ABN 43 066 447 952

Melbana Energy Limited
Level 15, 9 Hunter Street
Sydney NSW 2000
Australia

T +61 2 8323 6600
E admin@melbana.com
www.melbana.com

Alameda-1: Independent Resources Assessment (Alameda Reservoir)

Highlights

- **Independent reserves and resources expert McDaniel & Associates has made the following assessment of the second of three oil reservoirs encountered by the Alameda-1 exploration well in the Block 9 Production Sharing Contract (Block 9 PSC) area, onshore Cuba:**
  - **2.3 billion barrels of oil in place**
  - **148 million barrels of Prospective Resource[1,2]**
  - **56% chance of discovery[6]**
- **The first two reservoirs (out of the three encountered by the Alameda-1 exploration well) have now been independently assessed to contain a combined:**
  - **4.8 billion barrels of oil in place**
  - **267 million barrels of Prospective Resource[1,2]**
- **All of the volumes quoted above are on a gross unrisked mean estimate basis. Melbana has a 30% participating interest in Block 9 PSC.**

Melbana Energy's Executive Chairman, Andrew Purcell, commented: "*This is a pleasing and very material addition to the considerable prospective resource estimate previously announced for the Amistad structure in the upper sheet. It reminds us all of the potential scale of the reservoirs that were encountered whilst drilling the Alameda-1 exploration well – a total volume of estimated recoverable resource that we expect will increase further again once the estimate for the final structure, Marti, is available to us.*"

[1] Prospective Resources Cautionary Statement – The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) related 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. All quoted volumes have been taken from Independent Expert McDaniel & Associates Competent Persons Report dated 8 March 2022 and 4 July 2022. Melbana is not aware of any new information or data that materially affects the information included in that announcement and that all the material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

[2] Assuming recovery factors experienced by McDaniel when evaluating other oil fields in Cuba

SYDNEY, AUSTRALIA (8 July 2022)

Melbana Energy Limited (ASX: MAY) (**Melbana**) is pleased to report that independent reserves and resources certifier McDaniel & Associates (**McDaniel**) has completed its resource assessment for the second reservoir encountered by the Alameda-1 exploration well – the Alameda (previously "N") structure.

Refer to the seismic profile shown in Figure 1, which describes the volumetrics and structural geometries of the relevant sheets as well as defining the separate units encountered during the drilling of the Alameda-1 exploration well.

