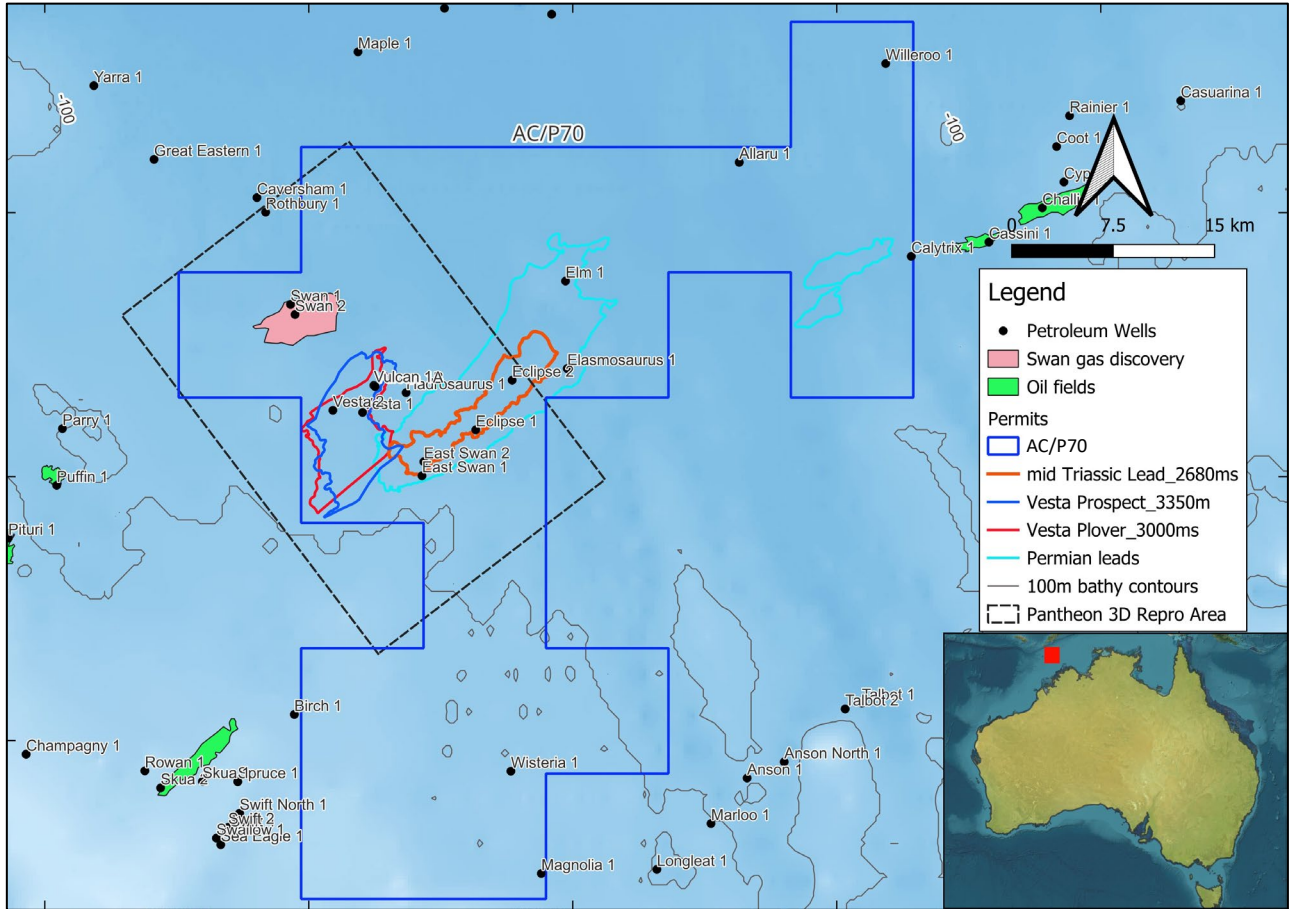


**FARM-IN OPPORTUNITY**  
**Oil and gas discoveries, drilling opportunities and multiple play types**  
**ADJACENT TO EXISTING PRODUCTION AND DISCOVERIES**



**OPPORTUNITY STATEMENT**

- ◆ Hosts existing discoveries, adjacent to many more, and close to existing infrastructure.
- ◆ Vesta-1 proved moveable hydrocarbon; significant upside identified on reprocessed seismic data.
- ◆ Multiple leads identified in other plays multiple plays / running room.
- ◆ Currently in Primary Term.
- ◆ Exploration well not due until 2027.

