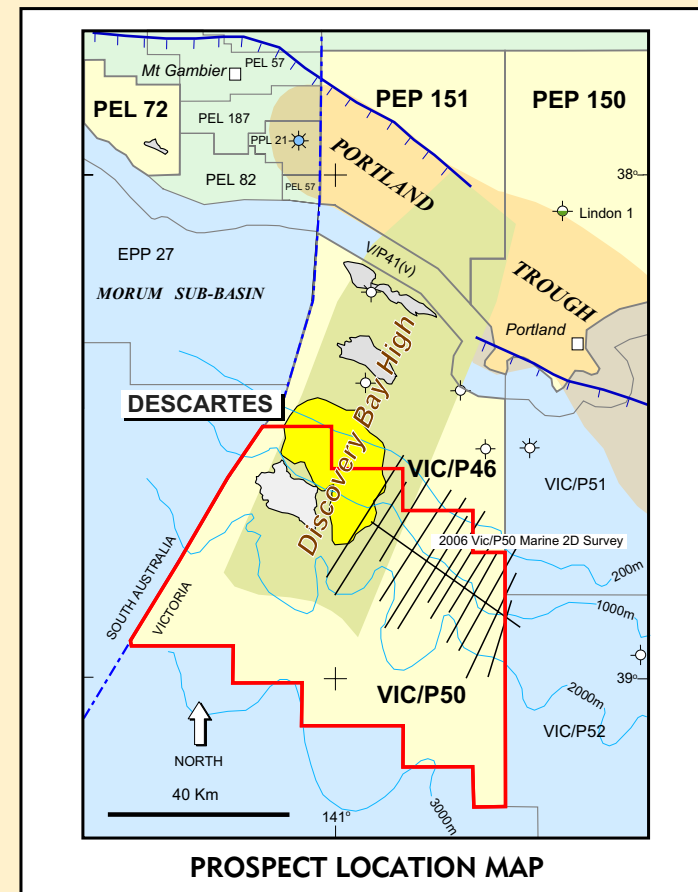
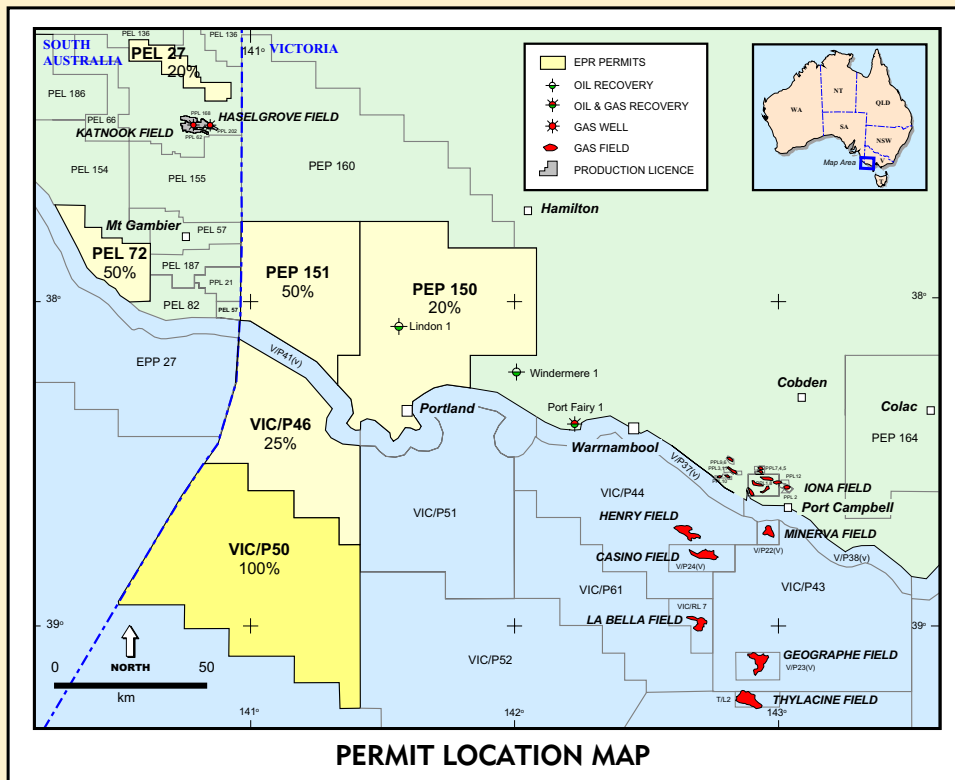


