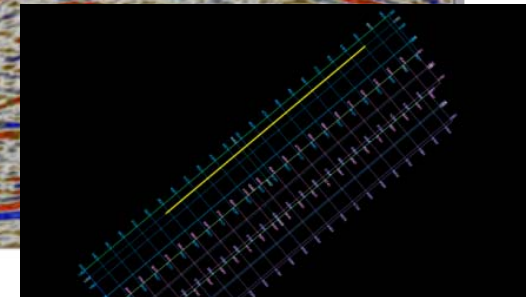
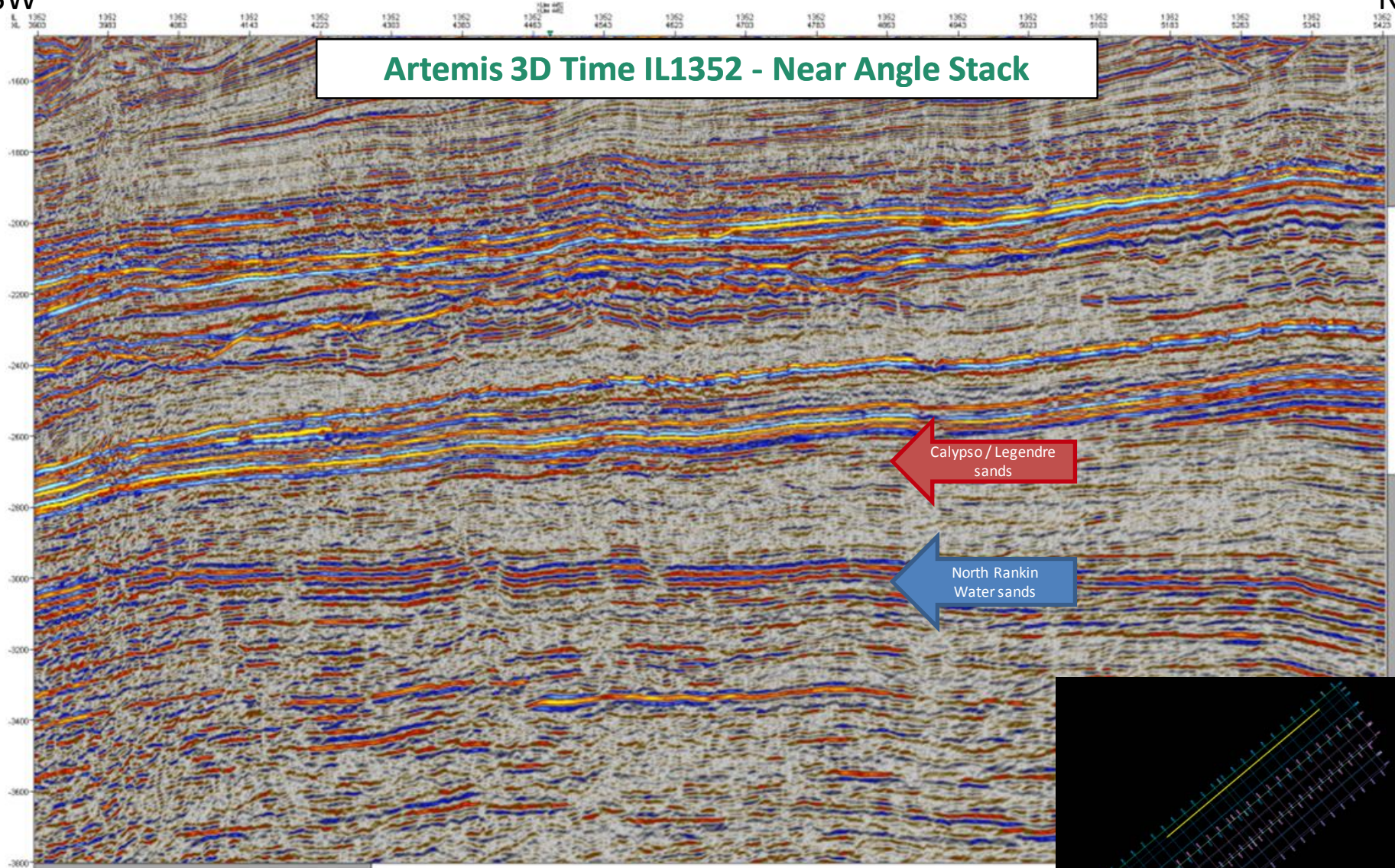
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# DHI (AVO)

