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Block 9, Alameda-2: Increase in Net Pay

Highlights

- **Significant uplift in Logged Net Pay for Units 1A, 1B and 2 of the Amistad interval to 243 metres (84 metres previously)**
- **Total depth for Alameda-2 reached ahead of schedule**
- **Logging of Unit 3 complete. Log results throughout generally of good quality and Net Pay from this unit not included in revised estimate above.**
- **Flow testing of Unit 3 about to commence with Unit 2 then Unit 1B to follow.**

Melbana Energy's Executive Chairman, Andrew Purcell, commented: *"Excellent quality logs have been obtained over the entire Amistad interval – a great improvement on last time when logs could not be obtained over some of the most productive units. This has allowed us to calculate significantly more Net Pay as well as to understand more about the reservoir. We were encouraged by the fact that Unit 1A had natural flow to surface, particularly since no resource from this unit had been included in previous estimates of the most likely oil resource contained therein.*

Conservatively, we could be seeing 243 metres of Net Pay on logs for Units 1A, 1B and 2 – almost a threefold increase in what we were able to verify last time across the equivalent area. This is a great result in its own right, even before we consider that this number increases to 538 metres if we allow for the natural fracturing encountered. Logs for Unit 3 are still being analysed."

SYDNEY, AUSTRALIA (4 August 2023)

Melbana Energy Limited (ASX: MAY) (**Melbana** or **Company**), a 30% interest holder in and operator of Block 9 PSC onshore Cuba, advises that the planned Total Depth (**TD**) of the Alameda-2 well has been reached ahead of schedule. Wireline logging of the Amistad interval has been completed with good quality results having been obtained throughout. Liners have now been run with flow testing of Unit 3 expected to commence by the end of the week, Cuba time. Testing of Unit 2 then Unit 1B will follow.

Uplift to Net Pay Estimates

243 metres of Net Pay (47% of the gross interval of 1,131 metres measured depth)

Analyses of logging results from the 8-1/2" hole run over Units 1A, 1B and 2 have been completed.

Good results have been obtained from a conventional logging suite that has confirmed:

- Permeability is present, as evidenced by valid pressure tests; and,

- There is an oil column in Unit 1A which is separated by a seal from Unit 1B which has a substantial oil column with a different oil density to that seen in Unit 1A.

Logs have shown the entire section is highly fractured with the presence of vuggy porosity within the limestone reservoirs confirming good porosity and storage capacity. The hole condition was excellent allowing all logs to be incorporated.

The analysis was undertaken using a conventional suite of cut-offs:

- Porosity 9%
- Water Saturation 50%
- Vshale 40%

This conservative approach has allowed a total of 243 metres of Net Pay to be calculated over a gross interval of 1,131 mMD (21%). Logging results over the equivalent units from Alameda-1 only allowed 84 metres to be calculated.

There is now estimated to be over 125 metres of Net Pay in Unit 1A alone, compared with 3.1 metres estimated from the previously available logs from Alameda-1.

This estimate of Net Pay is considered conservative because the highly fractured limestones in Unit 1B generally have a background porosity less than 9% and therefore do not get picked up in conventional pay calculations. Using the logs to pick fractures then incorporating these into the Unit 1B calculations potentially increases Net Pay to 538 metres, or to about 47% of the encountered gross interval of 1,131 metres.

An updated estimate of the prospective resources contained in the Amistad interval will be undertaken once the testing program is complete.

Figure 1 - Technical workshop to consider interpretation of results from Alameda-2

ABOUT THE BLOCK 9 APPRAISAL WELL PROGRAM

Block 9 PSC is a large onshore area of more than 2,300km^2 located on the north coast of Cuba in a proven hydrocarbon system and along trend with the multi-billion barrel Varadero oil field. Melbana's technical team has identified 19 structural prospects and leads within the block (see Figure 2).

Melbana completed an initial two well exploration program in 2022, the first of which (designated Alameda-1) encountered three geologically independent oil-bearing intervals, each with moveable oil accompanied by high pressure, that were subsequently independently estimated to contain oil in place of 5.0 billion barrels for a Prospective Resource of 267 million barrels (gross unrisked best estimate)[*,1] - an 89% increase of the predrill prognosis.