# Descartes Prospect VIC/P50 Offshore Otway Basin



## DESCARTES PROSPECT SUMMARY

VIC/P50 provides exciting high risk and high reward deep water exploration opportunities in the Otway Basin. Exploration in water depths of greater than 500m is an emerging frontier with many giant discoveries in excess of 500 MBOE in recent years. Advances in drilling technology have enabled exploration to move out to the continental shelf margin where potentially prolific turbidite fan complexes are deposited. Only one deep water exploration well has been drilled in the Otway Basin to date.

**Reservoir:**  
Turbidite fan complex deposited in response to mid-Oligocene eustatic sea-level fall (Figure 1, FIGURE 4). Digital elevation model shows that the proto-Murray River has fed sediments into the VIC/P50 area (FIGURE 2). Seismic facies analysis has identified three cycles of turbidite fan activity (FIGURE 6). Mound, channel and sheet facies have been mapped for the uppermost cycle (FIGURE 7).

**Seal:**  
Base seal: Fine grained slope and basin floor facies of the Eocene Wangarup and Nirrandi groups (FIGURE 3).  
Top seal: Pliocene shelf carbonates of the Whalers Bluff Formation  
Intra-formational: Base and top seal may also be provided by shales deposited between periods of turbidite fan activity.

**Trap Style:**  
Combination stratigraphic and structural trap. Updip pinchout (FIGURE 3).

**Source:**  
1. Local: Early Cretaceous coal measures (*P. tenuis* and *C. striatus*) of the lower Eumeralla Formation.  
Proven source for gas fields in eastern Otway Basin and the Windermere and Linton oil accumulations.  
2. Regional: Early Cretaceous marine source rocks in the upper Eumeralla Formation, offshore Morum Sub-basin, as postulated by Primary Industries and Resources South Australia (PIRSA) and others (FIGURE 8).1

**Generation:**  
1. Local: Late loading of source rocks with Pliocene shelf carbonates of the Whalers Bluff Formation. Interpreted hydrocarbon related diagenetic zones (HRDZ's) and gas chimneys provide high confidence of a recent hydrocarbon charge in the area (FIGURE 9).  
2. Regional: Heavy asphaltite beach strandings, synthetic aperture radar (SAR) anomalies, surface gas anomalies with hydrocarbon ratios indicative of crude oil seeps, and interpreted gas chimneys are evidence for generation from a postulated Early Cretaceous oil-prone marine source pod in the offshore Morum Sub-basin (FIGURE 8)

**Depth:**  
Water depth ~400m in VIC/P50. Well depth 1300m to test turbidite fan complex, 1700m to test underlying Late Cretaceous tilted fault block/erosional remnant play (Newton Lead).