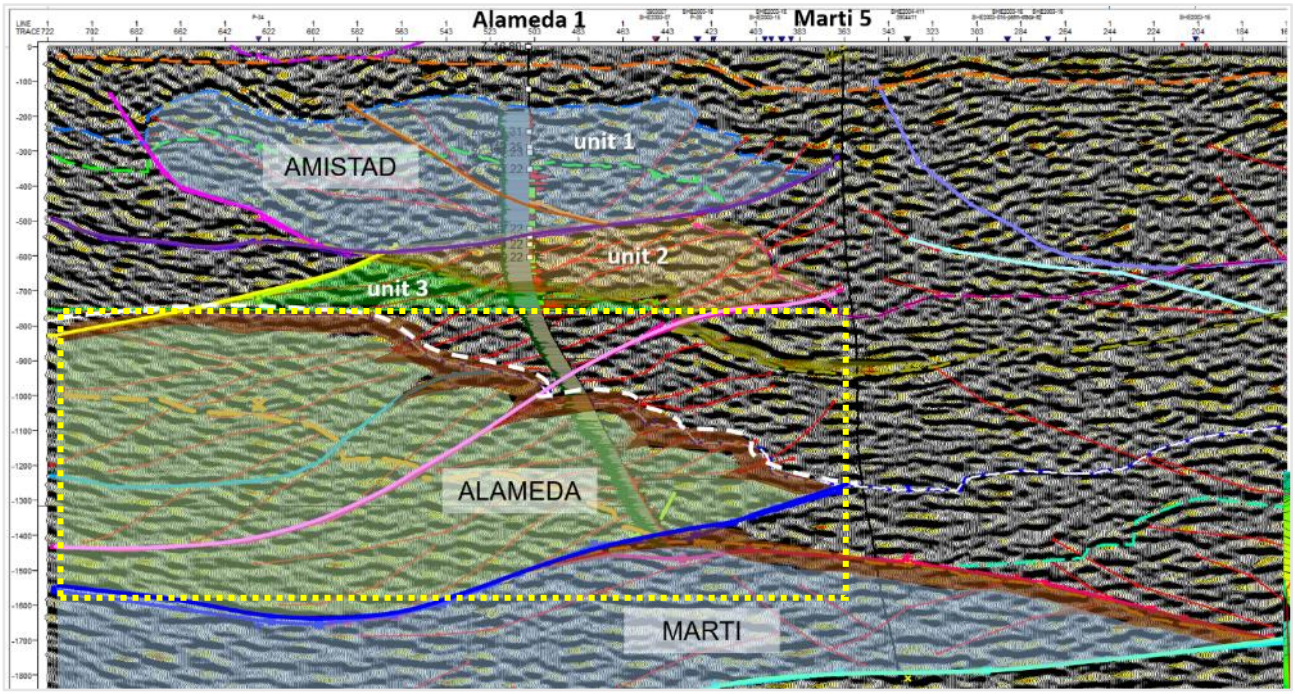

Figure 1 – Updated interpretation of the subsurface at Alameda-1

Before drilling the Alameda-1 well, the then N structure was separated from the next structure to the west - the Piedra prospect - by a faulted saddle (see Figure 2). Having now encountered oil in Alameda-1 over such a large interval the two features are now considered to be part of the same, larger, Alameda structure. McDaniel's estimates for this Alameda reservoir are 2.3 billion barrels of oil originally in place (**OOIP**) and a Prospective Resource of 148 million barrels of oil[3] - a 3-fold increase on the combined pre-drill assessment of Prospective Resource for the N and Piedra structures of 50 million barrels of oil[3].

Earlier this year[4], McDaniel estimated that the three oil bearing units encountered in the upper thrust sheet (collectively referred to as Amistad) contained a combined 2.5 billion barrels of OOIP and a Prospective Resource of 119 million barrels of oil[3].

The total resource estimate for the combined Amistad and Alameda structures are therefore 4.8 billion barrels of OOIP and 267 million barrels of Prospective Resource[3].

McDaniel's resource assessment of the third and final structure encountered whilst drilling Alameda-1, the Marti structure, is still to be received.

[3] gross unrisked mean estimate basis
[4] See ASX announcement dated 14 March 2022

