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# Block 9, Cuba Project Summary

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# 267 Million Barrel Discovery - Onshore Cuba<sup>1</sup>

- ▶ Close to infrastructure
- ▶ Successful first appraisal well (of current two well program)
- ▶ Significant follow up potential in PSC



Flaring whilst drilling Alameda-1 (2022)



First tanker of oil from Alameda-2 (2023)

- ▶ Block 9 PSC (Sonangol 70%, MAY 30% & Operator) is a large-scale, 734 mmbbl oil discovery in the Gulf of Mexico, in Cuba's prolific north region.
- ▶ The JV has discovered (Alameda-1) and delineated (Alameda-2) a shallow oilfield with first domestic production of c. 5k b/d from early 2024.
- ▶ The JV is appraising (via Alameda-3), a new "play-type" targeting untapped deeper, lighter oil for export at scale, with potential to produce up to c. 40k b/d, subject to appraisal.
- ▶ Block 9 is a large onshore block (2,344km<sup>2</sup>), prolific hydrocarbon zone: close to multibillion barrel discovery, well-developed oil field infrastructure, service providers and international airports.
- ▶ Block 9 PSC awarded to Melbana (100%) in 2015 for 25 years on internationally attractive terms.
- ▶ Sonangol (National Oil Company of Angola – Africa's largest oil producer) farmed in 2021 to 85% fund drilling two exploration wells for 70% working interest (completed 2022). Melbana retained Operatorship.
- ▶ Alameda-1 well (2022) discovered three geologically separate and vertically stacked oil-bearing formations accompanied by high formation pressure that each flowed oil to surface.
- ▶ Independently certified oil in place and prospective resources, as per table below<sup>2</sup>.
- ▶ Funded appraisal well drilling programmed commenced June 2023. Unassisted flow rates from Amistad formation of up to 1300 barrels of oil per day of high quality, low H<sub>2</sub>S, low BS&W, 20° API crude.
- ▶ Short lead time to commercialisation, long exploration runway.

Alameda-2 completion



## Alameda independently assessed resources<sup>1</sup>

	Low	Best	Mean	High
Oil-in-Place	2,145	5,041	6,355	12,047
Amistad	30	88	119	240
Alameda	34	109	148	297
Marti	21	70	95	197
<b>Total</b>	<b>85</b>	<b>267</b>	<b>362</b>	<b>734</b>

<sup>1</sup> 100% gross unrisked Prospective Resource (best estimate)

<sup>2</sup> McDaniel & Associates Competent Persons Report August 2022

## Investment Highlights

### Major oil and gas discovery

- ▶ Alameda-1 exploration well discovered 3 large independent and highly pressured oil zones (Amistad, Alameda, Marti), certified resources.
- ▶ Resources – 2U 267 mmbbl, and 3U 734 mmbbl.

### Excellent appraisal results

- ▶ Flow rates of up to 1,900 bbl/d, only 20% of net pay perforated.
- ▶ 19° API 3cP oil with no sulphur; lighter & better than typical Cuban oil.
- ▶ Reserves - appraisal drilling / testing will firm up reserves.

### Alameda-3 new play

- ▶ Alameda-3 aimed at deeper reservoirs (Alameda & Marti) & lighter oil.
- ▶ Significant oil shows and pressure during Alameda-1
- ▶ Lighter crude provides better realised prices & export opportunities

### Extensive exploration fairway

- ▶ 2,344 km<sup>2</sup> in single onshore PSC.
- ▶ 3D seismic planned for 2024/2025, to optimise development drilling.

### Proven geological setting

- ▶ Block-9 hosts the high-quality light crude Motembo field.
- ▶ On trend with Varadero field (>11 billion bbl in place & >200 mmbbl produced)

### Supportive JV and regulator

- ▶ Melbana Energy Limited (30% WI & Operator).
- ▶ Sonangol (Angola National Oil Company 70% WI).
- ▶ Supportive regulator (CUPET).

### Rapid pathway to production

- ▶ Potential for a low cost / fast track path to market.
- ▶ Close to existing oil field infrastructure (Matanzas Oil Terminal).
- ▶ Cuban oil demand currently outstrips local supply.

### Route to wider markets

- ▶ 75km to deepwater port with oil storage tanks.
- ▶ Oil can be sold on global markets.

### Attractive fiscal terms

- ▶ Recover past costs from majority of revenues until into profit.
- ▶ Production is then shared on internationally competitive terms.
- ▶ Corporate tax 15%.

