

Alameda-3: Drilling Update

Highlights

- Flow testing of Unit 3 of the Amistad reservoir completed satisfactorily and all objectives met.
- Presence of moveable oil of similar quality/reservoir conditions as that observed while testing same unit in Alameda-2 confirmed.
- No formation water observed during testing.
- Preparing to drill ahead to test the deeper Alameda and Marti reservoirs discovered in 2022 that have been independently estimated to contain a combined 179 million barrels of Prospective (recoverable) Resource (Unrisked Gross Best Estimate)*.

Melbana Energy's Executive Chairman, Andrew Purcell, commented: "This opportunistic flow test en route to the primary, deeper, objectives of this well has confirmed what we saw in Unit 3 in the previous appraisal well – typical Cuban oil but accompanied by significant formation pressure that may respond to pumping in a future development. This result validates our geological model and therefore confirms our decision to prioritise initially developing the lighter oil we have already appraised in Unit 1B in this upper sheet."

* **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.

SYDNEY, AUSTRALIA (1 February 2024)

Melbana Energy Limited (ASX: MAY) (**Melbana** or **Company**), a 30% interest holder in and Operator of Block 9 PSC onshore Cuba, is pleased to provide this operational update.

Drill Stem Test (DST) through Amistad Unit 3 complete.

The objective of this test was to confirm the findings of the Unit 3 DST from Alameda-2, the results of which were possibly influenced due to proximity to a fault.

The Alameda-3 Unit 3 DST point was reached at 1846mMD in 12-1/4" hole. Prior to commencing the DST, elevated gas readings were encountered (see Figure 1). Mud weight was increased to 1.45sg.

The DST commenced at 06.30am on 26 January 2024 (Cuba time) and was run over an open hole interval of 114mMD between 1732mMD and 1846mMD. No formation water was observed during the test and the presence of moveable oil recoverable at surface confirmed.



Figure 1 – Mud gas flaring



Figure 2 – Oil sampling at surface

The initial inflow of the DST displaced a 9 barrel water cushion over a 6 hour period, equating to an approximate flow rate of 37 BOPD. Oil was observed at the surface (Figure 2) and samples taken for laboratory analysis. As was the case in the previous Unit 3 DST conducted whilst drilling the Alameda-2 appraisal well, flow rates could not be measured due to the weight of the fluid in the column naturally killing the well. A static gradient survey confirmed that 39 barrels of oil had flowed into the string with a gradient of 1.38 psi/metre, with the remainder of the fluid in the string predominantly comprised of viscous oil and undisplaced drilling mud.

Preliminary analysis of results.

The results of the static gradient survey and visual inspection of the samples obtained suggest an oil of similar (but slightly lighter) API to that recovered from Unit 3 DST during Alameda-2. The down hole pressures encountered were also similar.

The oil flow to surface was estimated to be at a lower rate than what was calculated during the Unit 3 DST from Alameda-2, which is to be expected given this time there was a larger diameter open hole bore (12-1/4" versus 6"), lesser interval open to flow (114 mMD versus 174 mMD) and a taller column (1709mTVDSS versus 1486mTVDSS) meaning significantly more volume had to be displaced.

The laboratory results and analysis of the wireline logs will provide further important information, but the data gained from this DST lends increased confidence to the Company's subsurface geological model for Unit 3 of the Amistad reservoir.

Forward program.

The next stage in Alameda-3 is to resume drilling ahead in the 12-1/4" hole to TD of the current section – planned to be at 2869mMD. After logging this open hole, drilling will then continue to the well TD prior to commencement of flow tests in the two lower geologically independent oil-bearing reservoirs intercepted by Alameda-1 – (Alameda and Marti).

In parallel, the results of this DST will allow the Company to finalise its geological model for the upper Amistad reservoir for submission to the independent certifier. The Company's models for Units 1A and 1B have already been finalised and submitted to the independent certifier.

ENDS.

For and on Behalf of the Board of Directors:

Andrew Purcell
Executive Chairman

For further information please contact:

Dr. Chris McKeown
Chief Commercial Officer
+61 2 83 23 66 00

APPENDIX A
DISCLOSURES UNDER ASX LISTING RULE 5

ALAMEDA-3: UNIT 3	
LR 5.30 (a)	Alameda-3 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)	N/A
LR 5.30 (e)	Fractured limestone.
LR 5.30 (f)	The open hole DST was run over a single interval of 114mMD between 1732mMD and 1846mMD.
LR 5.30 (g)	Drill stem testing over a total period of 86 hours which included multiple shut-in and flow periods and static gradient survey.
LR 5.30 (h)	Gas and heavy viscous oil were recovered from the test string after reverse circulation with some drilling mud. The oil will be tested for quality.
LR 5.30 (i)	No formation water was recovered.
LR 5.30 (j)	Oil flow to surface was not sufficient to calculate flow rate. Based on a displacement of a 9 barrel water cushion in a 6 hour period before the well killed itself, an approximate flow rate of 37 BOPD can be deduced. Choke sizes varied during the test. Initial choke size was 8/64", increasing to 10/64", 12/64", 15/64", 20/64", 30/64", 32/64", 40/64", 64/64".
LR 5.30 (k)	N/A
LR 5.30 (l)	N/A
LR 5.30 (m)	The test interval was within a 12-1/4" well bore.

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.
BOPD	Barrels of oil per day
DST	Tests conducted with a downhole shut-in tool with the drillstring still in the hole
m	Metres
M	Thousands
MD	Measured depth
Prospective Resources	Those quantities of petroleum that are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations
PSI	Pounds per square inch
sg	Specific gravity
TD	Total depth
TVDSS	True vertical depth sub sea
Unrisked	Prior to taking into account the chance of discovery