**INVESTMENT PROPOSITION**

- ◆ AC/P70 farm-out process beginning in Q3 2024, targeting close late 2024.
- ◆ Melbana goal is for farminee to fund drilling of exploration well.
- ◆ Opportunity to acquire large working interest in attractive acreage close to infrastructure.
- ◆ High equity and operatorship are available to suitably qualified companies.
- ◆ Close to existing discoveries and potential to be tied into nearby infrastructure.

**FARM IN OPPORTUNITY**

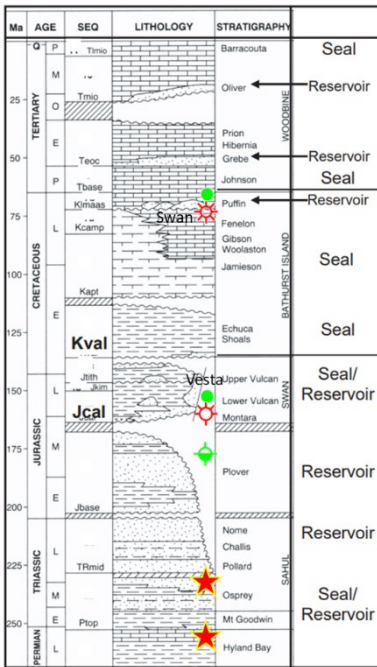
**Upfront cash payment for back costs, fund technical work program, and carry exploration drilling in return for significant equity in Permit**

### SETTING

Melbana Energy is currently 100% equity holder and operator of AC/P70. The permit was acquired with the strategy of appraising the Vesta oil and gas discovery where significant additional resources are likely hosted by un-tested faulted compartments up-dip of the Vesta wells.

Significant additional potential is also recognised in numerous play types, including a) the deeper Plover section which has never been successfully tested at Vesta despite numerous shows elsewhere in the permit, b) well-developed marine shelf sands that may form a series of large stratigraphic traps and c) the un-tested Triassic and Permian section, where large fault-independent closures are observed.

### PLAYS AND PETROLEUM SYSTEMS



AC/P70 hosts both proven and prospective petroleum systems at multiple levels.

The Cretaceous Puffin sands have been proven within AC/P70 at the Swan gas discovery and the nearby Puffin oil field.

The *W.spectabilis di* section within the Lower Vulcan is the principal play in this permit and is proven by the Vesta discovery. Deltaic sands are capped by a thick section of Lower Vulcan marine claystone. Hydrocarbon is sourced by Late Jurassic oil-prone marine organo-facies, proven to provide hydrocarbon to the nearby Skua, Cassini and Jabiru oil fields.

The Callovian Plover section hosts multiple hydrocarbon shows throughout the permit. It has never been tested at the Vesta structure.

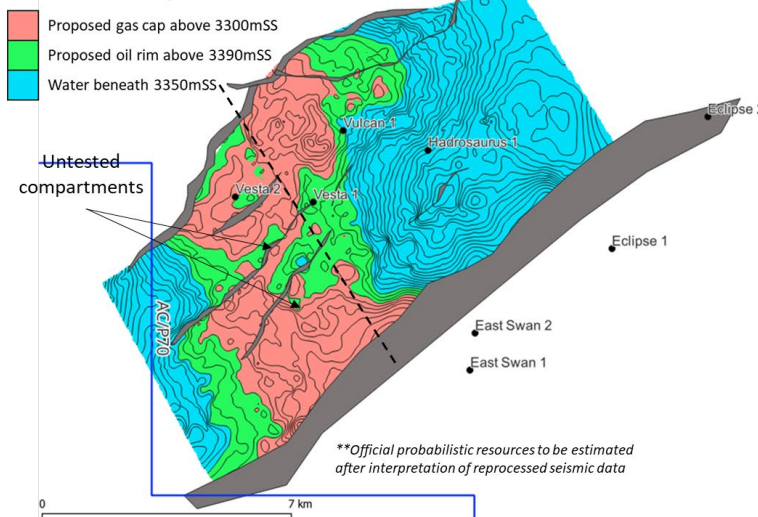
Additional potential is recognised within the mid-Triassic section where good reservoir conditions can be interpreted, and the Late Permian Hyland Bay section where high amplitude reflections likely associated with carbonate rocks are clearly distinguished. These are capped by a thick section of the Mount Goodwin claystone, a proven sealing unit elsewhere in the region.