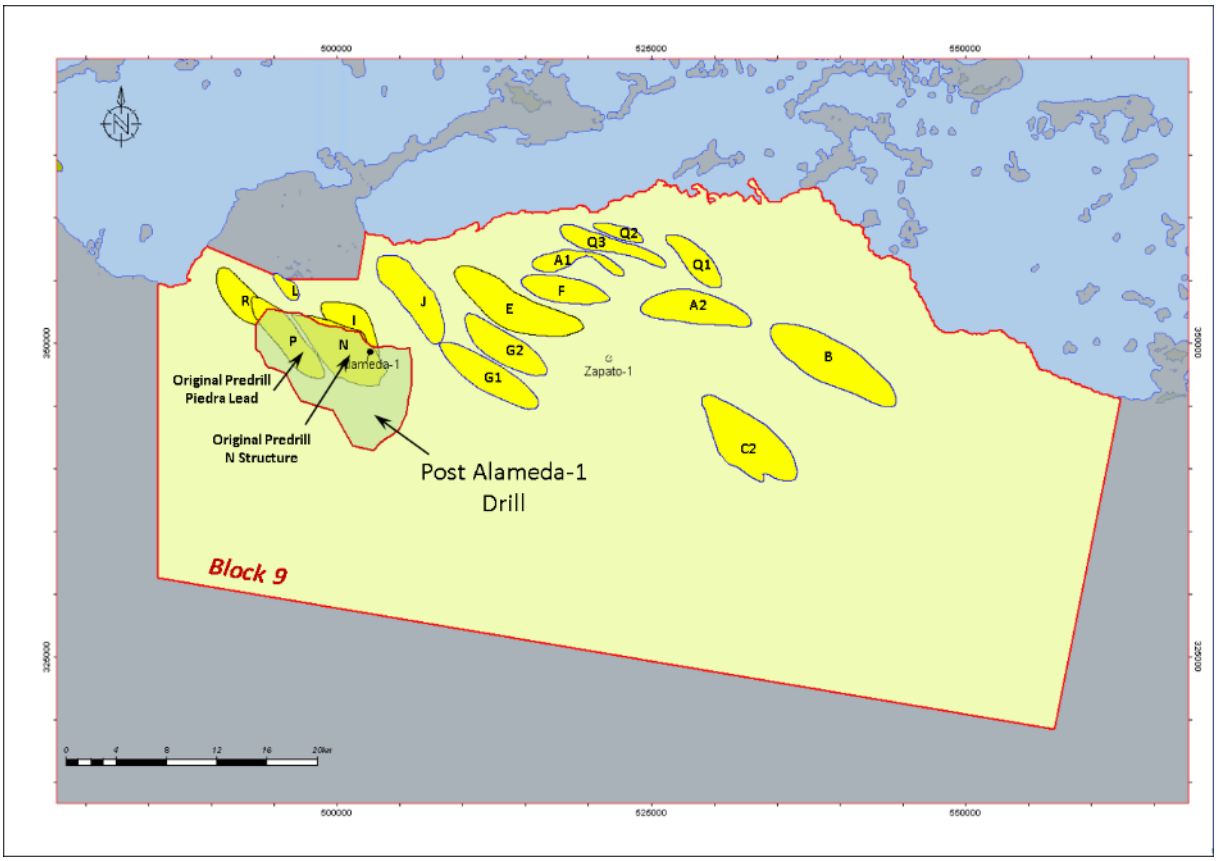

Figure 2 - Block 9 structural prospects and leads

Melbana then designed a two well appraisal program to better understand the characteristics of these intervals and their production potential (see Figure 3 on page 4). The first of these appraisal wells, designated Alameda-2, will test the three oil bearing units of the shallowest interval called Amistad. Drilling of Alameda-2 commenced in June 2023.

* **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.

[1] See ASX announcement dated 1 August 2022

Following the completion of Alameda-2, the second appraisal well (designated Alameda-3) will test the two deeper intervals called Alameda and Marti. The scope of these appraisal wells includes coring, wireline logging, flow testing and quality analysis.