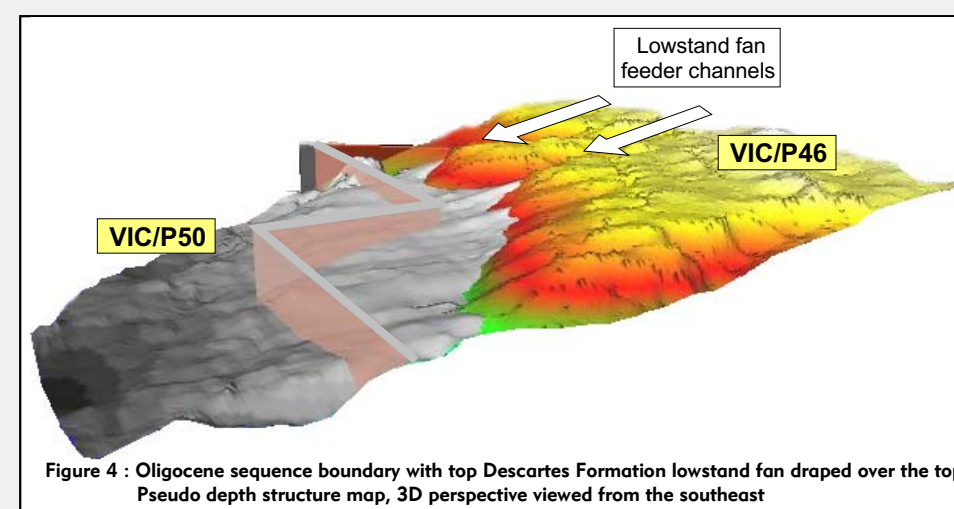
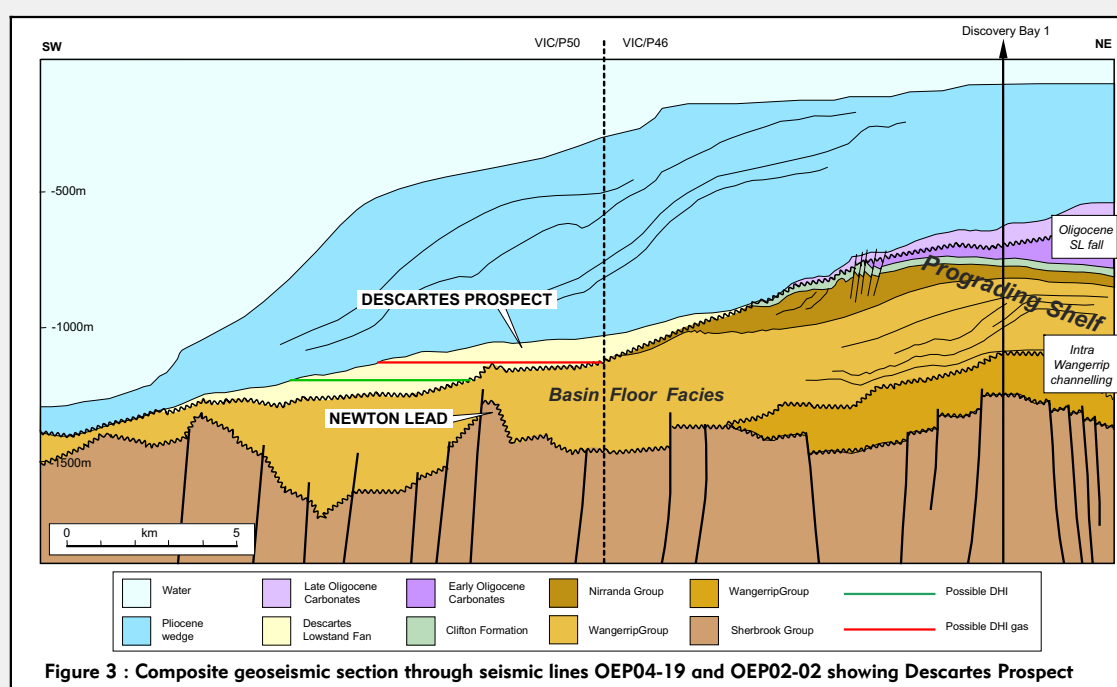
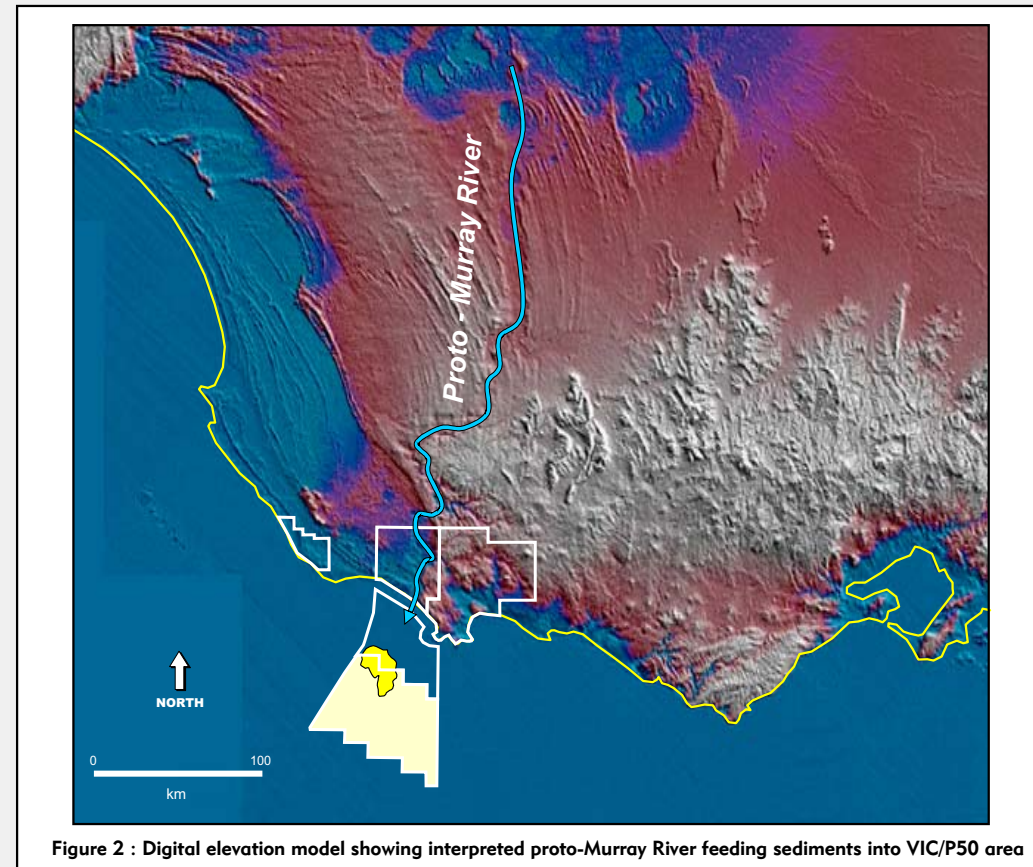
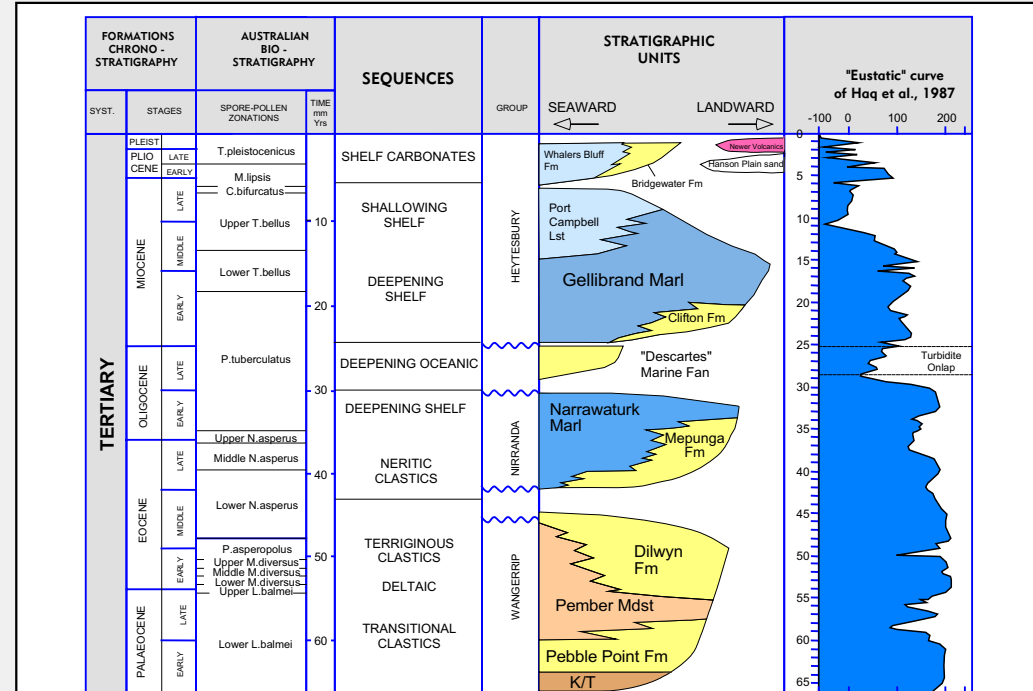
1 Article by Peter Boul, David McKirdy, Jane Blevin, Roar Heggeland, Simon Lang and Dan Vinnal entitled "The oil-prone Morum Sub-basin petroleum system, Otway Basin, South Australia", MESA Journal Volume 38, July 2005.