*modified after Kennard et al., 1999b; Otto et al., 2001; Kiviior et al., 2002*

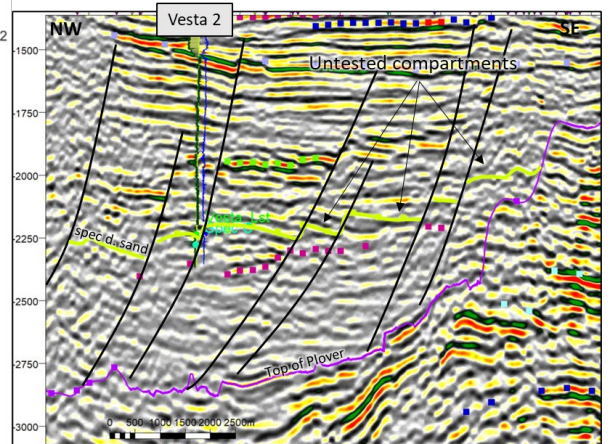
### VESTA-1: OIL DISCOVERY IN LATE JURASSIC SYN-RIFT RESERVOIR

Drilled by ENI in 2005 to 3342mD, the original objective was to test the oil potential of the 'Near Callovian Unconformity' (Plover). The well however was halted ~200m short of the Callovian target due to high geo-pressure and failure to stabilise.

**spectabilis di: Depth Structure**



*\*\*Official probabilistic resources to be estimated after interpretation of reprocessed seismic data*

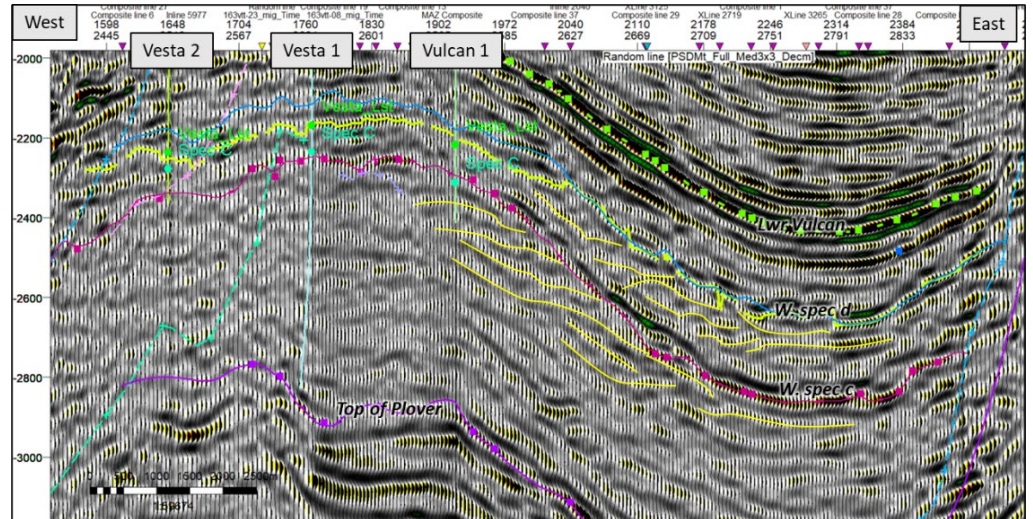


- Hydrocarbon bearing sands were encountered within the Oxfordian Lower Vulcan Formation (Vesta Sandstone) between 3342-3365mD.
- DST results confirm oil deliverability from the reservoir with significant associated gas.
- Vesta-2 was drilled in 2008 and encountered 6.4m net gas within reservoir sands of the same age.
- Melbana’s recent seismic interpretation indicates that the Vesta *W.spectabilis.di* oil sand closes across a structure of ~48 km<sup>2</sup>. The area includes series of tilt-blocks located up-dip from the Vesta wells where considerable additional resources may be present.

