

COUNTDOWN TO APPRAISAL OF OIL FOUND IN BLOCK 9

Highlights

- **All material permits to commence program secured, regulatory and partner approvals received and funding committed for 2023 the drilling of two appraisal wells in Block 9, Cuba (Melbana 30%)**
- **Appraisal includes assessment of oil qualities and flow testing to determine reservoir properties**
- **Logistics/infrastructure for transport and storage of any produced oil arranged**
- **Civil works underway to expand pad area to accommodate processing and storage of production expected from flow testing**
- **First appraisal well (Alameda-2):**
 - To be drilled from the same pad as this year's successful Alameda-1, but only to bottom of Amistad Units (~2,100 metres MD)
 - Amistad objectives independently estimated to contain 1.9 billion barrels of oil in place for 88 million barrels of Prospective Resource (gross, Best Estimate)¹
 - This Amistad estimate was based on at least 48 metres MD of potential oil and gas pay. This excluded an additional ~290 metres MD where viable logging couldn't take place due to poor hole conditions (where some of the most promising oil shows were observed), so there is potential to increase this number.
 - Any oil produced during flow testing will be for the account of the Block 9 investors in proportion to their interest should a commercial discovery be declared
- **Appraisal drilling is currently projected to start by March 2023, with the second appraisal well, also to be drilled off the same pad but targeting the deeper even more energised reservoirs, to follow**
- **Melbana is fully funded for its share of costs for this 2023 appraisal program**

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, 4 July 2022 and 28 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.

SYDNEY, AUSTRALIA (9 December 2022)

Melbana Energy Limited (ASX: MAY) (**Melbana**) is pleased to provide this update on preparations for its 2023 appraisal drilling program in Block 9 PSC (Melbana 30%) commencing in Q1 2023.

Approvals Received, Permits and Budgets Approved

Over the past week a number of technical, financial and administration meetings were held in Havana, Cuba. Melbana formally presented its 2023 work program and budget to the Cuban regulator, *Unión Cuba Petróleo (CuPet)*. The 2023 program to drill two appraisal wells off the same pad used for this year’s successful Alameda-1 well was approved.

Subsequent to these meetings, the Block 9 partners (*Sonangol Pesquisa & Produção (Sonangol)* and Melbana, as operator) formally approved the 2023 work program and budget that had first been presented at meetings held in Melbourne back in August of this year.



Figure 1 – Representatives of Melbana, CUPET and Sonangol meeting in Havana, December 2022

Permitting for the commencement of drilling of the first appraisal well is advanced, with all material permits now having been received. The few remaining approvals are typically sought just prior to the commencement of drilling to formally allow work to begin.

Preparations for Drilling

The well pad used for the drilling of Alameda-1 is in good condition, as are the access roads and the camp site that were built about this time last year. The construction materials used have weathered and compacted well, with the only material work that now needs to be undertaken being the recreation of the fluid pits that were filled in following the completion of Alameda-1 for safety reasons. In addition to these works, the well pad is to be expanded in a couple of places to both accommodate the introduction of storage tanks and other plant and equipment necessary to manage the oil production expected from the flow testing of the Upper Sheet units.

For personal use only

Melbana’s civil contractor arrived onsite last week to commence these works, which are expected to take only three or four weeks.



Figure 2 - Civil contractors arriving at the Alameda well pad to commence work



Figure 3 - Surveyors marking the site of the Alameda-2 appraisal well



Figure 4 – Zapato-1 well head environmentally sealed

Following the completion of works at Alameda, Melbana’s civil contractor will complete the remediation of the Zapato well pad and fill in the cellar containing the well head.

Sherritt Rig #1 is now back at Sherritt’s yards in Varadero undergoing routine maintenance and recertification, where necessary, following the completion of a 15 month drilling program. These works are expected to be completed early in the new year, following which the rig will be mobilised back to the Alameda pad. The rig will initially be erected over the Alameda-1 well to formally plug and abandon it before being transferred circa 25 metres to the Amistad-1 surface location. In parallel, the self contained camp for site personnel will be re-established and the existing water wells be brought back into service by installation of pumps and tanks.