## PROSPECT RESOURCE

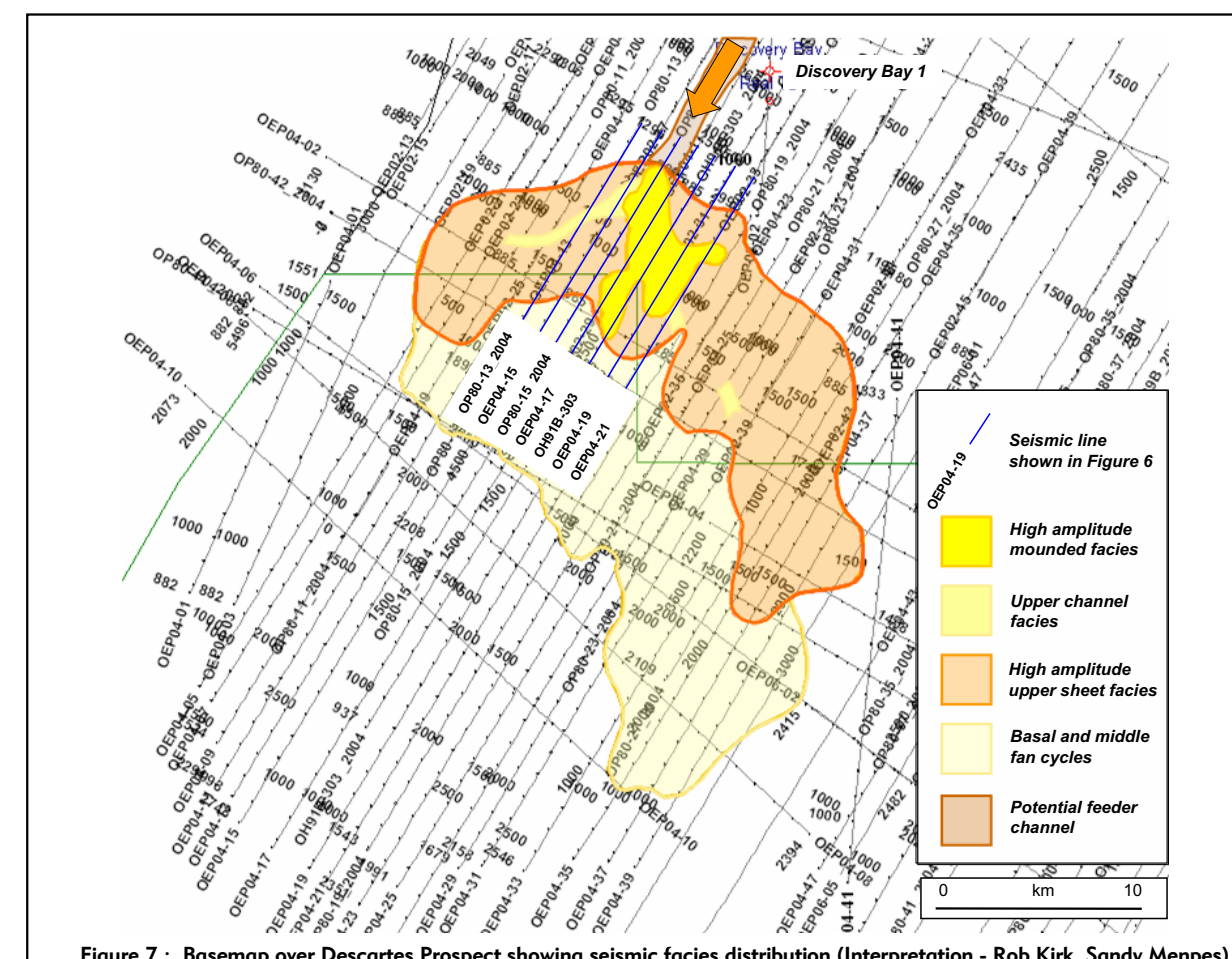
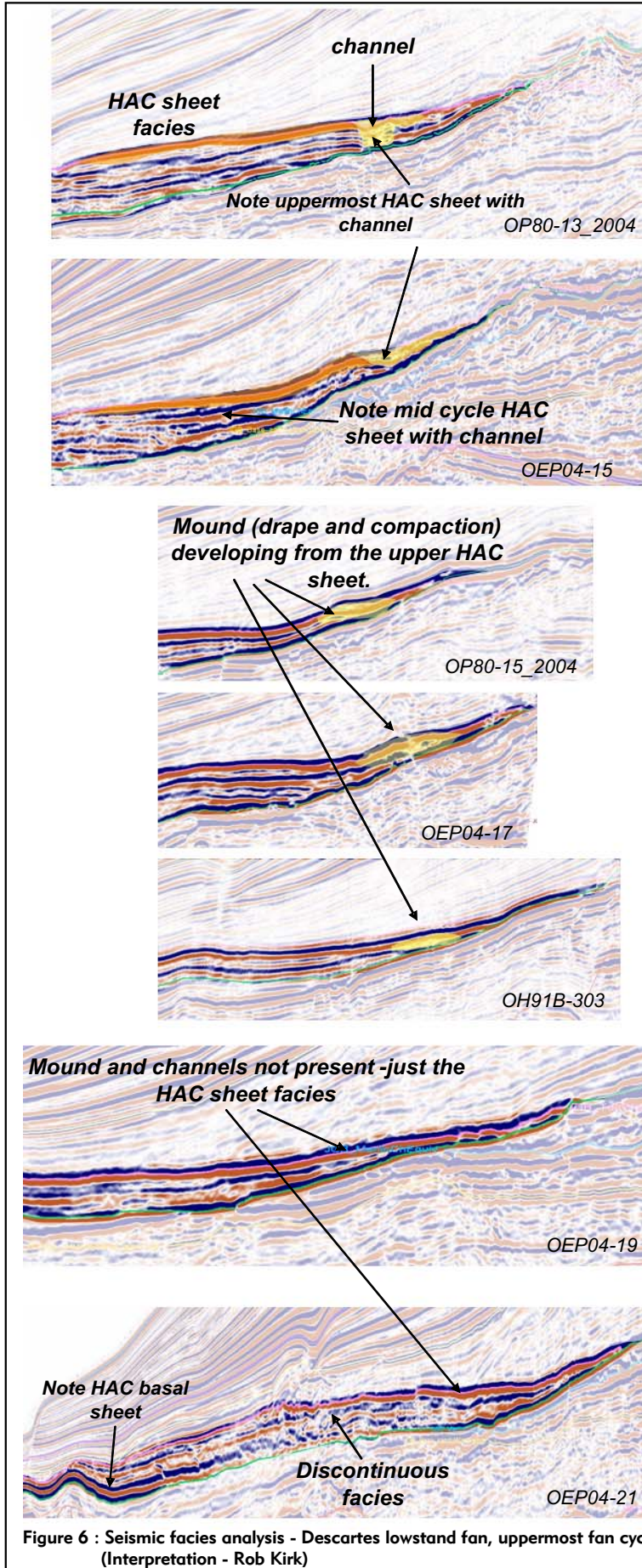
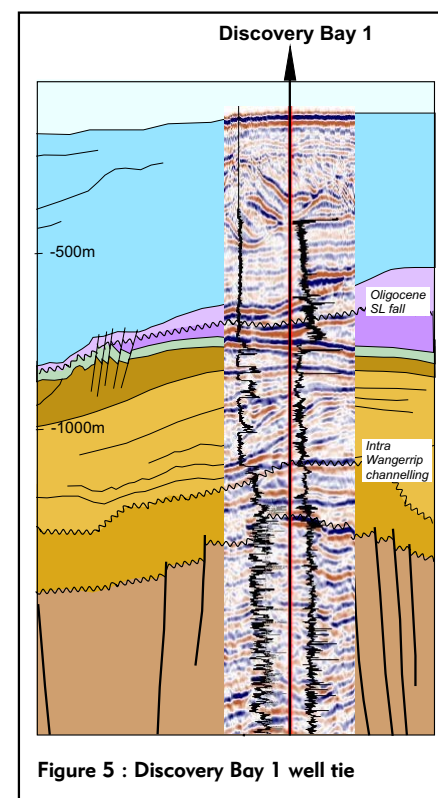
Tenement	Prospect	EPR Interest	Target Formation	P50 Most likely Possible recoverable Resource Oil (MMbbls)	P50 Most likely Possible recoverable Resource Gas (BCF)
VIC/P46	Descartes	25%	Oligocene SSr	600	N/A
VIC/P50	Descartes	100%*	Oligocene SSr	200	N/A

\* Expected working interest post farmout is 15%

## GEOLOGICAL MODEL



## SEISMIC FACIES ANALYSIS



## HYDROCARBON CHARGE