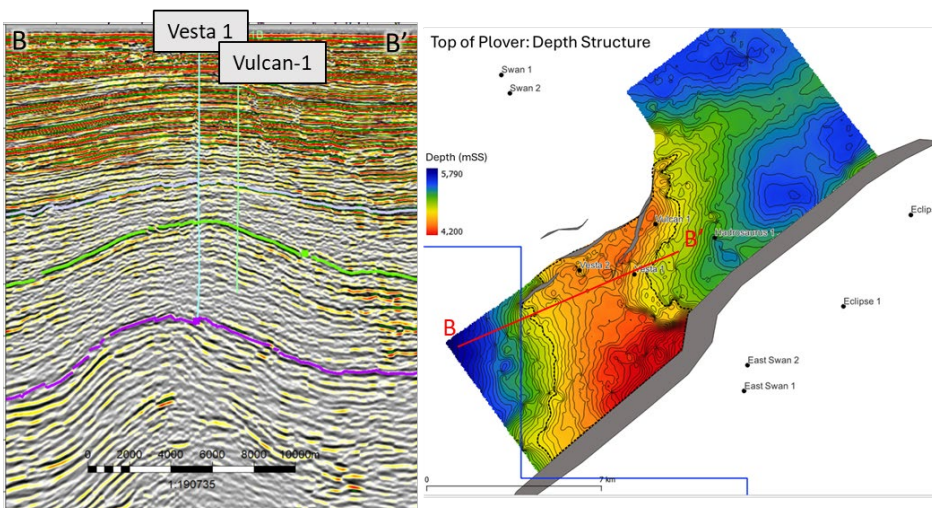
**NEAR FIELD POTENTIAL: STRATIGRAPHIC TRAPS**

Seismic reflectors highlighted in yellow indicate geometries that could be associated with good quality reservoir sands. These reflectors are ‘tipped-up’ into the eastern side of the Vesta structure where they may form stratigraphic traps of considerable size.

These are recognised at multiple levels indicating stacked opportunities throughout the Late Jurassic section.



**NEAR FIELD POTENTIAL: PLOVER**



Further potential is recognised at the Top of Plover which may be associated with strong reflectors ~200m beneath the TD of the Vesta-1 well.

Reprocessing and QI studies will assist with charactering the play at these levels.

The original target of Vesta-1, the Plover Formation, has never been successfully tested on the structure.

Numerous hydrocarbon shows within the Plover, in and around AC/P70,

encourage further exploration of the play. While considerably deeper (> 4500m), the Top of Plover surface has a similar areal closure to that of the *W.spectabilis di.*, but with less faulting.

The reservoir at this level is potentially face-loaded by proven source rocks of the Lower Vulcan Formation.

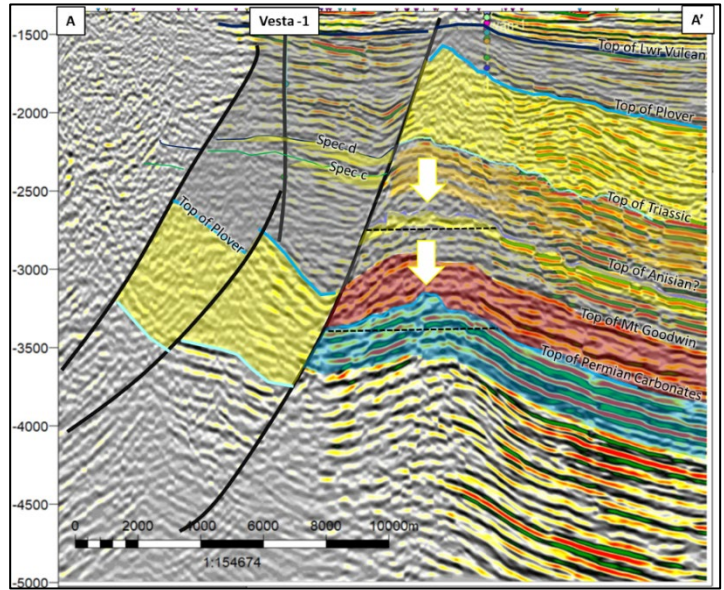
**NEAR FIELD POTENTIAL: TRIASSIC AND PERMIAN**

Additional potential is recognised within the Permian and Triassic sections. Structures within the East Swan foot-wall are likely induced by deep mobile salt causing roll-over and significant fault-independent closure.