For personal use only



Figure 5 - Chairman and HSE Manager, Melbana's Operational Headquarters, Varadero

Findings of Alameda-1 (Upper Sheet)

Alameda-1 received oil across the shakers almost immediately upon drilling out the surface casing, which was set at 453 metres MD. There was an almost continuous oil sheen on the shakers down to 1,130 metres MD, then again from 1,605 metres MD to 1,790 metres MD. High background gas with heavy components was observed throughout and drilling cuttings showed oil impregnation and fluorescence. At 1,842 metres MD, the well needed to be shut in and flared off, with a dark yellow flame indicating the presence of heavier hydrocarbons than just gas. Log pay has been interpreted within this interval where data quality was good and strong oil shows were encountered.



Figure 6 - Flaring operations whilst drilling Alameda-1 (Unit 3, Upper Sheet)

These data allowed the Upper Sheet to be interpreted as three separate units (refer to Figure 8 on on page 7).

Amistad Unit 1: from the top of the carbonated formation at 466 metres MD to an interpreted fault at 1,270 metres MD (subdivided into two units), oil was observed in the mud and fluorescence in the samples but log quality was generally too poor for reliable analysis. This was later determined to be due to an issue with the drill bit, which was allowing fluids to escape unpredictably leading to a wash out of the well bore. Unit 1 exhibited strong oil shows with increased gas shows in several zones.

Amistad Unit 2: extended from below Unit 1 to 1,652 metres MD when a shale interval was encountered. Again there were oil shows, oil in fractures and increased gas shows over multiple logged zones. The pressure exhibited was similar to Unit 1.

Amistad Unit 3: from about 1,750 metres MD to the bottom of the Upper Sheet at around 1,892 metres MD had strong oil shows across the shakers accompanied by increased pressure. This suggested an effective top seal and new reservoir compartment. Unit 3 was also intercepted significantly down-dip on structure.

These oil influxes under high pore pressures with good porosity and high mud gas readings make this Amistad interval a strong candidate for an appraisal well. The objectives of this appraisal well, in addition to sampling the oil to determine its quality, is to flow oil from each of these units to determine whether there is communication between them and, if so, to what extent.



Figure 7 - Morning tea with members of Melbana's operations team in Varadero to explain the 2023 work program

Objectives of the Alameda-2 Appraisal Well

Alameda-1 was an exceptionally valuable exploration well, in that it demonstrated a working hydrocarbon system at multiple depths and at different pressures. To fully evaluate these many different types of reservoir properly, it has been determined that two separate wells would be required to optimally achieve objective flow testing of each of each reservoir whilst

maintaining well control in an economical manner consistent with the capabilities of the equipment familiar to Melbana in Cuba.

The first appraisal well (Alameda-2), therefore, will evaluate the hydrocarbons encountered in the Amistad units of the Upper Sheet encountered by Alameda-1 in the 2021 – 2022 campaign. Building on the lessons learned from drilling Alameda-1, Alameda-2 has been designed using a slimmer hole design. This should afford both better control of the formation pressures and allow for better logging as hole integrity should be easier to maintain. The well design has incorporated sliding sleeves to allow each of the units to be flowed separately. To aide in calibrating petrophysical properties and reservoir description, three full hole cores are planned within the thicker net pay zones. Given Alameda-1 drilled to the bottom of the Upper Sheet approximately to schedule it is expected that drilling Alameda-2 should proceed quickly.

If the appraisal is successful, operational plans are in place to keep Alameda-2 online as a producer.

Melbana Energy’s Executive Chairman, Andrew Purcell, commented: *“Having just returned from Cuba, I can confirm that preparations are advancing satisfactorily for the drilling of this first appraisal well. Good appraisal results would be a very significant outcome for us, not just because of the significant volumes of oil that may exist at this location but because success heightens the appeal of adjacent structures with similar characteristics.*

Given the extended time frame for the second well we drilled this year, it is easy to forget how dynamic Alameda-1 was. What an exciting year 2023 is going to be, testing the potentially enormous volumes of oil beneath our feet.”

