

Beehive Prospect Further Derisked

Highlights:

- Beehive 3D seismic survey improves imaging of several features of the prospect - confirms presence of an isolated carbonate platform and increases Melbana's confidence in structural closure, thereby further derisking the opportunity
- Total and Santos have until 2 October, 2019 to exercise option to farm-in and drill the first exploration well - if exercised, Melbana (20%) fully carried through drilling
- Total and Santos have commenced drilling planning work to allow for potential drilling of an exploration well in 2H 2020, in the event option is exercised
- A number of other parties have expressed interest in reviewing the Beehive opportunity, pending a decision by Total and Santos

MELBOURNE, AUSTRALIA (14 June 2019)

Melbana Energy Limited ('**Melbana**') (ASX: **MAY**) is pleased to advise that preliminary interpretation of the newly acquired Beehive 3D Seismic Survey confirms some key technical characteristics of Beehive, further de-risking the prospect.

As can be seen in Figure 2, the near vertical edge of the buildup clearly visible on the 3D seismic provides evidence of its isolated nature. Furthermore, the 3D data details depositional patterns within the platform and the seaway that was not able to be resolved on the existing 2D data.

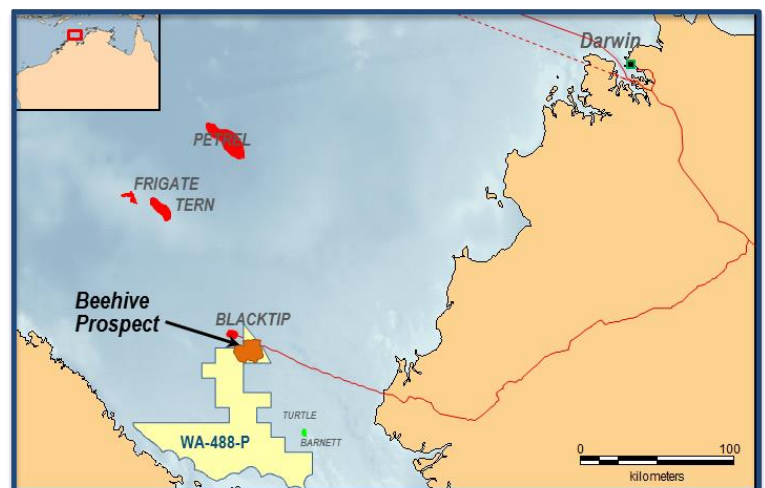


Figure 1 – Beehive Location

The many benefits of 3D data coverage include that it has allowed for better structural definition overall, particularly to the north east, as shown in the top reservoir map in Figure 3. Observations made at this stage strongly support the existing geological model for Beehive. These improvements in data quality and coverage have further de-risked the Beehive prospect.

