

## Overview of Block 9 PSC, Onshore Cuba

**Proven hydrocarbon system, on trend with the giant Varadero oil field**

The Cuba Block 9 Production Sharing Contract (“Block 9 PSC”), covers 2,380km<sup>2</sup> onshore on the north coast of Cuba, 140 km east of Havana in a proven hydrocarbon system and along trend with the multi-billion barrel Varadero oil field.

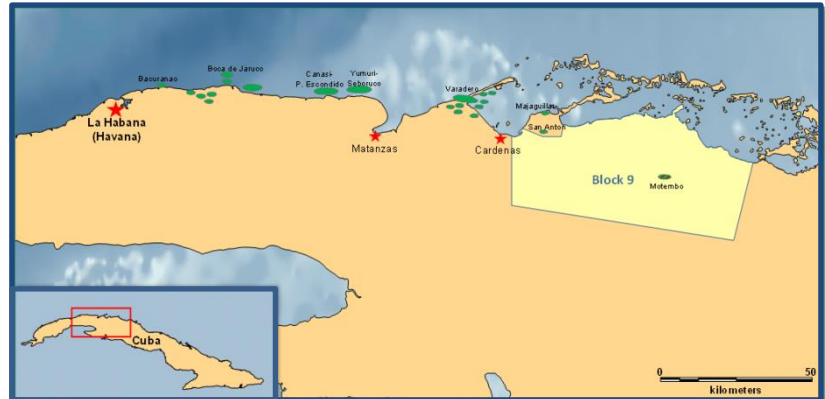


Figure 1. Block 9 location map showing adjacent fields.

**Melbana is one of the few western companies pre-qualified by the Cuban government to operate onshore and in shallow water**

Block 9 has multiple other producing fields within close proximity, including the Majaguillar and San Anton fields immediately adjacent to Block 9 in addition to the Motembo field, the first oil field discovered in Cuba. Melbana Energy is prequalified as an onshore and shallow water operator in Cuba and was awarded a 100% interest in the Block 9 PSC on 3<sup>rd</sup> September, 2015. Melbana’s established position in Cuba provides it a strong early mover advantage.

Melbana’s ambition to accelerate drilling in Block 9 in Cuba is consistent with the Cuban national oil company’s announced strategy to accelerate oil exploration.

### Cuba – Open for business

In 2014 the Cuban Government passed the Foreign Investment Act encouraging new investment in Cuba, including setting a corporate tax rate between 15% and 22.5% with a corporate tax holiday for the first eight years. There are multiple modern land drilling rigs currently operating in Cuba. Block 9 consists largely of low-lying farm land and there are sealed roads that connect Block 9 to Havana. A deep water port with an oil terminal is within 75km and international airport within ~40km.

Cuba currently produces approximately 45,000 barrels per day of oil and 3 million cubic metres of gas. Oil production meets 50% of the domestic consumption, with the balance satisfied by imports. The majority of the oil industry is currently operated by the national oil company, CUPET and there is only one western company, Sherritt International from Canada, currently producing oil in Cuba.

### Block 9 PSC Highlights:

- 12.7 billion barrels of Oil-in-Place with Prospective Resources of 637 million barrels (unrisked Best Estimate, 100% basis)\*.
- 19 individual prospects and leads identified
- Block 9 is a low cost onshore PSC with a number of prior oil discoveries reducing exploration risk
- Planning for an accelerated drilling program to explore high potential targets

**Prospective resource of 637 million barrels of oil \***

\*see Cautionary Statement on Prospective Resources on page 3

### Prospectivity Assessment of Block 9

#### Three play types identified

Melbana Energy's technical assessment has identified the following three play types in Block 9:

1. Lower Sheet Play (approximately 2,000 – 3,500 metres depth);
2. Upper Sheet Play (approximately 800-3,000 metres depth); and
3. Shallow Tertiary Play (approximately 400-1,200 metres depth).

The assessment by Melbana's technical team has focussed on the Lower Sheet Play, which is a conventional, fractured carbonate reservoir, similar to existing producing fields in Cuba, and 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. Oil recoveries to date suggest that the Lower Sheet Play has potential for higher quality crude oil than that produced from adjacent fields. It has demonstrated prospectivity in the western and central areas of Block 9 and is likely to be prospective in the east of Block 9, where an absence of seismic data limits the assessment.

#### 19 structural prospects and leads identified

Melbana's technical assessment has identified a total of 19 structural prospects and leads which the company has been prioritizing to focus on the highest impact, lowest risk drill opportunities (see Figure 2).