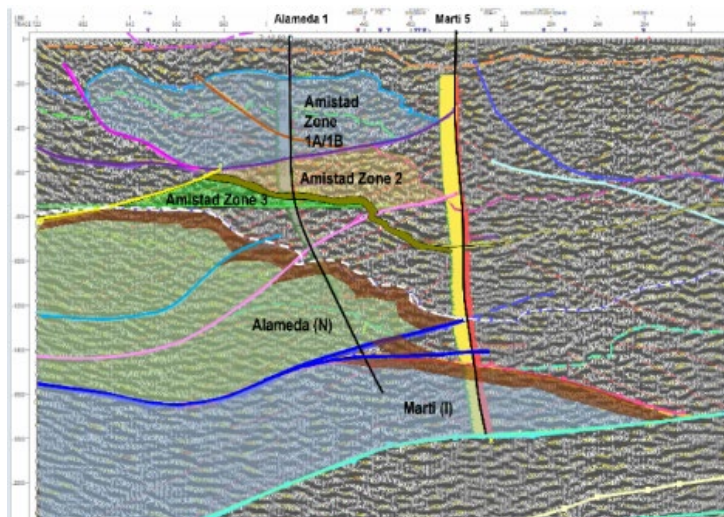
### Attractive cost pool

- ▶ More than US\$60million spent on exploration to date.
- ▶ Current funded appraisal drilling a further US\$45million.
- ▶ Development drilling will boost cost pool.

## 2021–2022 Drilling Program

## Alameda-1 Discovery

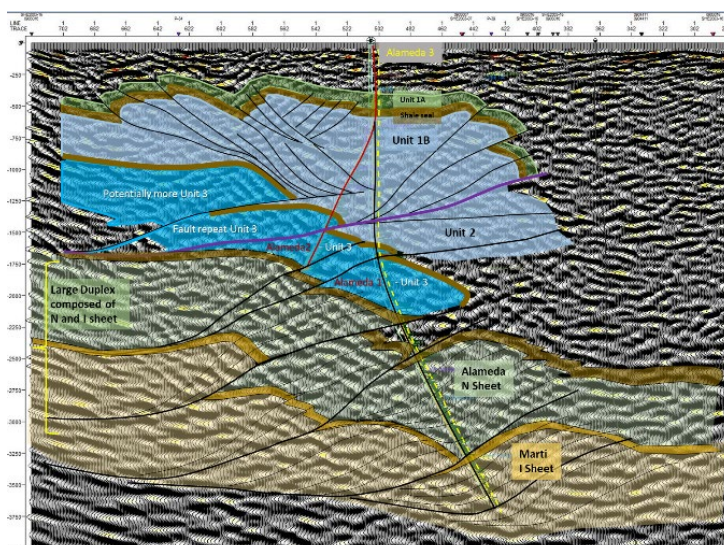
- ▶ In 2021, Melbana spudded the Alameda-1 well to test 4 separate target zones.
- ▶ The well intersected oil starting at 454 metres and continued to intersect reservoirs through to total depth of 3,916 metres when drilling stopped due to a highly pressured influx of oil and gas into the well bore.
- ▶ The Company then elected to shut in the well and designed a 2 well appraisal program.
- ▶ As a result of drilling Alameda-1, net pay areas totalling approximately 300 mMD were defined across gross reservoir intervals totalling circa 2,155mMD.
- ▶ In August 2022, on the back of the Alameda discovery, the Company's Independent Experts, McDaniel and Associates, released updated estimates for Oil in Place and Prospective Resources for the 3 reservoirs intersected by the Alameda-1 well.



## 2023–2024 Drilling Program

## Alameda-2

- ▶ Alameda-2 was spudded in June 2023 and reached total depth of 1975m on 31st July 2023.
- ▶ The second well was focused on logging, coring and flow testing the Amistad 1A, 1B, 2 & 3 units.
- ▶ Well results allowed re-determination of net pay in Units 1A, 1B and 2 from 84m to 243m (538m inc. fractures).
- ▶ Unit 3 testing indicated the potential to flow 750 barrels of oil per day, significantly with no water present.
- ▶ Unit 1B test flowed at up to 1900 barrels of oil per day.
- ▶ Unit 1B completed for production, aimed to come online late 2023.
- ▶ Development planning underway more wells to be drilled.



## 2023–2024 Drilling Program

## Alameda-3

- ▶ Following the Alameda-2 well, the Company will drill Alameda-3 that will target the two deeper formations, the Alameda and Marti reservoirs which hold the potential of 179 mmbbl of prospective resource (gross unrisked best estimate).
- ▶ Alameda-3 is aimed at proving the potential of the deeper horizons to produce lighter, higher API crude, which would achieve a premium on international markets.

