

# Quarterly Activities Summary for Period Ended 31 December 2017

## Highlights:

### **Australia – WA-488-P (Beehive)**

- French major Total and Australia’s Santos to fully fund a 3D seismic survey over Beehive Prospect, one of the largest undrilled hydrocarbon structures in Australia, in return for an option to acquire an 80% Participating Interest in WA-488-P
- If Total and/or Santos exercises its option, Melbana would retain 20% and be fully carried for the first well drilled in WA-488-P
- Acquisition of 3D seismic survey expected mid 2018

### **New Zealand - PEP51153**

- Drilling of the high impact Pukatea prospect commenced 24 January 2018
- Secondary objective identified with ~50% likelihood of intersecting moveable hydrocarbons

### **Cuba - Block 9 PSC**

- Appointed Drilling Planning Coordinator in Cuba office to support drilling preparations  
Multiple potential drilling rigs identified for 2018 drilling program
- Alameda-1 presents an opportunity to drill three objectives with combined exploration potential of 2.5 billion barrels Oil-in-Place and 130 million barrels of recoverable oil (Best Estimate, 100% basis)\*
- Farmout process for Block 9 PSC active with multiple potential farminees

### **Capital Raising**

- ~\$2.1 million capital raising (before costs) to support working capital for New Zealand and Cuban operations
- \$6.4m cash balance at end December 2017

MELBOURNE, AUSTRALIA (31 January 2018)

Melbana Energy Limited (ASX: **MAY**) (“**Melbana**” or the “**Company**”) provides the following summary in relation to its activities during the quarter ended 31 December 2017.

## Overview

This quarter saw Melbana move forward significantly on a number of key projects which means the company is well placed as we move into 2018.

*\*Refer to Cautionary Statement in this report (page 5) relating to estimates of Prospective Resources.*

The Company executed a seismic funding and farmin option agreement with Total and Santos in relation to Melbana's 100% owned WA-488-P in December 2017, which contains the giant multi billion barrel Beehive prospect. This transaction provides a pathway for Melbana to be fully carried for a 20% participating interest in the drilling of Beehive, with Total and Santos to fully fund a 3D seismic survey, and then pre-agreed farmin terms for the drilling of a well in WA-488-P if either Total or Santos elect to proceed after the seismic data is acquired. Acquisition of the seismic survey is expected mid 2018.

Drilling preparations for Pukatea-1 in New Zealand's onshore Taranaki Basin advanced considerably during the quarter with drilling commencing as planned on 24 January 2018. During the quarter the Operator identified a secondary objective for the well and increased its estimate of it intersecting moveable hydrocarbons in the secondary objective to ~50%.

The Pukatea prospect is a high impact exploration opportunity, targeting a highly productive conventional reservoir at the primary objective. The well is expected to take approximately 1 month to reach Total Depth and is proximal to existing infrastructure and has a number of low cost alternative development paths.

Melbana continued to progress planning for a drilling campaign in Cuba Block 9 where it is aiming to drill up to two wells, Alameda-1 and Zapato-1, expected to commence around mid-2018. Melbana expanded the operating capacity of its Cuba office during the quarter with the appointment of a Drilling Planning Coordinator with more than 40 years of both Cuban and international oil industry experience. The procurement process for a drilling rig and other major equipment and services and well permitting was also advanced during this period.

Melbana completed a Share Placement during the quarter raising in aggregate ~\$2.1 million before costs. The funds raised will be used primarily for the Company's Cuba and New Zealand projects. At the end of the quarter, Melbana had a cash balance of \$6.4 million.