Amplitudes increase Near – Far for Calypso/Legendre, decrease for water sand

SW

NE







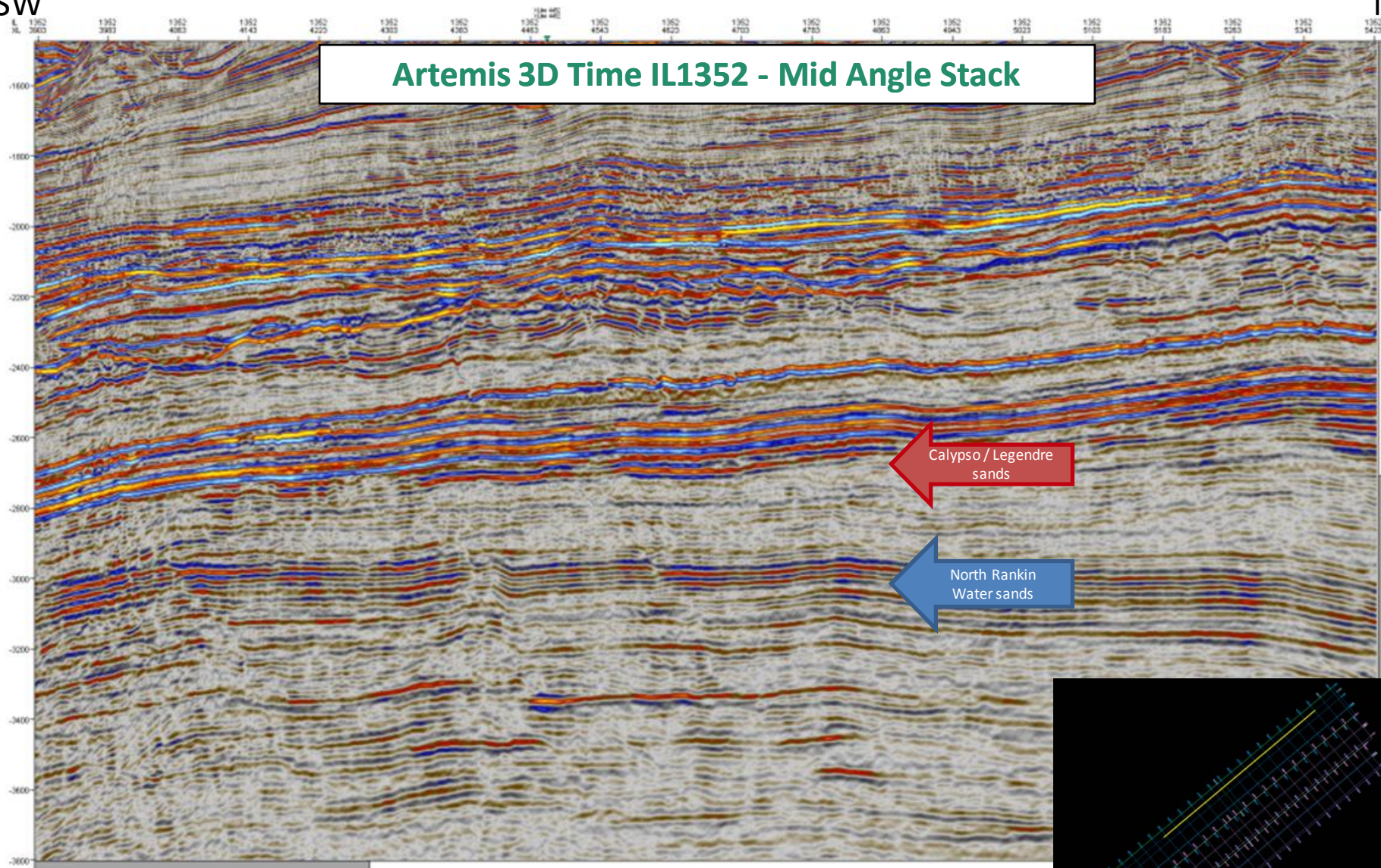
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# DHI (AVO)

Amplitudes increase Near – Far for Calypso/Legendre, decrease for water sand

SW