## Forward Plans

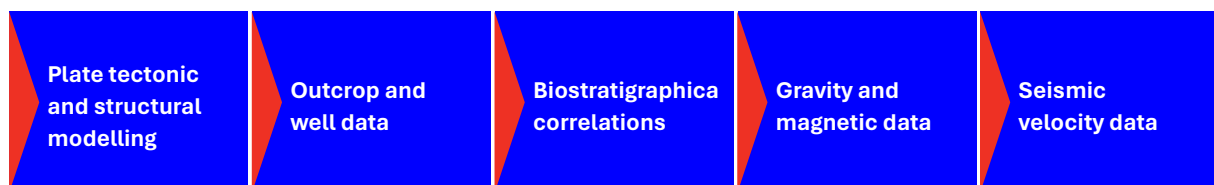
- ▶ Following the drilling programme, the Joint Venture will complete a field development planning process.
- ▶ Alameda-2 has demonstrated the potential to flow over 2,000 bbl/d, thus even a pilot development project could generate significant revenues to reinvest into a full field development.
- ▶ The next two years could involve the drilling of multiple production wells and the acquisition of a 3D seismic survey to optimise drilling.

## Near Term Cashflows

- ▶ The Upper Sheet and Tertiary plays are traditionally the most productive in Cuba. There are numerous oil shows in old wells in the Upper Sheet in Block 9 and production from this play in nearby fields.
- ▶ The drilling results in Alameda-1 and successful well tests in Alameda-2 will be brought online to produce early cashflows.
- ▶ The Tertiary play is known to contain heavy oil but the higher API, lower density and zero sulphur oil encountered in Alameda-2 will be analysed to establish its level of productivity, the best way to enhance production and rapidly bring the oil to market.

## Proven Geological Setting

- ▶ A key aspect of Melbana's success in Block 9 is the integration of detailed seismic interpretation and structural modelling.
- ▶ Melbana's technical team have significant global experience in petroleum systems analogous to Cuba. Melbana's methodology is to integrate structural and stratigraphic data in a subsurface model that can be applied across a wide range of complex settings.
- ▶ New data acquired has been instrumental in Melbana building a more comprehensive integrated geological model which is updated real time during drilling.
- ▶ The geological model is based on a comprehensive dataset, including:



## Large Scale Opportunities

The Lower Sheet Play, which is a conventional fractured carbonate reservoir, similar to existing producing fields in Cuba, is located at depths typically between 2,000 and 3,500 metres.

In offsetting Cuban fields, these reservoirs can be highly productive, with reported initial well rates of up to 4,000 barrels of oil per day.

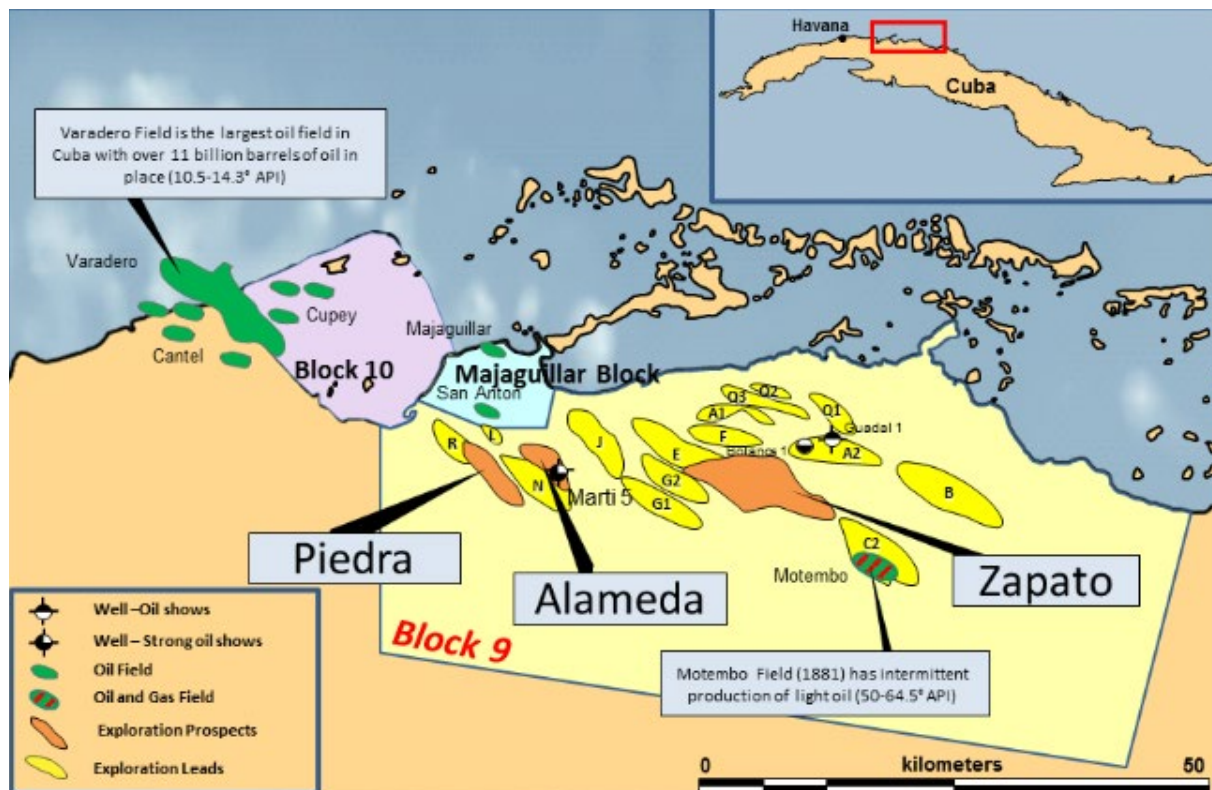
This lower sheet will be a key target for Alameda-3, which is aimed at proving the potential of 179 mmbbl of prospective resource.