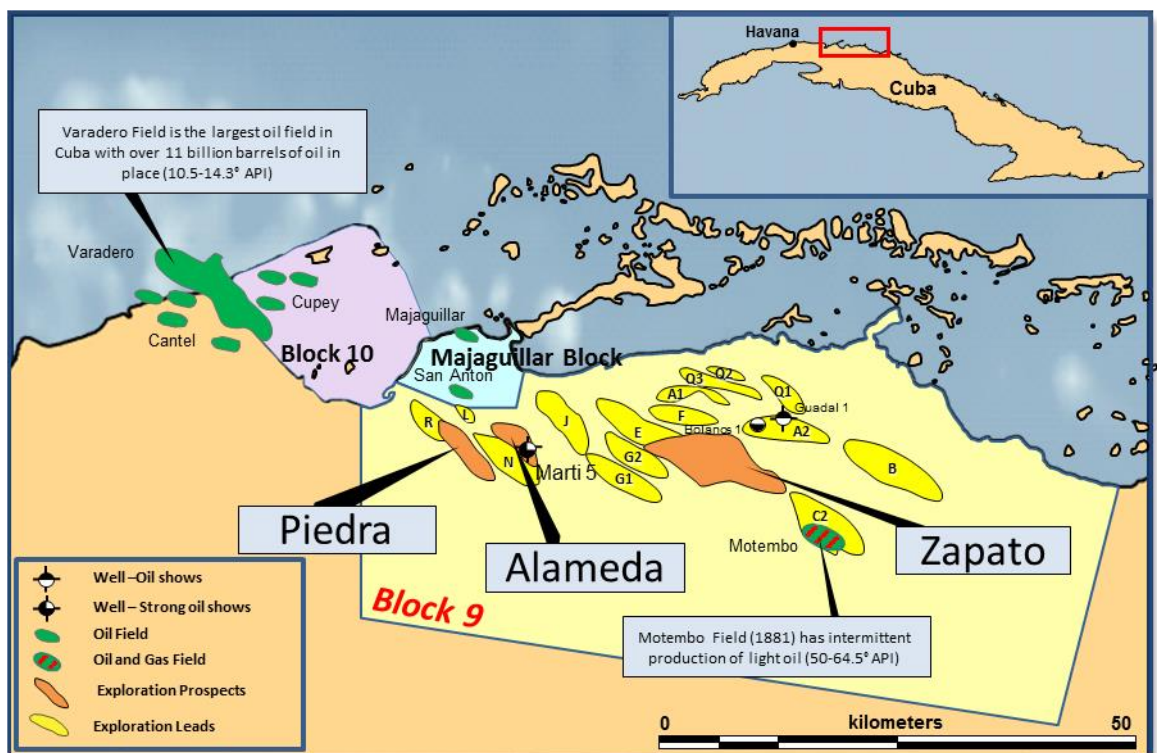


Figure 2. Block 9 PSC with high graded drilling targets

Block 9 total Oil-In-Place exploration potential is estimated to be approximately 12.7 billion barrels (see Table 1), with the total exploration Prospective Resource of 637 million barrels (unrisked, Best Estimate 100% basis)\* (See Table 2), with an estimated 430 million barrels net to Melbana based on its net entitlement interest under the Block 9 PSC.

The recoverable volumes have been conservatively estimated using the historical 5% recovery factor for nearby Cuban fields. Due to the large amount of potential Oil-In-Place, the use of modern enhanced oil recovery techniques that improve the recovery factor offers the further potential for a substantial increase in oil recovery.

**Table 1: Block 9 PSC Exploration Potential Oil-in-Place Summary:**

Feature Name	Maturity	Chance of	Low	Best	High	mean
		Discovery	MMstb	MMstb	MMstb	MMstb
		%				
Alameda	Prospect	32%	62	1,293	4,278	1,829
A1	Lead	18%	20	123	437	184
A2	Lead	21%	184	1,373	4,258	1,859
B	Lead	14%	194	1,837	6,127	2,598
Zapato	Prospect	25%	109	1,426	5,942	2,363
C2	Lead	18%	65	1,193	4,741	1,891
E	Lead	25%	41	790	2,867	1,178
F	Lead	22%	37	492	1,590	680
G1	Lead	15%	51	253	768	343
G2	Lead	15%	22	156	580	239
J	Lead	16%	62	520	1,998	816
L	Lead	21%	12	78	261	111
N	Lead	22%	75	818	2,580	1,114
Piedra	Prospect	22%	67	773	2,450	1,056
Q1	Lead	14%	26	132	424	185
Q2	Lead	14%	15	74	238	103
Q3	Lead	14%	84	640	1,683	780
R	Lead	17%	16	273	1,077	429
U1	lead	17%	40	503	1,851	759
<b>Total (unrisked 100%)</b>			<b>1,181</b>	<b>12,746</b>	<b>44,151</b>	<b>18,518</b>