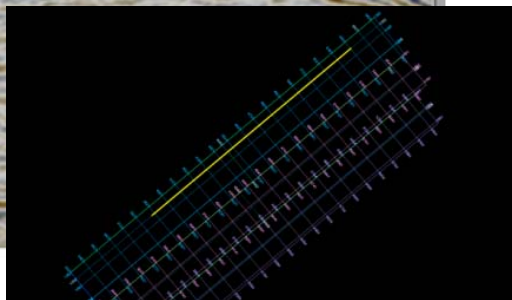
NE



Artemis 3D Time IL1352 - Mid Angle Stack

Calypso / Legendre sands

North Rankin Water sands







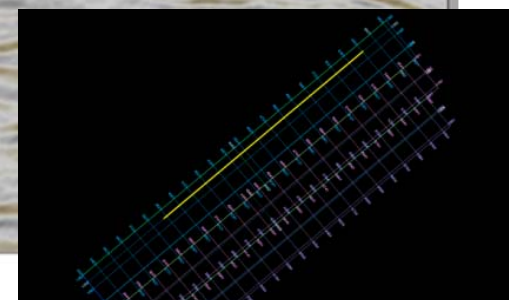
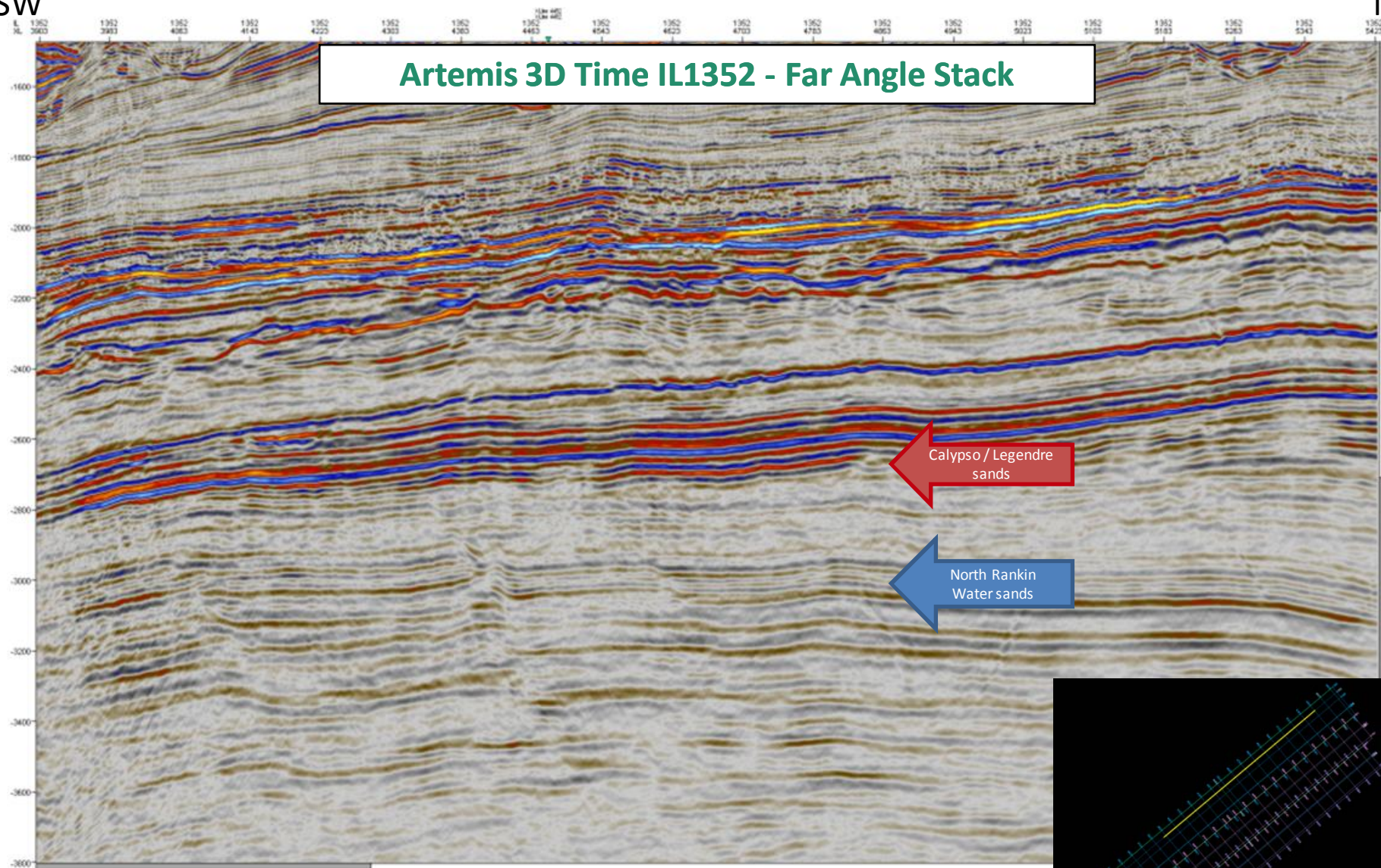
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# DHI (AVO)