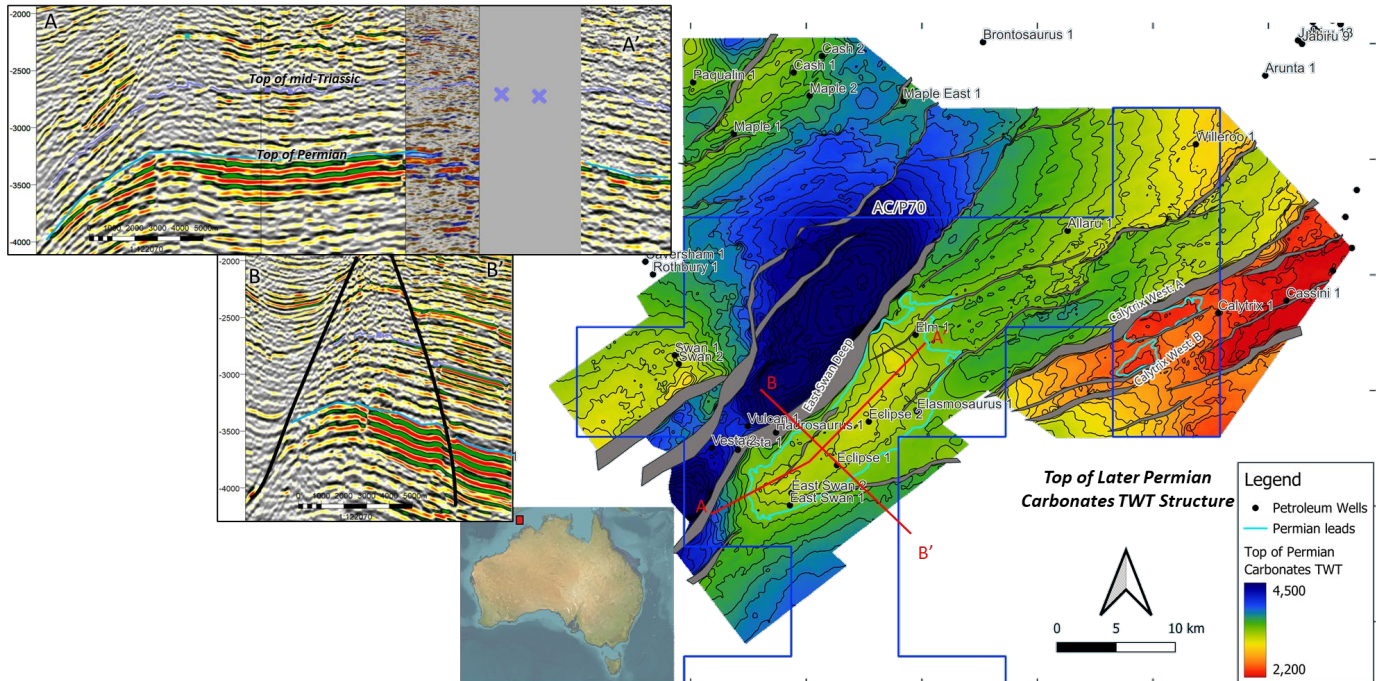
The Permian section is clearly distinguishable by thick and repeating, high amplitude reflectors likely associated with the Late Permian carbonate shelf.

These are capped by a thick, 'bland' section representing the Mount Goodwin Shale, an ideal sealing unit.

The mid-Triassic Anisian section is distinguished by a strong impedance contrast that can be correlated with reservoir quality sands at Osprey-1 and Whimbrel-1 to the east.



The combined areal closure of at least 150 sqkm and significant vertical closures across the Permian and mid-Triassic structures make East Swan Deep larger than the nearby Tern/frigate and Petrel gas fields which together host ~1.4Tcf of recoverable gas.



Traps within the East Swan footwall are likely to be face-loaded by proven source rocks of the Lower Vulcan and/or gas prone source rocks of the Plover.