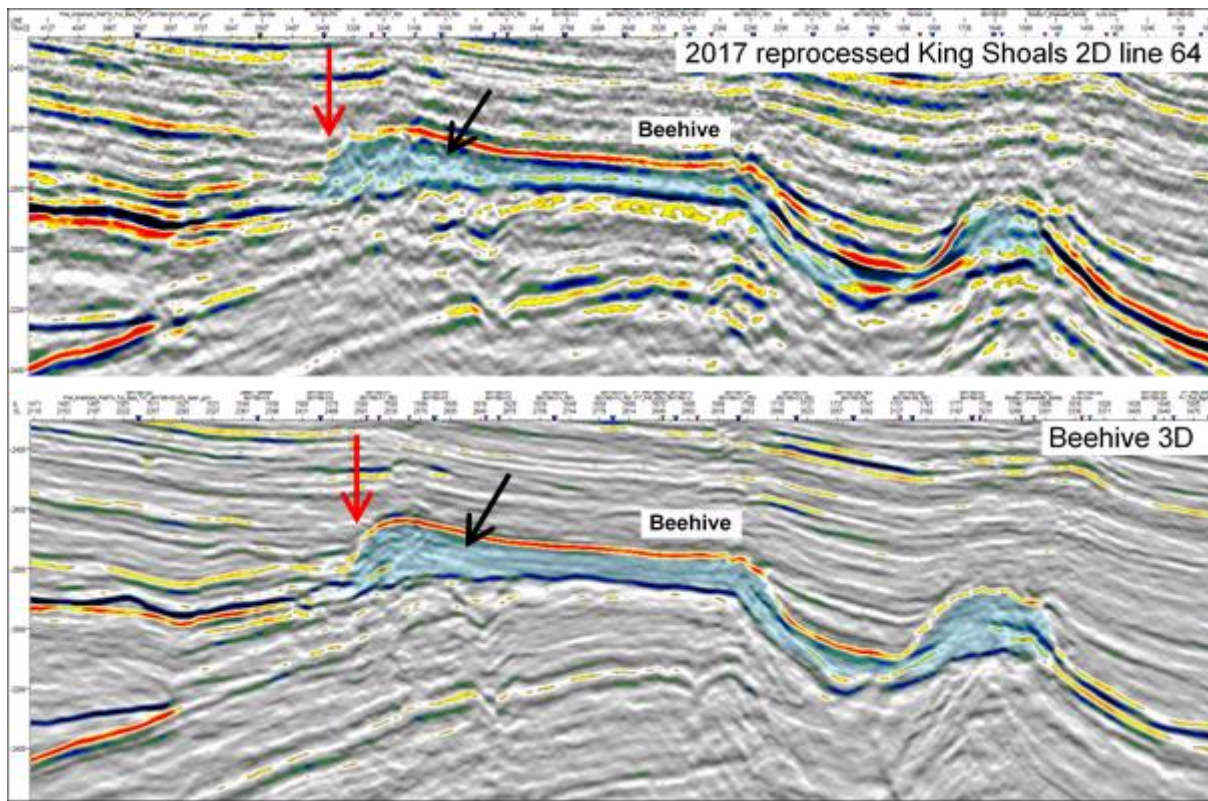


Figure 2 - Comparison of 2D line 64 from the 2017 DUG reprocessed King Shoals survey (top) and a line running in the same position from the newly acquired Beehive 3D survey.

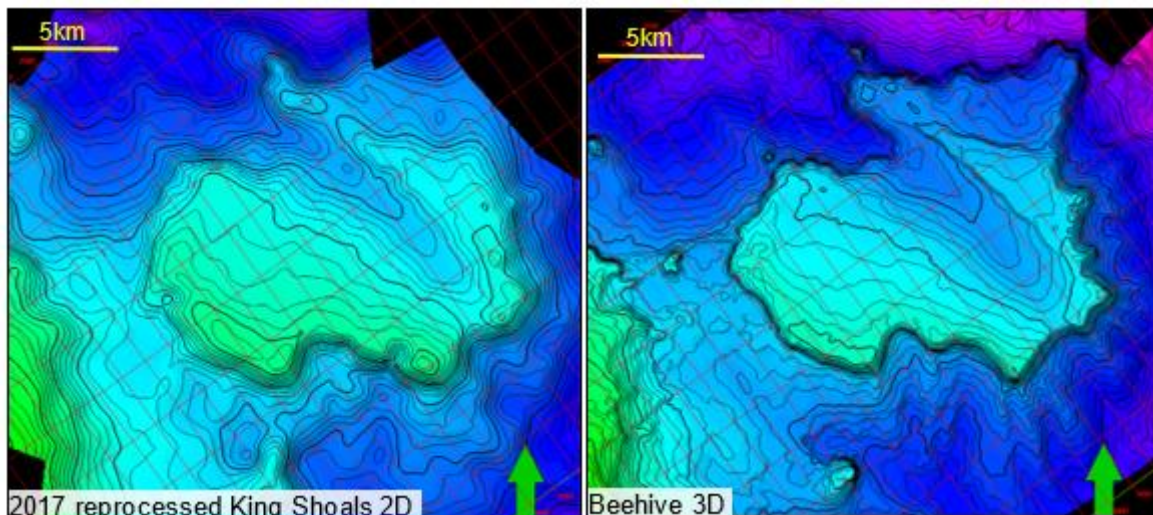


Figure 3 - Comparison of the Top Build up map in TWT on the 2017 reprocessed 2D seismic (left) and the new Beehive 3D seismic (right).

Beehive has been assessed by Independent Expert McDaniel & Associates to contain a best estimate prospective resource of 388 million barrels of oil equivalent (Melbana’s share 78 million barrels of oil equivalent).^{2,3} **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.

Total and Santos each have an option, exercisable together or individually, to acquire a direct 80% participating interest in the permit and drill an exploration well, which is planned to be the Beehive-1 exploration well. If the option is exercised, Melbana will be fully carried on all costs incurred from the time the option is exercised until 90 days after the rig is released after drilling this well.

The option to farm-in and drill the first exploration well is exercisable at any time by Total and/or Santos, but no later than 2 October, 2019. A number of other parties have expressed interest in reviewing the Beehive opportunity, pending a decision by Total and Santos.

If the option is exercised, drilling is anticipated in the second half of 2020, with Melbana estimating the cost of the Beehive-1 exploration well to be within the US\$40-\$60 million range.

Melbana Energy's CEO, Robert Zammit, said:

"The improved imaging from the Beehive 3D is fully supportive of Melbana's interpretation and very encouraging. We look forward to Santos and Total finalising their position regarding their option prior to 2 October, 2019 and them continuing to progress readiness for potential drilling in the second half of 2020 in the event the option is exercised."

² Independent Expert McDaniel & Associates Competent Persons Report 30 June 2018

³ **Gas to Oil Factor:** based on Mcf to BOE energy equivalence conversion of 6 to 1.

WA-488-P Background

Commercial

Total and Santos have an option (exercisable together or individually) to acquire a direct 80% participating interest in the permit in return for fully funding the costs of the first exploration well in the permit along with any other costs incurred by the Joint Venture from the time of exercise of the option until 90 days after release of the drilling rig from this well. The option is exercisable by either Total or Santos at any time but no later than 2 October, 2019.