Amplitudes increase Near – Far for Calypso/Legendre, decrease for water sand

SW

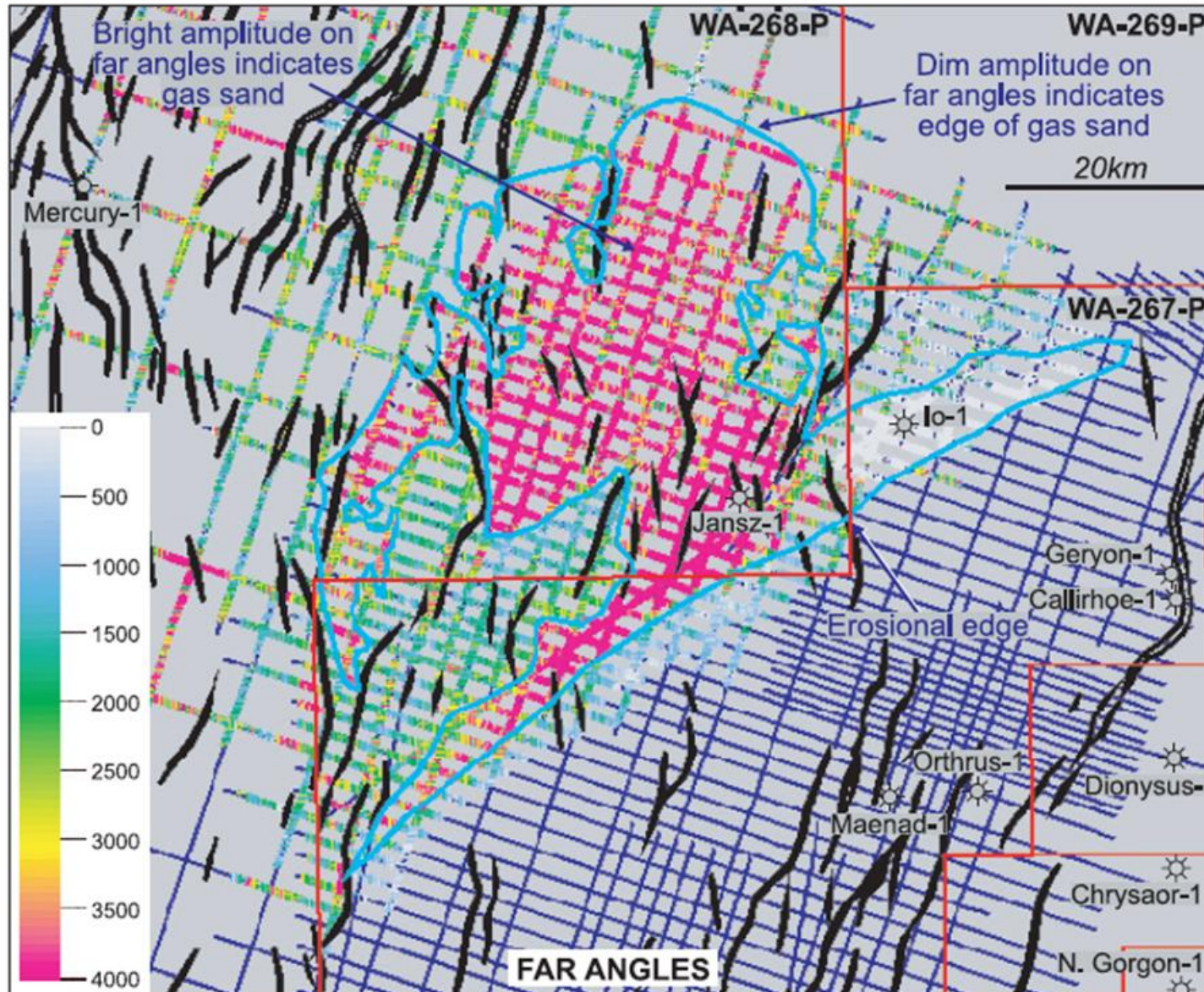
NE





# Jansz Gas Field

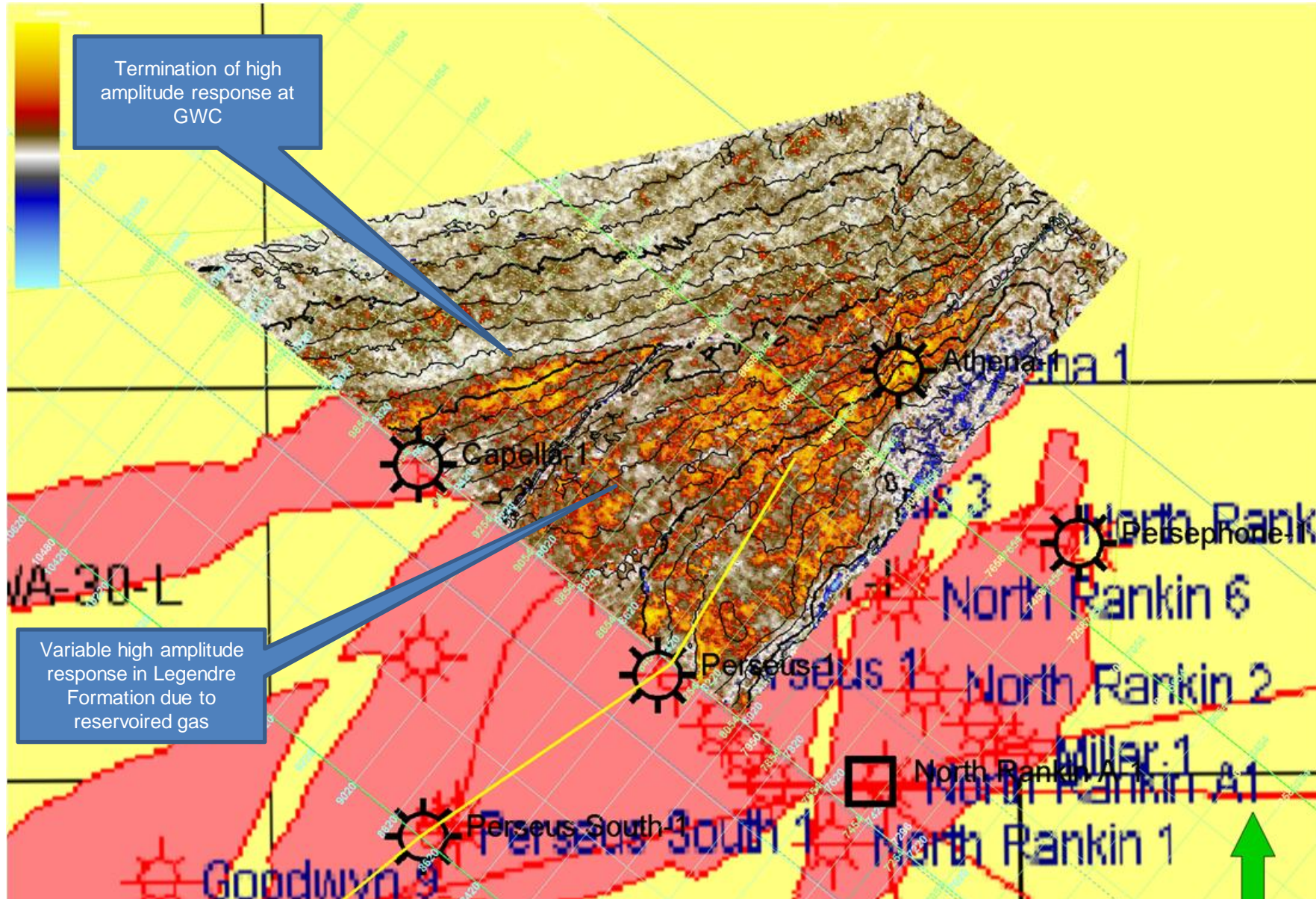
Amplitudes in Jurassic Reservoir conform to field outline