**Commenting on the Quarter's activities Melbana Energy's CEO Robert Zammit said:**

*"The end of last quarter was a significant one for the Company given it marked Melbana's transition to an operational focus in 2018 with the drilling of Pukatea-1 in New Zealand which has the potential to be very significant for Melbana shareholders, our aim to drill up to two wells in Cuba around mid-2018 where we are underway with engineering, procurement and permitting processes, and our new relationship with Total and Santos where we are focused on getting the 3D survey over WA-488-P completed as soon as possible. We were also pleased to end the quarter with a cash balance of \$6.4 million and are appreciative of the support of both new and existing shareholders in the recent capital raising.*

*Melbana looks forward to keeping the market informed as it progresses with Cuba, New Zealand, Beehive and our other projects."*

Robert Zammit  
**Chief Executive Officer**

Attachments: Activity Summaries by Project Area

**Contingent and Prospective Resources:** The information in this presentation that relates to Contingent Resources and Prospective Resources for Melbana is based on, and fairly represents, information and supporting documentation compiled by Peter Stickland, Non-Executive Director of Melbana. Mr Stickland B.Sc (Hons) has over 25 years of relevant experience, is a member of the European Association of Geoscientists & Engineers and the Petroleum and Exploration Society of Australia, and consents to the

publication of the resource assessments contained herein. The Contingent Resource and Prospective Resource estimates are consistent with the definitions of hydrocarbon resources that appear in the Listing Rules. Conversion factors: 6 Bscf gas equals 1 MMboe; 1 bbl condensate equals 1 boe

## **Cuba**

As an early mover into Cuba, Melbana is now one of the few western companies (and the only ASX listed company) with a footprint in the expanding Cuban hydrocarbon sector. The geology of the block has analogies to petroleum systems in which Melbana's technical personnel have significant experience, and Melbana sees substantial potential in Cuba overall and Block 9 in particular.

During the quarter, Melbana expanded the operational capability of its Cuban office with the appointment of a Drilling Planning Coordinator with more than 40 years working with both Cuban and international oil companies operating in Cuba and internationally. The procurement process for a drilling rig and other major equipment and services and well permitting was also progressed during the quarter.