*Exploration potential Oil-In-Place estimated at 12.7 billion barrels\**

**\* Prospective Resources Cautionary Statement:** The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate 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.

Additional potential is anticipated in the Upper Sheet and Tertiary plays, however these have not been quantified at this stage. There are numerous oil recoveries from old wells in the Upper Sheet in Block 9 and production from this play in nearby fields, but structures in the Upper Sheet are currently lower priority, due to their smaller size and the inability to accurately quantify these prospects using the available seismic grid. The Tertiary play is likely to contain heavier oil, and more data is needed to establish its level of productivity before it can be adequately characterised. Melbana is optimizing the potential drilling program to enable the acquisition of valuable information about both plays during the drilling of wells to the Lower Sheet objectives.

Table 2: Block 9 PSC Exploration Prospective Resources Summary:

Feature Name	Maturity	Chance of Discovery	Low	Best	High	mean
		%	MMstb	MMstb	MMstb	MMstb
Alameda	Prospect	32%	3	65	214	91
A1	Lead	18%	1	6	22	9
A2	Lead	21%	9	69	213	93
B	Lead	14%	10	92	306	130
Zapato	Prospect	25%	5	71	297	118
C2	Lead	18%	3	60	237	95
E	Lead	25%	2	39	143	59
F	Lead	22%	2	25	79	34
G1	Lead	15%	3	13	38	17
G2	Lead	15%	1	8	29	12
J	Lead	16%	3	26	100	41
L	Lead	21%	1	4	13	6
N	Lead	22%	4	41	129	56
Piedra	Prospect	22%	3	39	122	53
Q1	Lead	14%	1	7	21	9
Q2	Lead	14%	1	4	12	5
Q3	Lead	14%	4	32	84	39
R	Lead	17%	1	14	54	21
U1	lead	17%	2	25	93	38
<b>Total (unrisked 100%)</b>			<b>59</b>	<b>637</b>	<b>2208</b>	<b>926</b>
<b>Melbana Net Entitlement Interest</b>			<b>40</b>	<b>430</b>	<b>1490</b>	<b>625</b>

*Conservative oil recovery factor used. Use of modern enhanced oil recovery techniques offers substantial potential for further increases in oil recovery*

### Alameda Prospect (formerly I Lead) - highest ranked prospect in Block 9

The Alameda Prospect (formerly I Lead) is currently the highest ranked exploration target in Block 9 PSC. Alameda is a large structure located in the western part of Block 9 and is in a similar structural position to the Varadero field, the largest oil field in Cuba, approximately 35km away.

The proposed Alameda-1 well which will test a combined exploration potential of over 2.5 billion barrels Oil-in-Place and 130 million barrels of recoverable oil on a 100% unrisked, best estimate basis and over 400 million recoverable barrels aggregate high side potential (Tables 3 & 4). The primary objective at Alameda ranges in depth from approximately 3,000 to 3,700 meters. The presence of oil in the Alameda structure is supported by the Marti-5 well drilled within the prospect closure in a down flank position nearly 30 years ago and which recovered 24° API oil and had numerous oil shows extending over a 850 metre gross interval from the Lower Sheet section (see Figure 3). This exploration well has been designed as a mildly deviated well, with a total measured depth of 4,000m to enable the well to penetrate three independent exploration objectives; the primary Alameda objective as well as the shallower N and U1 objectives.

In the event of a discovery at Alameda there would be significant follow up potential, with a number of additional leads in close proximity.