# Perseus Gas Field

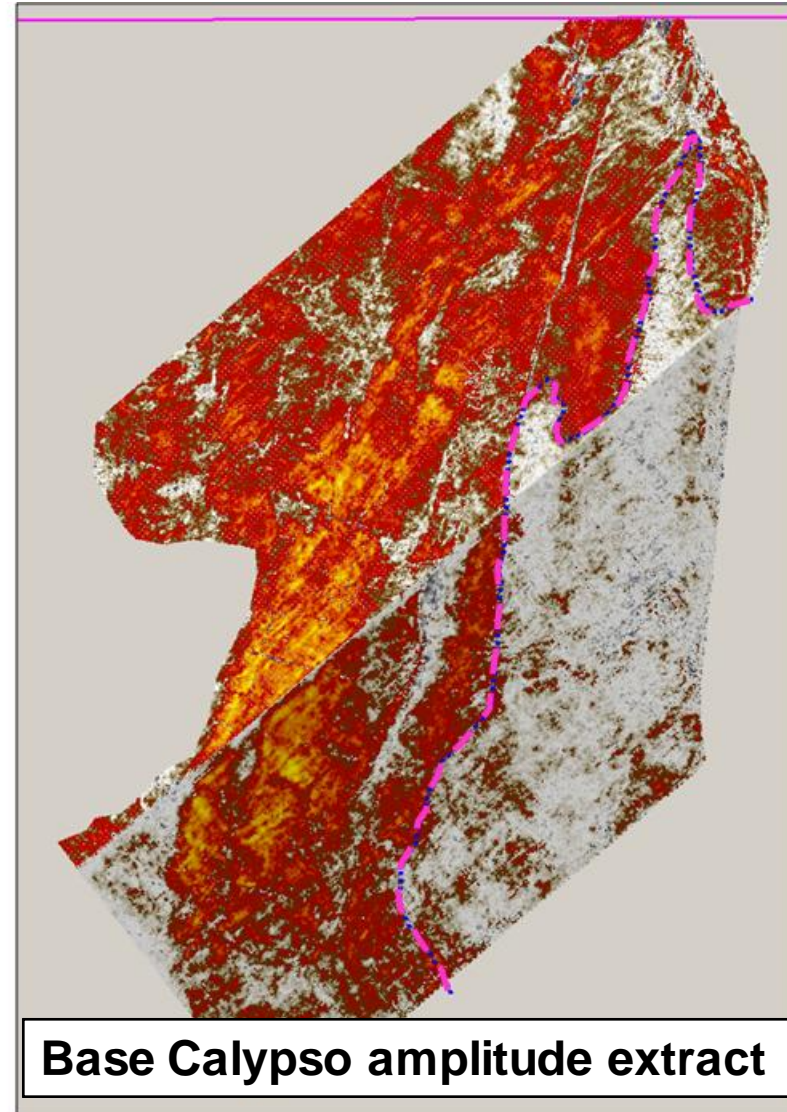
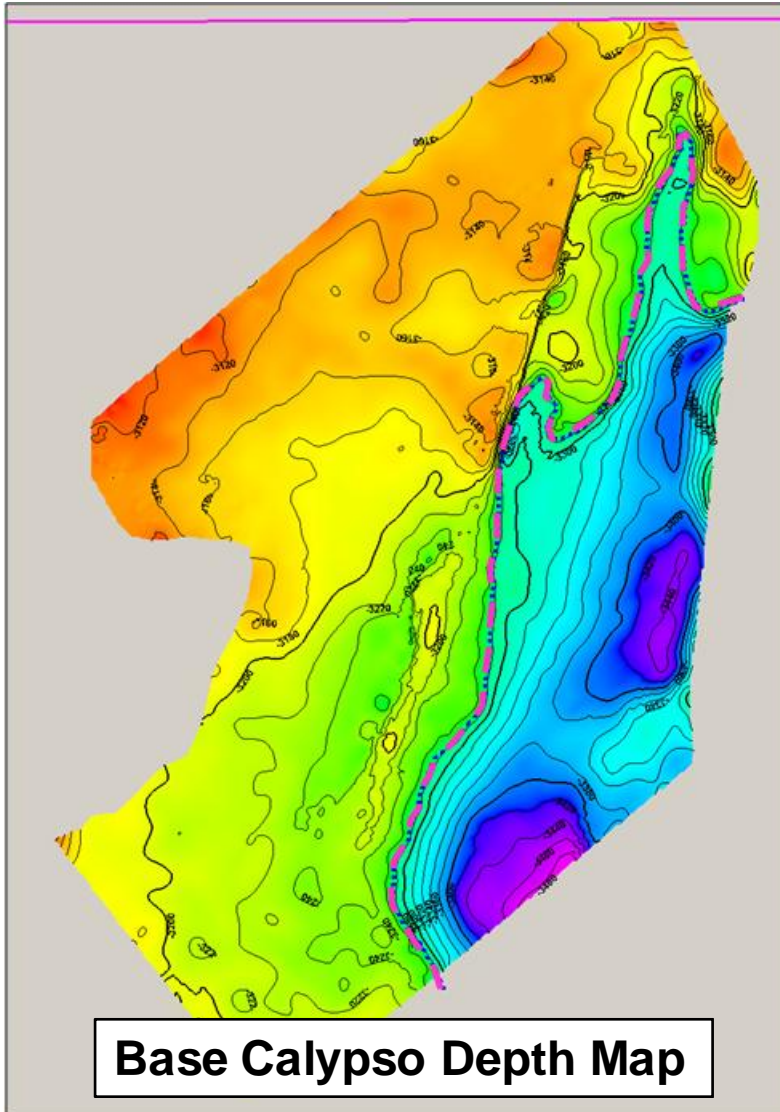
Amplitudes in Perseus reservoir terminate at gas water contact