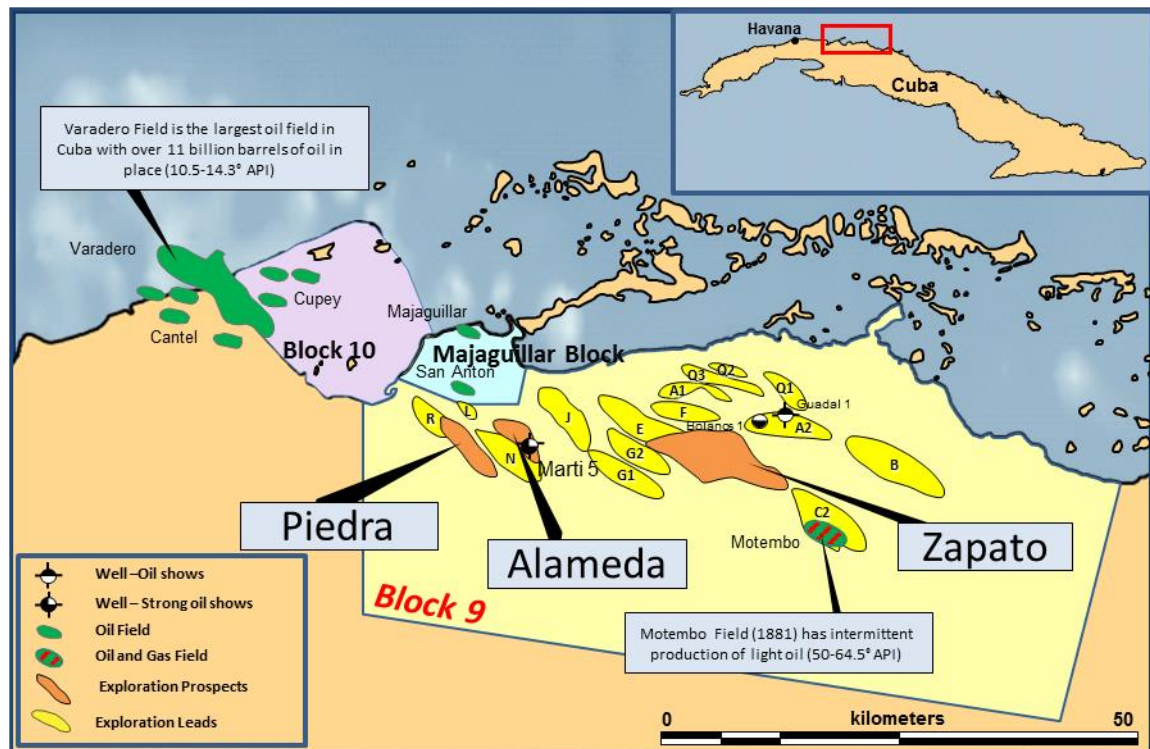


**Melbana's Cuban Representative, Dr Rafael Tenreyro, marks the location of the proposed Alameda-1 well (left) and completed permanent marker for Alameda-1 topographic survey (right)**

Melbana has completed the work program for the first sub-period for Block 9, which concluded on 2 November 2017 and included the reprocessing of 200km of 2D seismic survey data and a number of geological studies. The minimum work program for the second sub-period, which commenced on 3 November 2017 and continues for two years, includes the drilling of one exploration well in Block 9.

During the quarter Melbana terminated its commercial arrangements with Petro Australis Limited via a commercial settlement which resulted in Petro Australis relinquishing all claims to its back-in right to the Block 9 PSC (confirming that Melbana holds an unencumbered 100% interest in Block 9 PSC) in consideration for Melbana paying A\$50,000 in cash and issuing 20.8 million Melbana shares to Petro Australis. As a result of the settlement there are no further obligations on either party.

**Figure 1. Block 9 with high graded drilling targets**

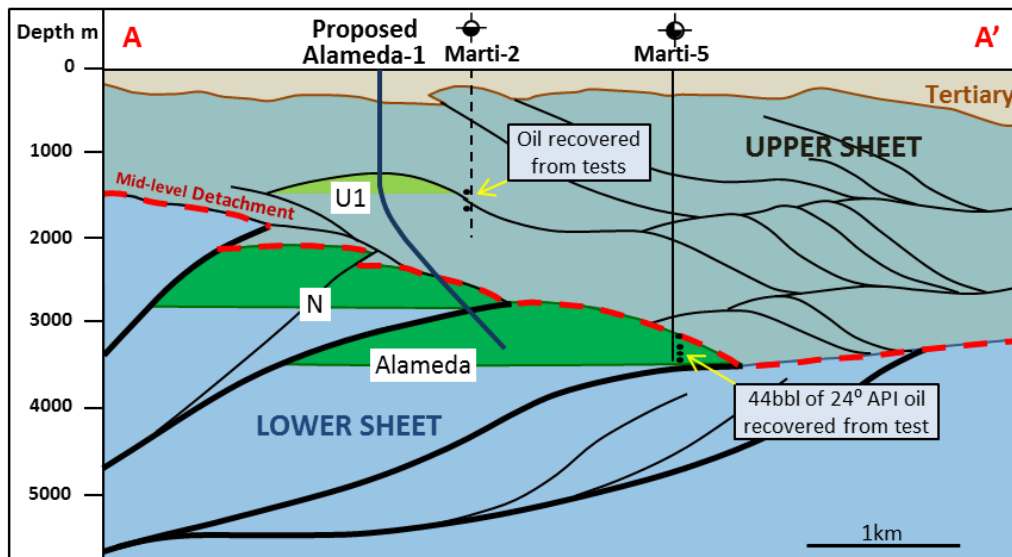


Melbana has identified Block 9 as one of the world’s most exciting exploration plays with exploration potential for approximately 12.5 billion barrels of Oil-in-Place with a Prospective (Recoverable) Resource of 637 million barrels (Best Estimate, 100% basis)\* of potentially high quality oil. The prospectivity assessment also identified 19 individual prospects and leads which the Company has been prioritising so as to focus on the highest impact, lowest risk drill opportunities.