*Alameda Prospect is highest ranked prospect, with three targets*

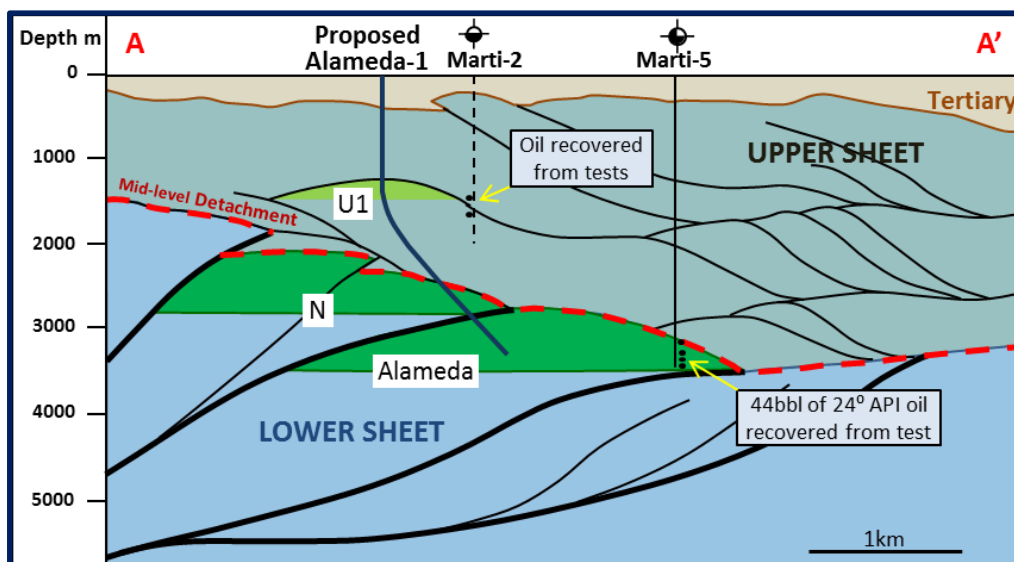


Figure 3. Schematic cross section for proposed Alameda-1 well

The U1 objective is a structure indicated on seismic as being updip of the tested oil recoveries in the Marti-2 well. While characterised as an exploration well, the chance of success at Alameda-1 benefits from two old wells, Marti-2 and Marti-5, both of which recovered oil from the objectives targeted in Alameda-1.

Alameda-1 would take approximately 80 days to drill based on historical information.

Objective	Chance of Success	Oil in Place (MMstb)			
		%	Low	Best	High
U1	17%	40	503	1,851	759
N	22%	75	818	2,580	1,114
Alameda	32%	62	1,293	4,278	1,829

Table 3: Exploration Oil in Place estimates for objectives of proposed Alameda-1 well

Objective	Chance of Success	Recoverable Prospective Resource (MMstb)			
		%	Low	Best	High
U1	17%	2	25	93	38
N	22%	4	41	129	56
Alameda	32%	3	65	214	91

Table 4: Exploration Prospective Recoverable Resource estimates for objectives of proposed Alameda-1 well

**\* Prospective Resources Cautionary Statement:** The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate 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.

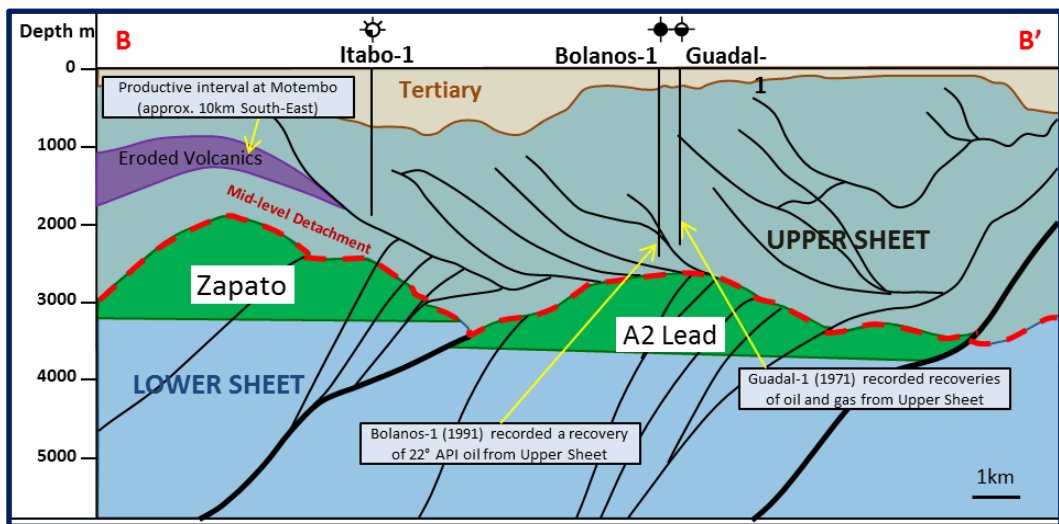
**Zapato and Piedra Prospects – High Priority Exploration Drill Opportunities**

*Zapato and Peidra Prospects are also high priority prospects*

Additional preliminary drilling design studies have also been undertaken for exploration wells to test the Zapato prospect (formerly lead C1) and shallower Piedra prospect (formerly lead P). The Zapato target has exploration potential of 71 million barrels of recoverable oil on a 100% unrisks, best estimate basis (Table 5). The Piedra target has exploration potential of 39 million barrels of recoverable oil on a 100% unrisks, best estimate basis (Table 5).