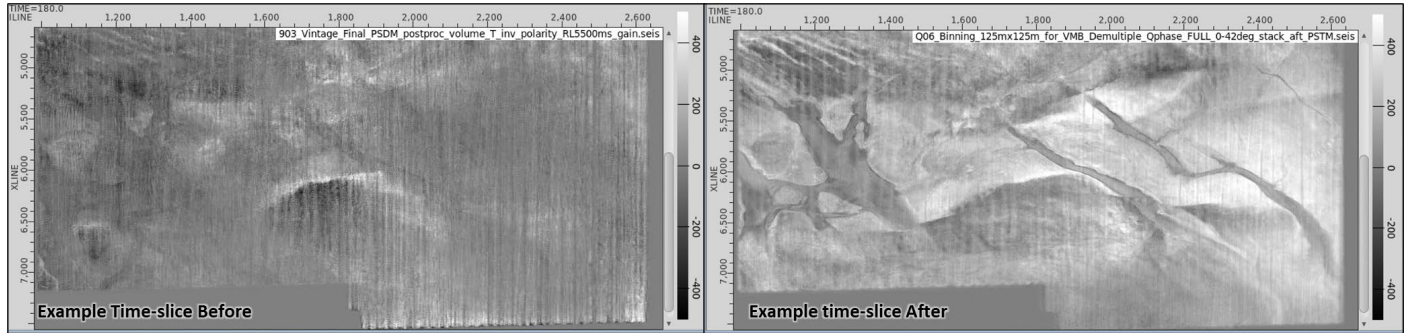
**WORK PROGRAMME**

The prospectivity of the Vesta oil discovery and any near field up-lift depends on understanding the distribution of proposed reservoir sands associated with the adjacent Oxfordian delta system. It is necessary to accurately delineate reservoir potential up-dip of the Vesta wells within un-tested faulted compartments and determine the lateral extent of potential stratigraphic traps along the eastern side of the Vesta structure. Currently available 3D seismic data including a sub-set of the Cygnus 3D MCSS, is of insufficient quality to achieve these objectives. Modern reprocessing is therefore necessary to further mature Vesta towards drill ready.

Shearwater has been contracted to reprocess the entire 660 km<sup>2</sup> of the Pantheon 3D MSS. The objective is primarily to improve imagery of depositional geometries of the *W.spectabilis di.* reservoir section and facilitate Quantitative geophysical (QI) studies that might assist with characterising fluid content as well as reservoir distribution.

Reprocessing is currently ~95% complete and is due to be delivered in June 2024. Early results are encouraging.

### MOST RECENT REPROCESSING RESULTS



### CURRENT PERMIT CONDITIONS

Year	Start Date	End Date	Quantity	Activity Description	Indicative Expenditure (AUD)	Status
1-3	15/02/2022	14/02/2027	200 km <sup>2</sup>	Licence Cygnus MC3D Seismic Survey data	\$780,000	Complete
			700 km <sup>2</sup>	License reprocessed seismic data from the NOVAR MC3D and Zepon MC3D datasets	\$170,000	Complete
			200 km <sup>2</sup>	Broadband reprocessing of Pantheon 3D seismic survey from field tapes	\$750,000	Underway
				Quantitative Inversion studies of 7 wells	\$250,000	Pending reprocessing results
				Interpretation studies and ranking of drilling opportunities	\$300,000	Suspended during seismic reprocessing
				Operations planning	\$1,000,000	
			1	Drill exploration well	\$23,000,000	
4	15/02/2027	14/02/2028		Geological and geotechnical studies including seismic interpretation	\$600,000	
5	15/02/2028	14/02/2029	300 km <sup>2</sup>	Reprocessing and inversion of 3D seismic data	\$200,000	
6	15/02/2029	14/02/2030	1	Drill exploration well	\$30,000,000	

### ABOUT THE COMPANY

Melbana Energy is an independent oil and gas company that has been listed on the Australian Securities Exchange since 1998 (formerly MEO Australia). Headquartered in Sydney, Australia, with a technical satellite office in Melbourne, the Company has a portfolio of attractive exploration, appraisal and development stage opportunities in Australia and abroad.

Australia is an attractive exploration and production destination, with low sovereign risk and attractive tax and royalty regulatory regime.

### FOR FURTHER INFORMATION, PLEASE CONTACT:

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