### **Alameda-1 – High Priority Exploration Opportunity**

The highest ranked exploration drilling opportunity is the proposed Alameda-1 well which will test a combined exploration potential of over 2.5 billion barrels Oil-in-Place and 130 million barrels of recoverable oil on a 100% unrisks, Best Estimate basis\* and over 400 million recoverable barrels aggregate high side potential (Table 1 and Table 2). This exploration well has been designed as a mildly deviated well, with a total measured depth of 4,000m (Figure 2) to enable the well to penetrate three independent exploration objectives; the primary Alameda objective as well as the shallower N and U1 objectives.

\*Refer to Cautionary Statement in this report (page 5) relating to estimates of Prospective Resources.



**Figure 2. Schematic cross section for proposed Alameda-1 well**

The U1 objective is a structure indicated on seismic as being updip of the tested oil recoveries in the Marti-2 well. While characterised as an exploration well, the chance of success at Alameda-1 benefits from two old wells, Marti-2 and Marti-5, both of which recovered oil from the objectives targeted in Alameda-1. Alameda-1 is estimated to take approximately 80 days to drill.

Objective	Chance of Success %	Oil-in-Place (MMstb)			
		Low	Best	High	mean
U1	17%	40	503	1,851	759
N	22%	75	818	2,580	1,114
Alameda	32%	62	1,293	4,278	1,829

**Table 1: Exploration Oil-in-Place estimates for objectives of proposed Alameda-1 well**

**\*Prospective Resources Cautionary Statement:** 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. Future exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

Objective	Chance of Success %	Recoverable Prospective Resource (MMstb)			
		Low	Best	High	mean
U1	17%	2	25	93	38
N	22%	4	41	129	56
Alameda	32%	3	65	214	91

**Table 2: Exploration Prospective Recoverable Resource estimates for objectives of proposed Alameda-1 well**

Melbana’s focus is on detailed planning for a drilling campaign in Block 9. The Company’s aim is to drill up to two wells in Block 9 commencing around mid-2018. Based on a range of potential drill targets, a two well campaign would cost in the range of US\$20-30 million, and ongoing subsurface studies may yield further high quality, attractive drilling objectives. Melbana has commenced farmout activities for Block 9, with a data room opened in its Melbourne office.

In Cuba, the key focus for the Company during the coming months will be:

- Continuing farmout activities
- Ongoing detailed analysis of the current high priority drilling targets
- Preparation of detailed well design and drilling plans
- Seeking Cuban regulatory approvals required for drilling in 2018
- Identification of long lead procurement and contracting actions for planned drill program
- Detailed contractor evaluation and selection in preparation for field contract commitments

### Indicative Activity Schedule

PSC Melbana Interest Operator	Block 9 100% Melbana	2017												2018																			
		Mar Qtr				Jun Qtr				Sep Qtr				Dec Qtr				Mar Qtr				Jun Qtr				Sep Qtr				Dec Qtr			
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D								
<b>Exploration Sub-Period</b>														<b>2</b>																			
<b>Work program</b>		Studies & Seismic Reprocessing												1 exploration well																			
<b>Activities (indicative)</b>																																	
Data Gathering & Reprocessing																																	
Resource assessment		■																															
Mature drilling program		■																															
Detailed Drilling planning		■		■																													
Potential drilling (timing uncertain)																				■													