# Artemis Prospect

Amplitudes at Base Calypso terminate at common depth



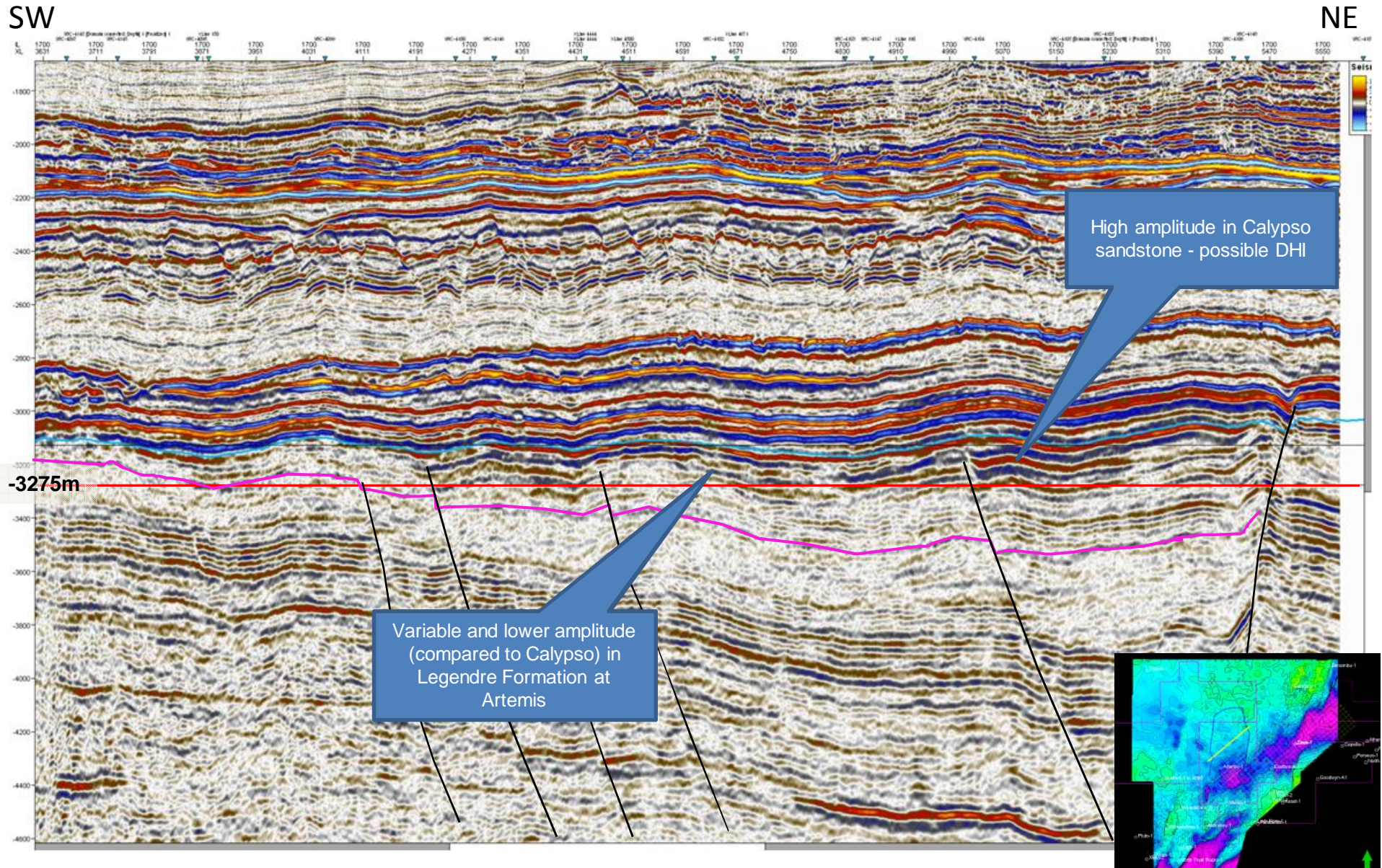






# Calypso and Legendre Amplitude Characteristics

## Artemis Prospect: Depth IL 1700 Artemis 3D Seismic Survey





# Artemis Risking

Play Chance = 100%

## Prospect Elements\*

Reservoir Presence and Quality	80%	Calibrated with Zeus, paleogeography favourable
Trap**	50%	Seal to north (progrades, shale)
Source Presence and Quality	80%	Mungaroo coals, Eastbrook has reservoired gas
Seal Adequacy	70%	Muderong and Athol (base seal), fault seal
Maturation and Migration	90%	Modeling favourable, pathways simple. Eastbrook demonstrates northern source
Timing	100%	Present day
Preservation	100%	Present day
Overall COS	20%	
DHI De-risking Multiplier	1.6x	Observed amplitudes, structural conformance
Final GCOS	32%	

\*All prospect elements have proven analogues in the immediately adjacent fields

\*\*Trap chance will increase due to latest mapping demonstrating structural closure to north



## Artemis assessment input parameters

The BRV above an assumed GWC at -3275 metres has been calculated and supplied by MEO (Table 2). We have applied a +/- 5% variation to these figures, and input them to the Monte Carlo simulation as triangular distributions.

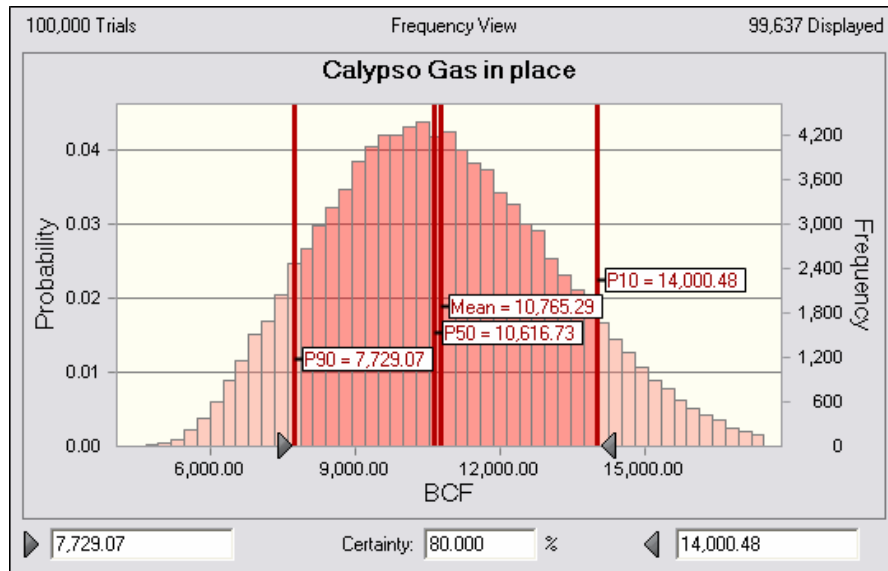
BRV 10 <sup>6</sup> m <sup>3</sup>	Calypso Fm	Legendre Fm
WA 360 P	20,650.2	23,769.2