Oil recoveries suggest that the Lower Sheet Play has potential for higher quality crude oil than that produced from adjacent fields with demonstrable prospectivity in the western and central areas of Block 9.

## Block 9 – Prospect Inventory

Melbana’s technical assessment has prioritised a total of 19 structural prospects and leads of which Alameda-1 was the first to be drilled. Melbana’s exploration team has identified at least 19 new targets across Block-9 that the Company will be exploring over the coming years.

Melbana optimised the drilling program to enable the acquisition of valuable information about both plays during the drilling of wells to the Lower Sheet objectives.



<sup>2</sup> Based on our database of well data sourced from over 900 nearby wells and assumes all wells produce average rates of production.

## Doing Business in Cuba

- ▶ Cuba currently produces approximately 45,000 barrels of oil per day and 3 million cubic metres of gas. Oil production meets 50% of the domestic consumption, with the balance satisfied by imports.
- ▶ Most of the oil industry is currently operated by the national oil company, CUPET.
- ▶ The Canadian company, Sherritt International, has produced over 200 mmbbl of oil in Cuba for over 25 years.
- ▶ A deep-water port with an oil terminal is within 75km of Block-9 and international airport within 40km.
- ▶ There are multiple modern land drilling rigs currently operating in Cuba.
- ▶ Block 9 consists largely of low-lying farmland and there are sealed roads that connect Block 9 to Havana.

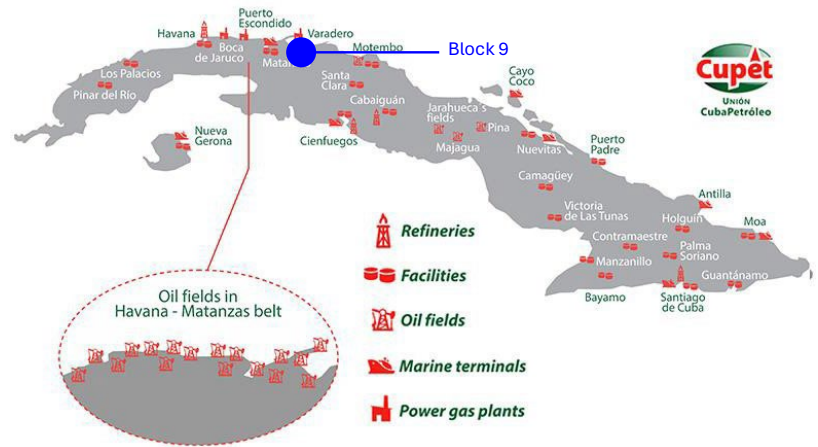
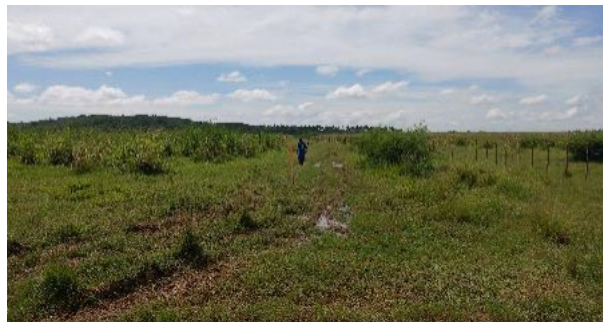


Figure 3: Oil infrastructure showing proximity of Block-9



Cuba: Sealed Roads



Low lying farmland on Block 9

To find out more, contact us

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