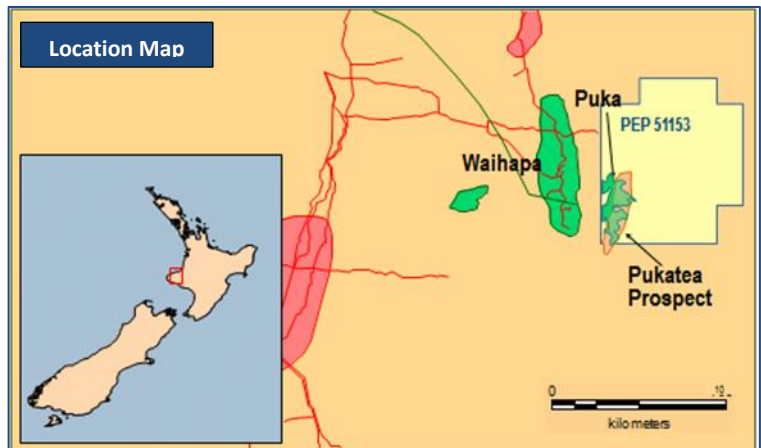
## New Zealand: Taranaki Basin

### PEP51153 (Melbana 30%, TAG 70% & Operator)

The PEP51153 Joint Venture (Melbana 30%, TAG Oil (TSX: TAO) 70% and Operator) has approved plans to drill Pukatea-1, with the Operator advising that drilling is expected to commence around 25 January 2018. The Pukatea prospect is a high impact exploration opportunity, targeting the highly productive conventional Tikorangi Limestone reservoir.

During the quarter the PEP51153 Joint Venture completed a technical reassessment of the Pukatea-1 objectives, which identified a secondary objective in the shallower Mt. Messenger sands within the Puka field in addition to the primary objective Tikorangi limestone.

This reassessment demonstrated an increased likelihood (estimated at ~50% probability) of Pukatea-1 intersecting moveable hydrocarbons within the Mt. Messenger sands.



Melbana believes the regional setting provides solid indicators of Pukatea's potential prospectivity. The Tikorangi objective Prospective Resources are based on the Operator's analysis of Pukatea and the adjacent Waihapa field (~3km from Pukatea), which is an important analogue having produced in excess of 23MMboe with initial well rates of ~5,000bpd. The Tikorangi objective at the Pukatea prospect is located updip and above the lowest known oil in the Waihapa field. The Douglas well drilled in 2012 at the edge of the Pukatea prospect encountered oil shows and 145m of reservoir interval, implying over 350m of updip potential at the Pukatea location.

Prospective Resource Summary for Pukatea is set out in the table below:

100% MMboe*	COS**	Low	Best	Mean	High
Pukatea -100%	19%	1.3	12.4	17.1	40

**\* Prospective Resources Cautionary Statement:** *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. Future exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.*

**\*\* COS means "Chance of Success"**

The Pukatea prospect is proximal to existing infrastructure and has a number of low cost alternative development paths. The Pukatea-1 well is planned to be drilled from the existing Puka production pad where three wells have previously been drilled. TAG operates the nearby Cheal production complex, ~5km from the Pukatea prospect location and according to latest publicly available data released by the operator, produces at approximately 1,000boepd.

Melbana believes oil and gas economics in the Taranaki Basin can be robust in the current price environment. TAG recently reported an independent expert valued their 2P Reserves in nearby fields at ~A\$20/barrel on an NPV10 basis\*.

\*TAG Oil media release 20 June 2017



**Completed Pukatea drilling pad with existing Puka-1 and Puka-2 suspended wells protection zones visible**

Furthermore, PEP51153 also contains the shallower Puka oil accumulation, which was discovered in 2012 and has previously produced from two wells under extended production test at 100bpd, but is currently shut-in. If moveable hydrocarbons are intersected in the Mt. Messenger formation in Pukatea-1, the Joint Venture will subsequently have the potential to review and assess the technical and commercial merits of aggregating the production potential with the suspended Puka-1 and Puka-2 wells.

The minimum work program for PEP51153 is as follows:

Period	Work Commitment
No later than 23 February 2018	Drill one well to a location and depth agreed between the permit holder and the Chief Executive

PEP51153 currently expires on 23 September 2018.