**Table 3. Reservoir Input data.**

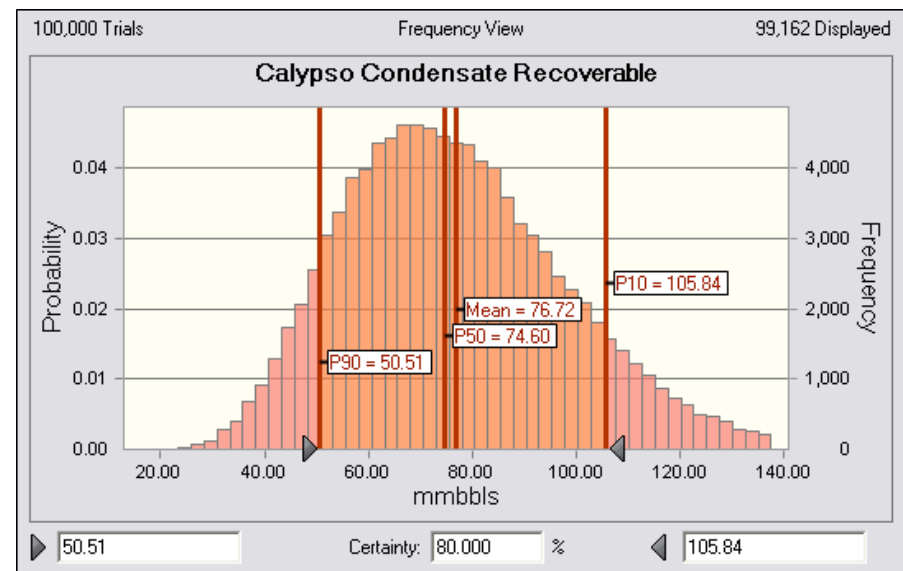
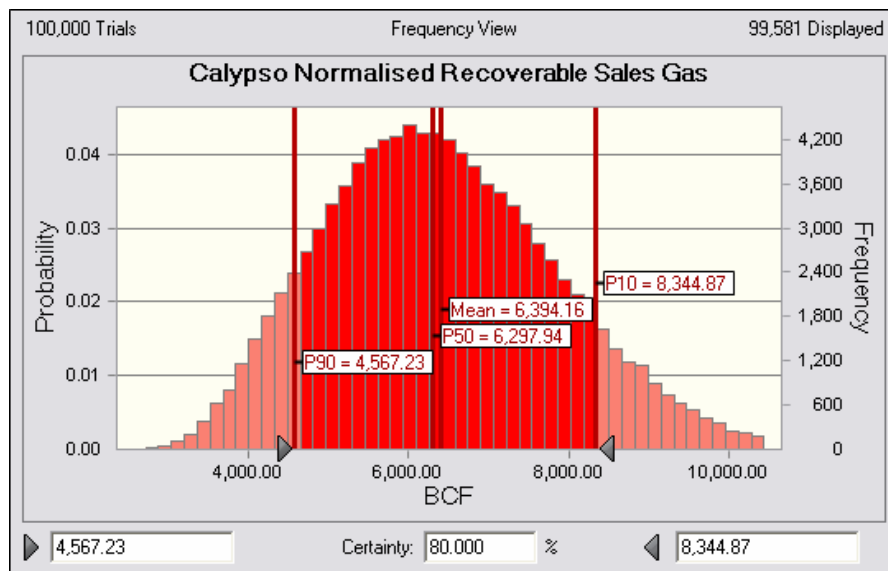
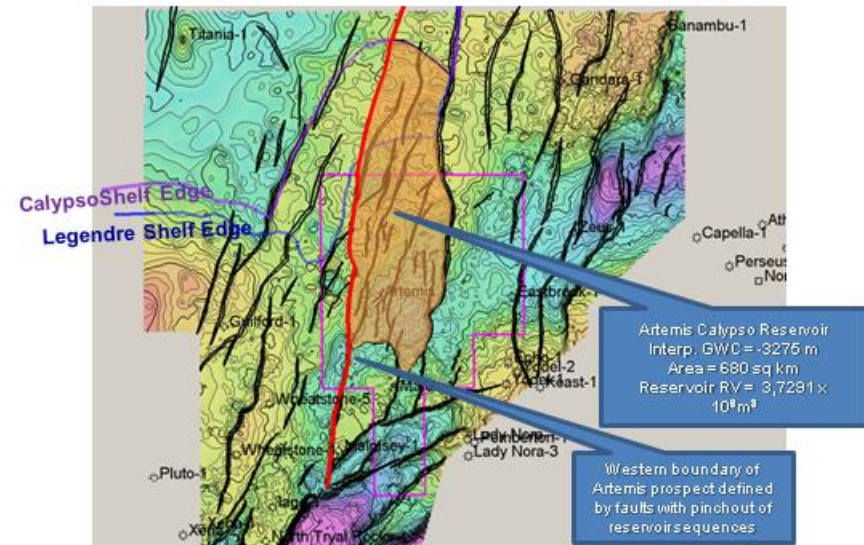
Parameter	Distribution	Calypso Formation	Legendre Formation
Net to Gross	Triangular	25% - 45% - 70%	15% - 35% - 70%
porosity	Triangular	17.0% - 22.0% - 25.0%	15% - 20% - 22%
Gas Saturation	Normal	70% with 4% std dev	70% with 4% std dev
Gas Expansion factor	Normal	212 with 5% std dev	212 with 5% std dev
Gas recovery	Normal	60% with 3% std dev	60% with 3% std dev
CGR	Normal	12 bbls/mmcf with 2% std dev	12 bbls/mmcf with 2% std dev
LPG		0 bbls/mmcf	0 bbls/mmcf
Gas Heating Value		1000 btu/scf	1000 btu/scf
Inerts		nil	nil