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

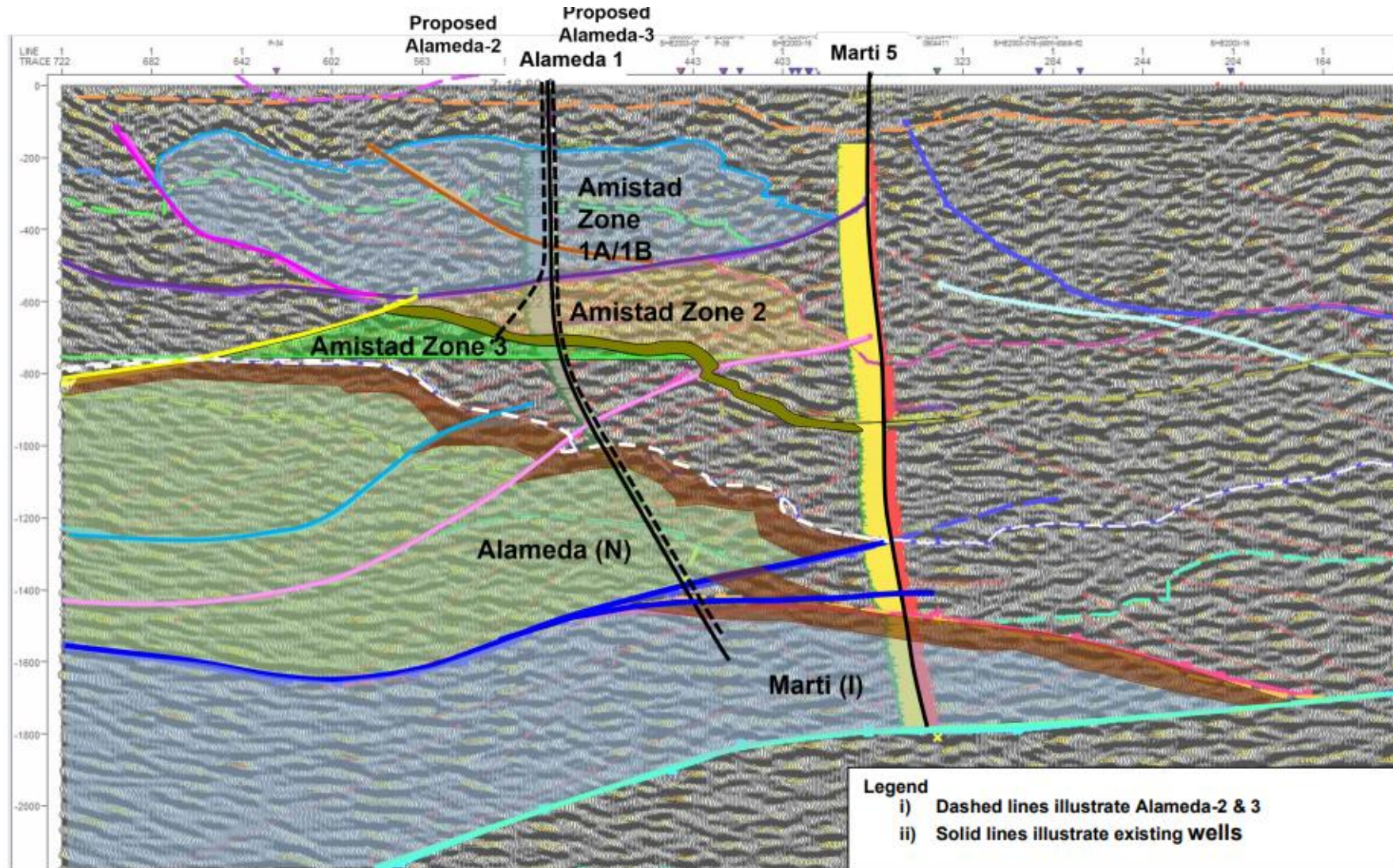


Figure 8 – Post-drill subsurface interpretation and proposed appraisal wells for 2023