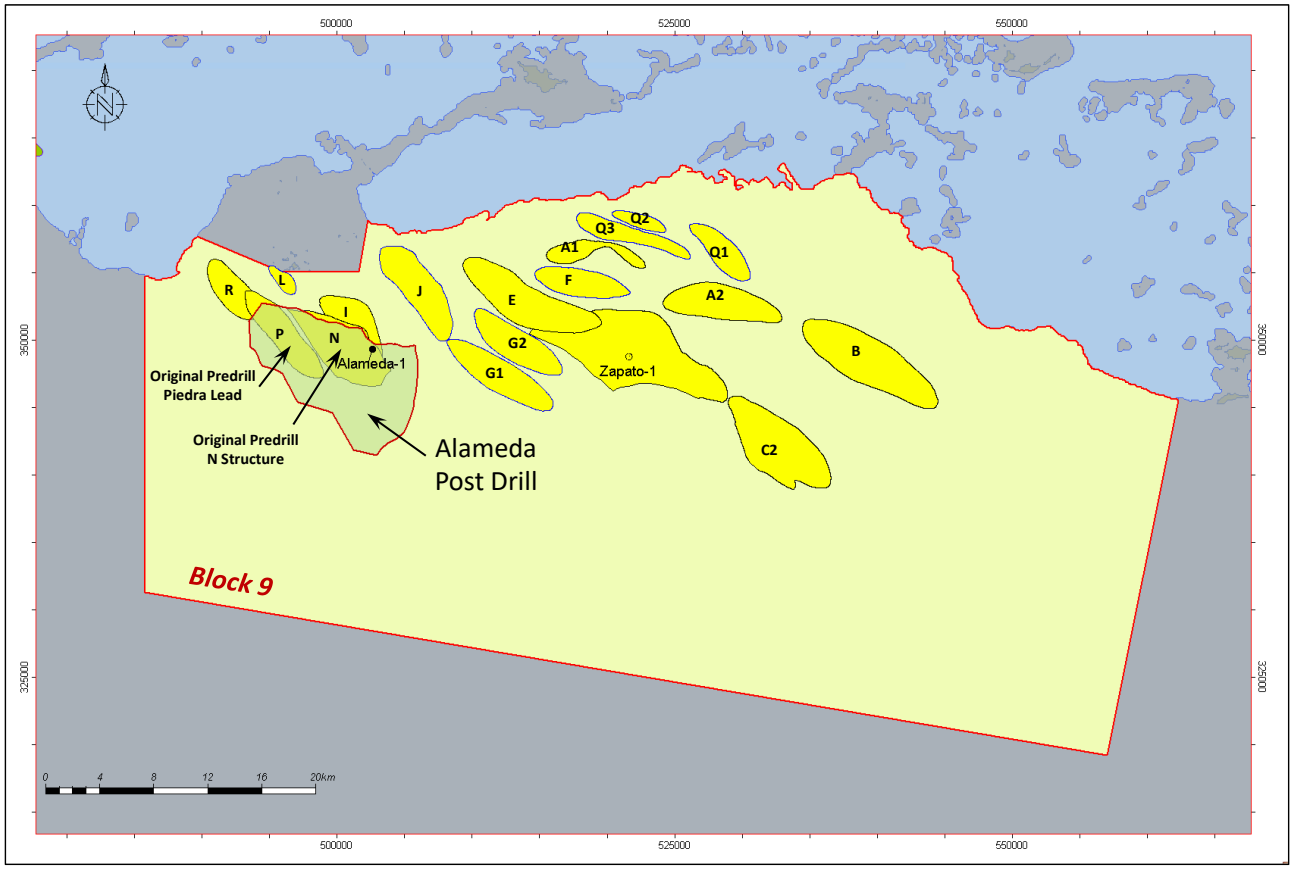

Figure 2 – Original and revised prospects maps for Block 9

For and on Behalf of the Board of Directors:

Mr Andrew Purcell
Executive Chairman

Ends -

For further information please contact

Mr Theo Renard
Company Secretary
+61 2 83 23 66 00

ALAMEDA STRUCTURE

Table 1 - Summary of OIIP Estimates

		Gross (100%) Unrisked Oil Originally In Place (MMbbl)[6]			
Zone	**COS[5]**	**Low (1U)**	**Best (2U)**	**Mean**	**High (3U)**
Alameda (N)	56%	818	1,872	2,330	4,409

		Melbana's Working Interest (30%) Unrisked Oil Originally In Place (MMbbl)[6]			
Zone	**COS[5]**	**Low (1U)**	**Best (2U)**	**Mean**	**High (3U)**
Alameda (N)	56%	246	562	699	1,323

Table 2 – Summary of Prospective Resources

		Gross (100%) Unrisked Prospective Resources (MMbbl)[6]			
Zone	**COS[5]**	**Low (1U)**	**Best (2U)**	**Mean**	**High (3U)**
Alameda (N)	56%	34	109	148	297

		Melbana's Working Interest (30%)[7] Unrisked Prospective Resources (MMbbl)[6]			
Zone	**COS[5]**	**Low (1U)**	**Best (2U)**	**Mean**	**High (3U)**
Alameda (N)	56%	10	33	44	89

Notes:

[5] COS = Chance of Success. The Prospective Resources have not been adjusted for the chance of development (**COD**), which is estimated by McDaniel to be 70%. Quantifying the COD requires consideration of both economic contingencies and other contingencies such as legal, market access, political, social licence, internal and external approvals and commitment to project finance and development timing. As many of these factors are as yet unknown they must be used with caution.