# Calypso Resource Probability Plots

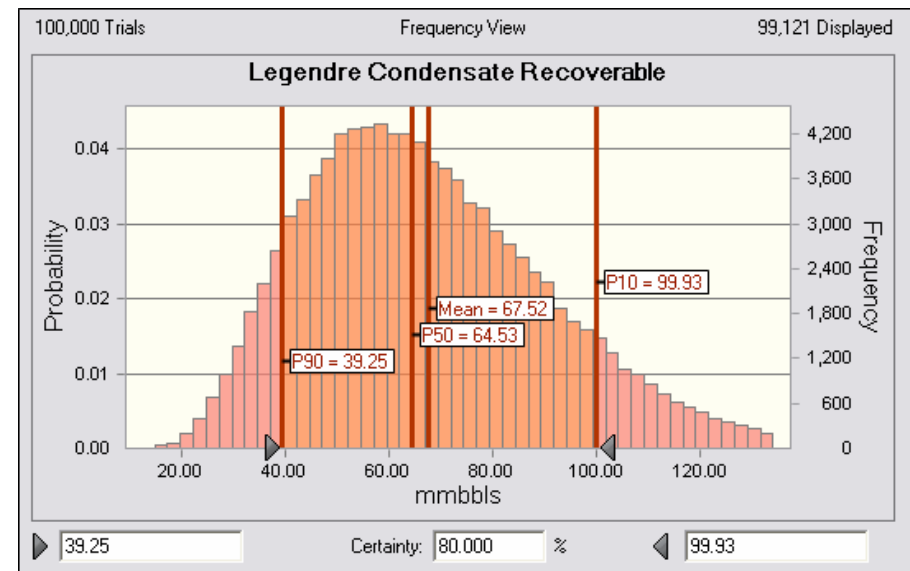
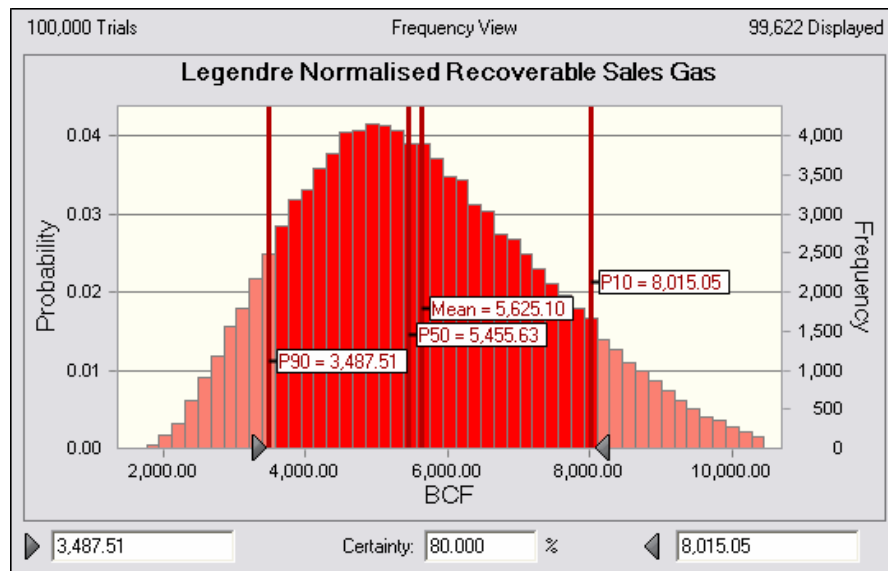
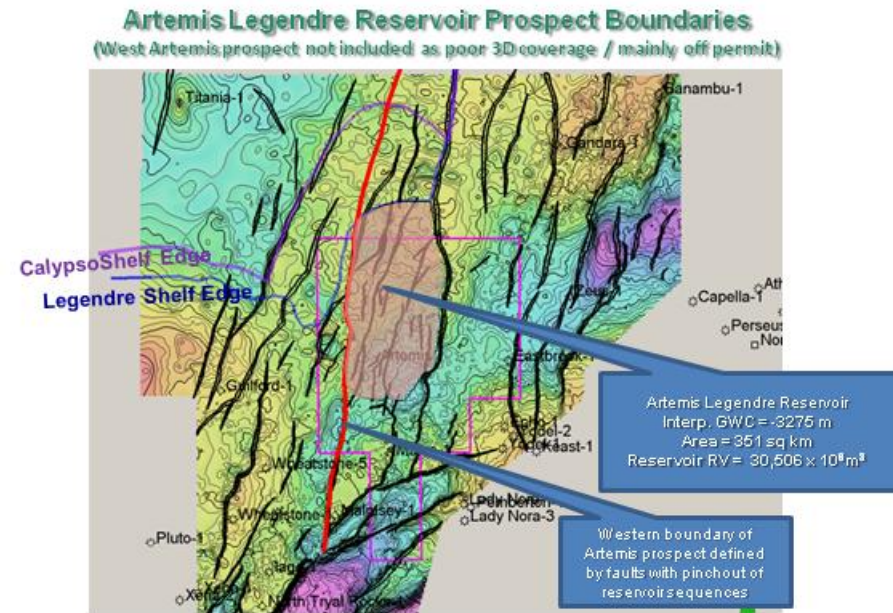
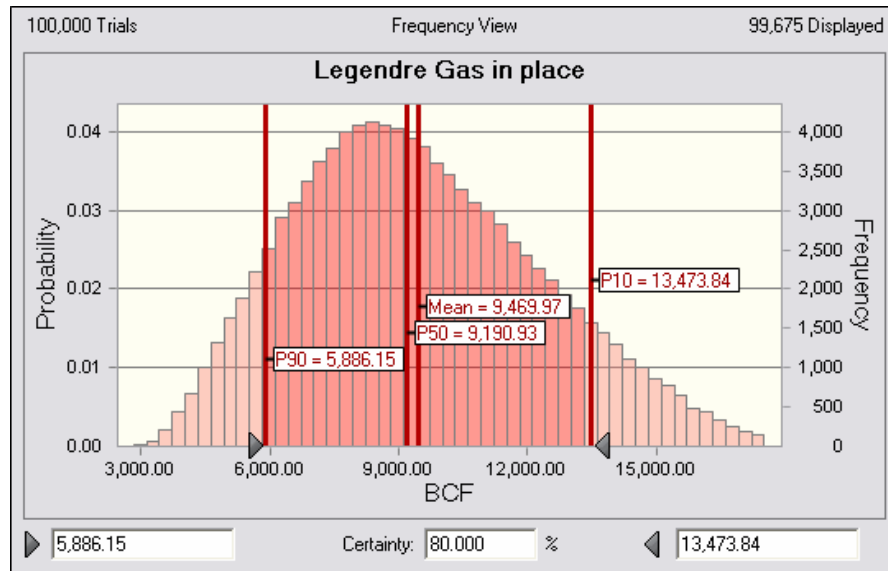


Artemis Calypso Reservoir Prospect Boundaries  
(West Artemis prospect not included as poor 3D coverage / mainly off permit)





# Legendre Resource Probability Plots





# Artemis Assessment

**Table 5. Potential hydrocarbon distribution East Artemis (WA 360 P).**

<b>Calypso Formation</b>		<b>P90</b>	<b>P50</b>	<b>Mean</b>	<b>P10</b>
Potential Gas in place	BCF	7,736	10,632	10,778	14,042
Potential recoverable gas	BCF	4,570	6,308	6,403	8,378
Potential recoverable condensate	mmbbls	51	75	77	106
<b>Legendre Formation</b>		<b>P90</b>	<b>P50</b>	<b>Mean</b>	<b>P10</b>
Potential Gas in place	BCF	5,892	9,186	9,466	13,439
Potential recoverable gas	BCF	3,489	5,454	5,623	8,001
Potential recoverable condensate	mmbbls	39	64	67	100