### Indicative Activity Schedule

Permit Melbana Interest Operator	PEP 51153 30% TAG Oil	2017				2018																	
		Mar Qtr		Jun Qtr		Sep Qtr		Dec Qtr		Mar Qtr		Jun Qtr		Sep Qtr									
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	
Permit Year		9								10													
<b>Work program</b>		1 well																					
<b>Activities (indicative)</b>																							
Drilling preparations		[Yellow bar]																					
Drill Well Pukatea-1														[Red bar]									
Testing (success case)																[Red bar]							



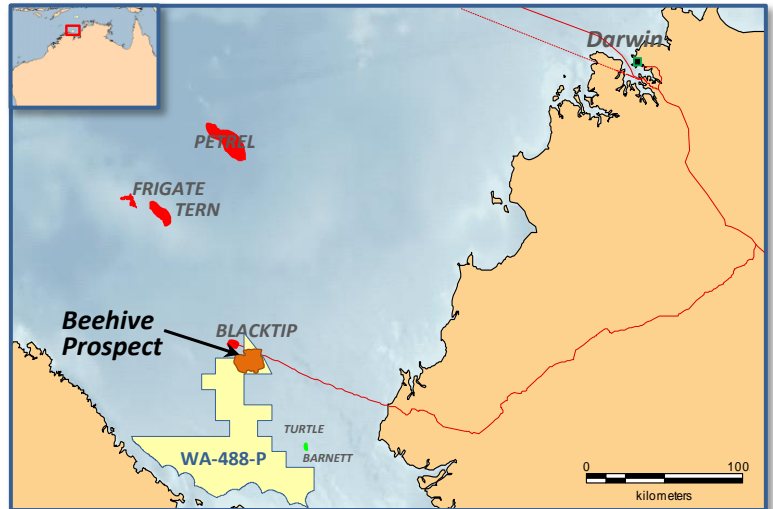
## Australia

### Bonaparte Gulf: Petrel sub-Basin: WA-488-P (Melbana 100%)

WA-488-P is located in the southern Bonaparte Gulf and covers an area of 4,105km<sup>2</sup>. The permit was awarded to Melbana in May 2012 as part of the acreage Gazettal Round.

Leveraging the 2011 Ungani-1 oil discovery in Carboniferous aged reservoirs in the nearby Canning Basin, Melbana has identified the giant Beehive prospect, analogous to the giant Tengiz field in the Caspian Sea but a new play type within the Bonaparte Basin.

On 12 December, 2017, a Seismic Funding and Farmin Option Agreement was signed with Total and Santos. The agreement provides for Total and Santos to fully fund 100% of the cost of a 3D seismic survey over the Beehive prospect\* in consideration for which, they are granted an option (exercisable together or individually) to acquire a direct 80% participating interest in the permit. If the option is exercised, Total and/or Santos will fully fund the costs of all activities until completion of the first well in the WA-488-P permit. In the event of a commercial discovery, Melbana will repay carried funding from its share of cash flow from the Beehive field. Melbana will have no re-payment obligations for such carried funding in the event there is no commercial discovery and development in WA-488-P.



\* Subject to regulatory approvals and tendered cost of seismic acquisition being within an acceptable range

### Indicative Activity Schedule

Permit	WA-488-P	2017				2018							
		Mar Qtr	Jun Qtr	Sep Qtr	Dec Qtr	Mar Qtr	Jun Qtr	Sep Qtr	Dec Qtr				
Melbana Interest	100%	J	F	M	A	M	J	J	A	S	O	N	D
Operator	Melbana	J	F	M	A	M	J	J	A	S	O	N	D
Permit Year		2				3							
Work program		Seismic Reprocessing & Inversion						1 well					
Activities													
Reprocess 2D seismic & Inversion		[Blue bar]											
Farmout process		[Orange bar]											
Reprocess 2D seismic & studies		[Orange bar]						[Orange bar]					
Acquisition of 3D seismic survey *								[Orange bar]					
Potential drilling of Beehive-1*													