[6] The numbers quoted here are defined as Prospective Resources which are the same category of estimates of yet-to-be-drilled volumes in exploration prospects. In this case oil and gas shows and flows have actually been encountered and confirmed by electric logging, so Melbana believes that these numbers deserve a different category. However, industry and ASX guidelines stipulate that they be categorised as Prospective Resources so Melbana will continue to use that category - however observers should be aware of this anomaly.

[7] Net working interest Prospective Resources are based on Melbana's 30% working interest. Net entitlement Prospective Resources are the net working interest Prospective Resources less royalties payable to others. These royalties are determined by the Block 9 Production Sharing Contract and are dependent on a number of factors such as commodity prices, development costs and operating costs and as such cannot be reliably determined at this stage.

AMISTAD STRUCTURE

Table 3 – Summary of OIIP Estimates

		Gross (100%) Unrisked Oil Originally In Place (MMbbl)[6]			
Zone	**COS[5]**	**Low (1U)**	**Best (2U)**	**Mean**	**High (3U)**
Amistad (All units)	43 - 56%	799	1,939	2,490	4,751

		Melbana's Working Interest (30%) Unrisked Oil Originally In Place (MMbbl)[6]			
Zone	**COS[5]**	**Low (1U)**	**Best (2U)**	**Mean**	**High (3U)**
Amistad (All units)	43 - 56%	240	581	747	1,425

Table 4 – Summary of Prospective Resources

		Gross (100%) Unrisked Prospective Resources (MMbbl)[6]			
Zone	**COS[5]**	**Low (1U)**	**Best (2U)**	**Mean**	**High (3U)**
Amistad (All units)	43 - 56%	30	88	119	240

		Melbana's Working Interest (30%)[7] Unrisked Prospective Resources (MMbbl)[6]			
Zone	**COS[5]**	**Low (1U)**	**Best (2U)**	**Mean**	**High (3U)**
Amistad (All units)	43 - 56%	9	26	36	72

Notes:

[5] COS = Chance of Success. The Prospective Resources have not been adjusted for the chance of development (**COD**), which is estimated by McDaniel to be 70%. Quantifying the COD requires consideration of both economic contingencies and other contingencies such as legal, market access, political, social licence, internal and external approvals and commitment to project finance and development timing. As many of these factors are as yet unknown they must be used with caution.

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McDaniel's methodology for determining Prospective Resources for the Alameda structure

All the prospective resources assigned as part of this assessment have been estimated probabilistically as this is the most appropriate method given the high degree of uncertainty in the various input parameters. In the case of Block 9 in Cuba, there is a fair bit of uncertainty in the structural mapping but it is our opinion that Melbana has conducted a reasonable interpretation with the geological and geophysical data available. Distributions of the various reservoir and fluid parameters were determined based on parameters from Alameda-1 well, McDaniel's experience of other fields in the area or general worldwide data and probabilistic calculations of the unrisked oil-in-place (OIIP) and recoverable resources were prepared for each prospect.

The prospects were risked using five parameters: source, migration, reservoir, structure (or trap) and seal.

Contingent and Prospective Resources: Unless otherwise specified, the information that relates to Contingent Resources and Prospective Resources for Melbana is based on, and fairly represents, information and supporting documentation compiled by Mr. Peter Stickland, who is a Director of the company and has more than 30 years of relevant experience. Mr. Stickland is a member of the European Association of Geoscientists & Engineers and the Petroleum and Exploration Society of Australia. Mr. Stickland 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; "MMstb" means million stock tank barrels of oil.