The proposed Zapato-1 well location is in the central portion of Block 9 and is designed to test a Lower Sheet closure in close proximity to the shallower Motembo oil field, which has historically produced a high quality light oil. The Zapato feature has a crest at approximately 2,000 metres and is a robust structure with nearly 1,000 metres of vertical relief (Figure 4).

The proposed Piedra-1 well provides an opportunity to test a Lower Sheet target at relatively shallow drill depths in the western area, closer to the existing infrastructure of the Varadero oil field, the largest oil field in Cuba.



**Figure 4. Schematic cross section through Zapato Prospect**

Possible Well	Chance of Success	Recoverable Prospective Resource (MMstb)			
	%	Low	Best	High	mean
Zapato	25%	5	71	297	118
Piedra	22%	3	39	122	53

**Table 5: Exploration Prospective Recoverable Resource estimates for additional possible Block 9 wells**

**On Track for potential 2018 Cuba Drilling Program**

Melbana’s focus has been to undertake the preliminary work needed to progress the assessment of the potential of Block 9. These works have refined its understanding of the subsurface prospectivity, thereby allowing preliminary drilling engineering and well design studies to be completed and costed. The extent and nature of in-country logistical support for an onshore drilling campaign in Cuba has also been examined along with the

time-frames for operational permitting. Melbana has therefore concluded that the appropriate equipment, experienced personnel and support services necessary to safely and effectively undertake a drilling program can be expected to be available in Cuba.

As such, Melbana is now focusing on detailed planning for a drilling campaign in Block 9 and has commenced field work and the permitting process to support drilling the Alameda-1 exploration well. Melbana's ambition is to accelerate the drilling of two wells in Block 9 PSC during the first half of 2018. Based on our current potential drill targets, a two well campaign would cost in the range of US\$10-30 million however ongoing subsurface studies may yield further high quality, attractive drilling objectives.

The Company is currently focused on:

- Completing a detailed analysis of the current high priority drilling targets;
- Finalisation of detailed well design and drilling plans
- Progressing Cuban regulatory approvals required for drilling in 2018;
- Proceeding with long lead procurement and contracting actions for planned drill program; and
- Detailed contractor evaluation and selection in preparation for field contract commitments.

## Contact Details

Robert Zammit, Chief Executive Officer  
Melbana Energy Limited  
L15, 500 Collins St  
Melbourne, Victoria, Australia  
Email: [robert.zammit@melbana.com](mailto:robert.zammit@melbana.com)  
Phone: +61 3 8625 6022

## Notes

**Contingent and Prospective Resources:** The information in this document that relates to Contingent Resources and Prospective Resources for Melbana Energy is based on, and fairly represents, information and supporting documentation compiled by Peter Stickland, Non Executive Director of Melbana Energy. Mr Stickland B.Sc (Hons) has over 25 years of relevant experience, is a member of the European Association of Geoscientists & Engineers and the Petroleum and Exploration Society of Australia, and 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.

This assessment has been prepared by Melbana Energy in accordance with the definitions and guidelines set forth in the Petroleum Resource Management System, 2011, approved by the Society of Petroleum Engineers. The assessment is based on historical seismic and well data in Block 9 as well as surface geology and relevant data from offsetting areas. The Prospective Resource estimates have been estimated using probabilistic methods. The Low, Best and High Estimates represent respectively that there is a 90%, 50% and 10% probability that the actual resource volume will be in excess of the amounts reported. The mean volume represents the probabilistic average of the resource volume distribution.

The gross (100%) Prospective Resource estimates are based on the total anticipated oil recovery from the given feature.

The net entitlement interest is based on the anticipated cost recovery oil and Melbana Energy's share of profit oil under the terms of the Production Sharing Contract. Melbana Energy's average net entitlement interest has been estimated to be 67.5%, but will ultimately be dependent on production costs, production rates of future discoveries and prevailing oil prices.