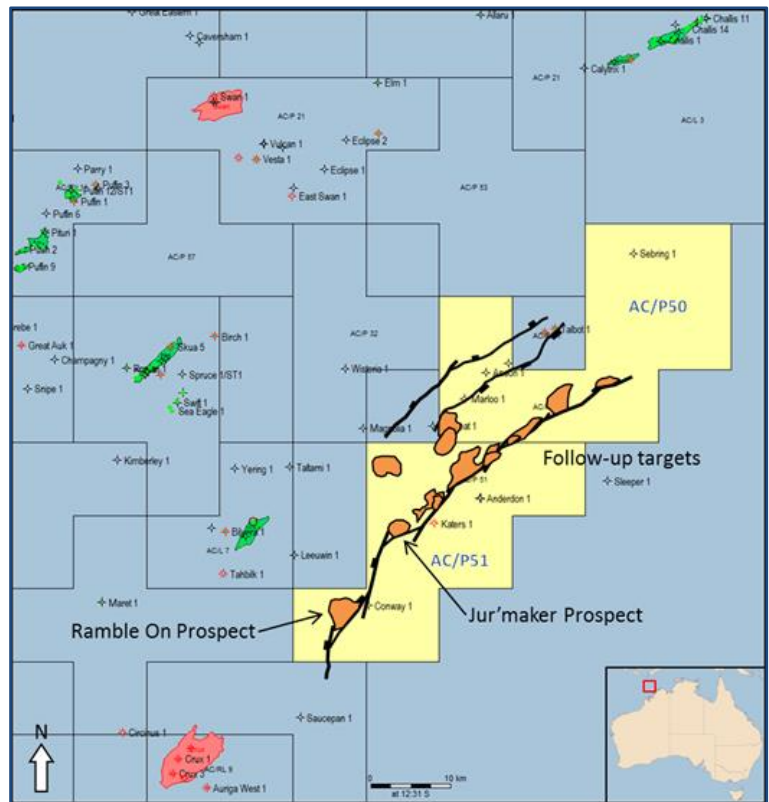
\* timing is indicative only and is subject to change

## Ashmore Cartier Region, Timor Sea: Vulcan Sub-Basin

### AC/P50 and AC/P51 (Melbana 55%\*)

AC/P51 contains the Ramble On prospect, a new play type that has proven analogues in other Basins. This prospect is on trend with the recently reported Auriga West-1 gas discovery near Crux gas/condensate field, resulting in renewed industry interest in the region.

The seismic reprocessing undertaken earlier in 2017 has resulted in significantly improved data quality. Melbana's preliminary assessment of the recent 3D seismic broadband reprocessing results has identified the potential for additional prospectivity in the Permits resulting from improved data quality, including an amplitude-supported objective immediately above the existing Ramble On prospect. In the right conditions, an amplitude anomaly can be a direct indicator of hydrocarbons.



\*Both permits are subject to an option to acquire a 5% interest currently held by Far Cape Energy Pte Ltd ("Far Cape"). Under this option agreement, Melbana will carry Far Cape's participating interest in the first well should Melbana elect to drill a well in either permit.

### Indicative Activity Schedule

Permit	AC/P50	2017				2018							
		Mar Qtr	Jun Qtr	Sep Qtr	Dec Qtr	Mar Qtr	Jun Qtr	Sep Qtr	Dec Qtr				
Melbana Interest	55%*	J	F	M	A	M	J	J	A	S	O	N	D
Operator	Melbana	J	F	M	A	M	J	J	A	S	O	N	D
Permit Year		3				4							
Work program		Repro				Studies				1 well**			
Activities		Reprocessing				Seismic Interpretation				Partial sale process			

Permit	AC/P51	2017				2018							
		Mar Qtr	Jun Qtr	Sep Qtr	Dec Qtr	Mar Qtr	Jun Qtr	Sep Qtr	Dec Qtr				
Melbana Interest	55%*	J	F	M	A	M	J	J	A	S	O	N	D
Operator	Melbana	J	F	M	A	M	J	J	A	S	O	N	D
Permit Year		3				4							
Work program		Repro				Studies				1 well**			
Activities		Reprocessing				Seismic Interpretation				Partial sale process			