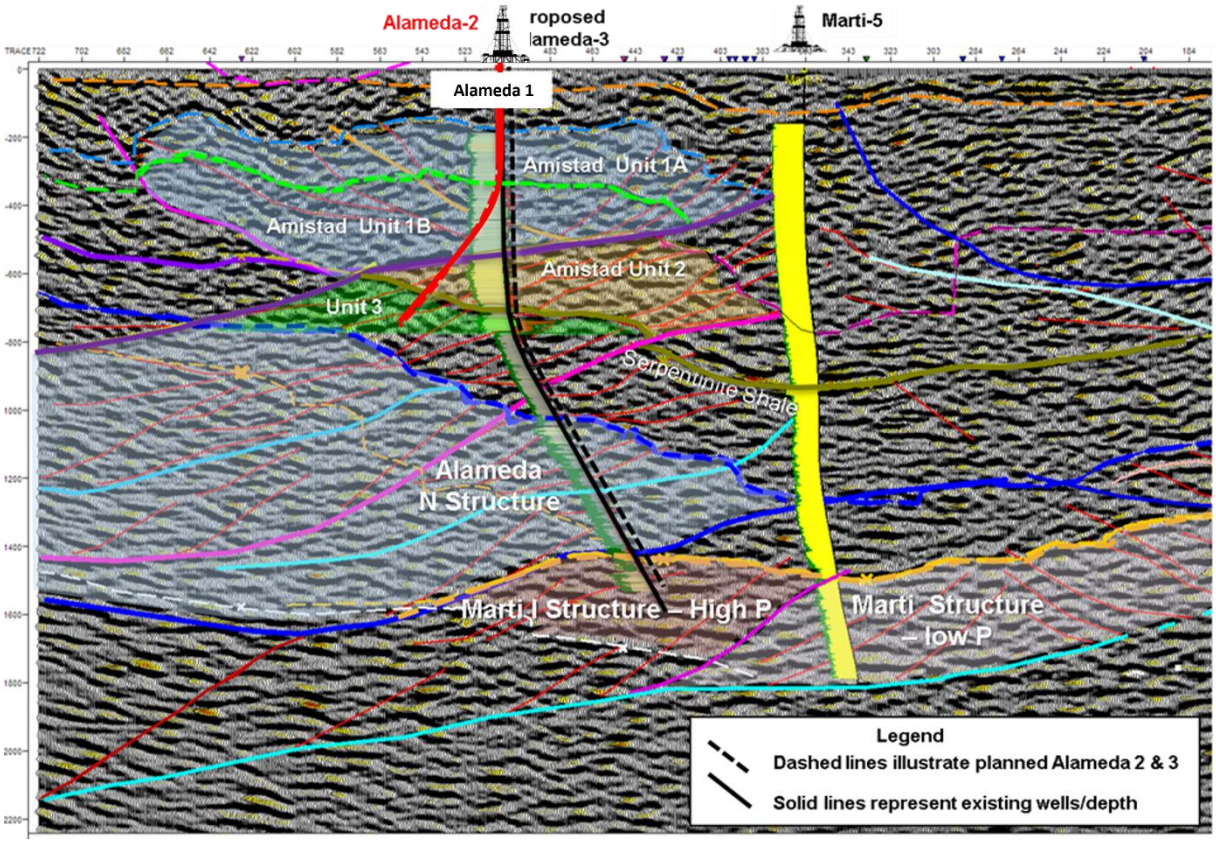

Figure 3 - Targets, trajectories and progress for the two appraisal wells (Alameda-2 and Alameda-3)

ENDS.

For and on Behalf of the Board of Directors:

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APPENDIX A

DISCLOSURES UNDER ASX LISTING RULE 5

ALAMEDA-2: UNIT 1A	
LR 5.30 (a)	Alameda-2 appraisal well, conventional oil
LR 5.30 (b)	Block 9 PSC, onshore Cuba about 140 km east of the capital, Havana
LR 5.30 (c)	Melbana Energy holds a 30% interest and operatorship
LR 5.30 (d)	Wireline logs were run over this interval. In Alameda-2 a total of 243 metres MD of net pay (increasing to 538 metres MD if the fractured component of the reservoir is incorporated into the calculations) from a gross interval of 1,131 metres MD.
LR 5.30 (e)	Fractured limestone and interbedded chert
LR 5.30 (f)	Testing of these sections is currently underway with results to be reported separately
LR 5.30 (g)	N/A
LR 5.30 (h)	N/A
LR 5.30 (i)	N/A
LR 5.30 (j)	N/A
LR 5.30 (k)	N/A
LR 5.30 (l)	N/A
LR 5.30 (m)	N/A

Table 1 - Glossary of Key Terms

Term	Meaning
Barrel	One barrel of oil; 1 barrel = 35 imperial gallons (approx.) or 159 litres (approx.); 7.5 barrels = 1 tonne (approximately, depending on the oil density); 6.29 barrels = 1 cubic metre.
Carbonate	Class of sedimentary rocks which mainly contains calcite, aragonite and dolomite.
M	Thousands
MM	Millions
mMD	Metres, Measured Depth
P10	the term used to describe the volume of hydrocarbons defined as having a better than 10% chance of occurrence.
P50	the term used to describe the volume of hydrocarbons defined as having a better than 50% chance of occurrence.
P90	the term used to describe the volume of hydrocarbons defined as having a better than 90% chance of occurrence.
Prospect	A project associated with a potential accumulation that is sufficiently well defined to represent a viable drilling target.
Prospective Resources	Those quantities of petroleum that are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations.
Stock Tank Oil	Volume of oil at nominal atmospheric storage pressure and temperature (as opposed to reservoir conditions).
STOOIP	Stock tank oil originally in place.
TVD	Trued vertical depth
Unrisked	Prior to taking into account the chance of discovery.
Vuggs or Vuggy	Naturally occurring voids within the rock