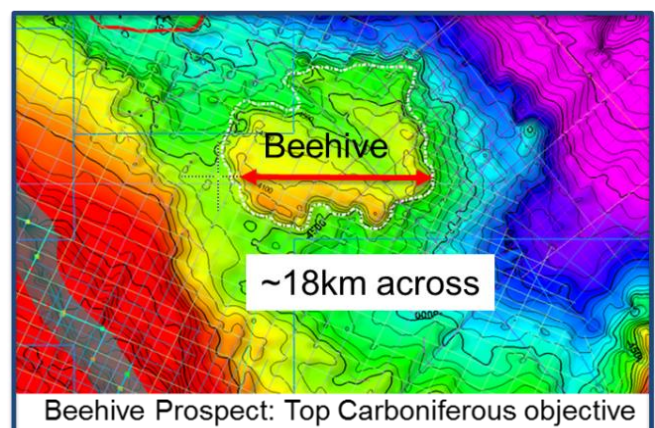
Beehive is located close to several existing facilities including Ichthys project and Blacktip field and pipeline offering several options for future gas monetization. In the event of a commercial discovery, Melbana will repay carried funding from its share of cash flow from the Beehive field. Melbana will have no re-payment obligations for such carried funding in the event there is no commercial discovery and development in WA-488-P.

Seismic Survey and Processing

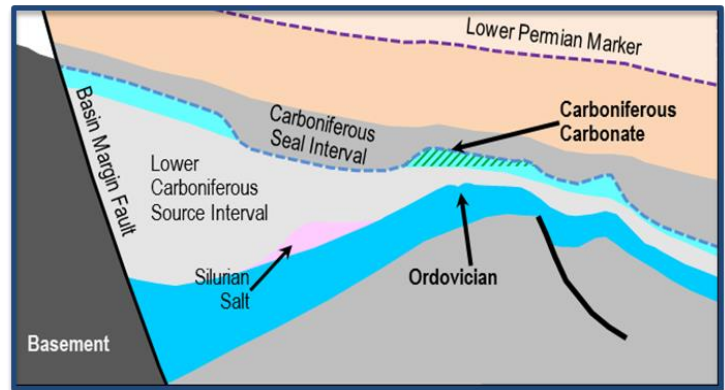
The Beehive 3D Seismic Survey was recently acquired by Polarcus using their vessel Polarcus Naila and consisted of the acquisition of approximately 700km² of seismic data over the Beehive Prospect and Egret lead in the Joseph Bonaparte Gulf, 225 km southwest of Darwin. The Beehive 3D Seismic Survey was operated by Australian gas company Santos pursuant to an Operations Services Agreement and was fully funded by French major Total and Santos. The acquisition of the 3D seismic survey provides potential for further de-risking of the Beehive prospect and will facilitate consideration of a preferred location for the Beehive-1 exploration well. Seismic processing is an important computer algorithm based activity which results in the iteration of seismic data to suppress noise, enhance signal and migrate seismic events to the appropriate location in space. Processing steps typically include analysis of velocities and frequencies, static corrections, stacking, and migration. All of these steps are required in order to interpret the geological structure of the subsurface. The 3D seismic survey is of excellent quality and shows a significant improvement in data quality and definition of the lateral edges of the large Beehive carbonate reef structure.

Technical

The Beehive prospect is a Carboniferous age 180km² isolated carbonate build up with 400m of mapped vertical relief, analogous to the giant Tengiz field in the Caspian Basin. It is located in 40m water depth suitable for a jack up rig, within ~75km of shore and developable by either FPSO or pipeline to existing infrastructure. This play type is new and undrilled in the Bonaparte Basin with no wells having been drilled to this depth in the basin.



The carbonate reservoir is also interpreted to be the same age as the 2011 Ungani-1 oil discovery in the Canning basin, which tested at 1,600 bopd demonstrating a high quality reservoir. Beehive is a much larger build up than Ungani and has excellent access to the Lower Carboniferous source rock in adjacent depocentres.



Potentially the largest undrilled hydrocarbon prospect in Australia, the Beehive prospect was recently assessed by Independent Expert McDaniel & Associates as having significant prospective resources as outlined in the following table:

Table 1 - Exploration Prospective Recoverable Resource estimates for Beehive

Objective	Type	Chance of Success	Recoverable Prospective Resource ^{1,2,3}			
			Low	Best	High	Mean
Beehive	Gas (BCF)	20%	134	534	2,199	936
	Oil (MMbbl)	20%	69	299	1,279	548
	TOTAL (Mmboe)	20%	91	388	1,645	704

¹ **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.

² Independent Expert McDaniel & Associates Competent Persons Report 30 June 2018

³ **Gas to Oil Factor:** based on Mcf to BOE energy equivalence conversion of 6 to 1.