\*Subject to option granted for 5% participating interest for both permits

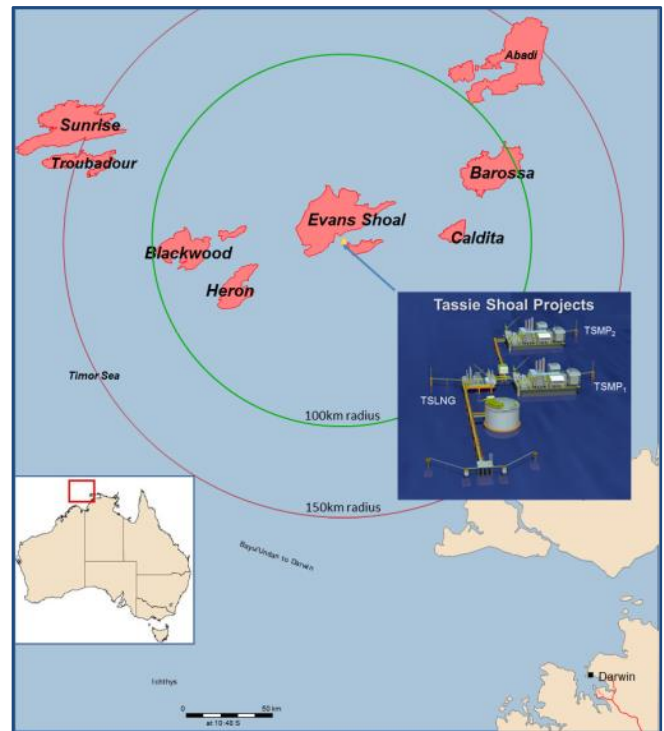
\*\* Continuation into the 4<sup>th</sup> Permit Year is discretionary

## Tassie Shoal Gas Processing Projects

### (Melbana 100%)

The Tassie Shoal Projects encompass a single offshore LNG and two world scale offshore Methanol production facilities with Australian Federal Environmental approval to construct the production facilities offshore on Tassie Shoal, a unique shallow water site. The Tassie Shoal Projects were designed to process raw gas from surrounding discovered but undeveloped natural gas fields.

Industry participants are expected to seek opportunities to collaborate to secure lowest cost and efficient resource development in Australia, especially as titleholders with stranded discoveries are under resource tenure pressure. The unique concept of the Tassie Shoal Projects represents an opportunity for collaboration with Melbana to develop a commercialisation path for the significant, discovered but undeveloped resources in the region, for the benefit of all stakeholders.



In July 2017 it was reported by ConocoPhillips that the Barossa gas field is proposed to be developed as feedstock to the Darwin LNG facility from 2023\*. This leaves the Evans Shoal Gas field (~28% CO<sub>2</sub>) without a publically stated development path.

During the quarter, Shell Australia obtained regulatory approval for the sale of its 32.5% interest in NT/RL7 (Evans Shoal Gas field) to Eni Australia in consideration for a range of matters and that Eni agrees to pay Shell a success fee if the Evans Shoal Title continually produces gas for no less than one week<sup>#</sup>.

The Tassie Shoal LNG and/or Methanol Projects, with their long term environmental approvals in place, remain as potential development paths for stranded Evans Shoal gas. The Tassie Shoal LNG Project, with its shallow water platform fixed to seabed design, remains a low cost development option for LNG production should a means of disposing of the the high CO<sub>2</sub> content in Evans Shoal gas be economically achieved. Alternatively the Tassie Shoal Methanol Project, with its ability to receive and process raw gas with a 30% CO<sub>2</sub> content, remains an alternative development path should the titleholders prefer to proceed with a known achievable low cost development plan.

\*ConocoPhillips announcement 13 July 2017

<sup>#</sup>See NEATS website <https://neats.nopta.gov.au/TitleRegister/TitleDetailsRetentionLease/b90e973c-756c-4e5b-af26-34aa38795eb7>