

# Cuba Oil & Gas 2017 Summit Presentation

February 2017



## *Forward-looking Statements and Resources*

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**Contingent and Prospective Resources:** The information in this presentation 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, the Managing Director and Chief Executive Officer 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.

# Presentation Overview

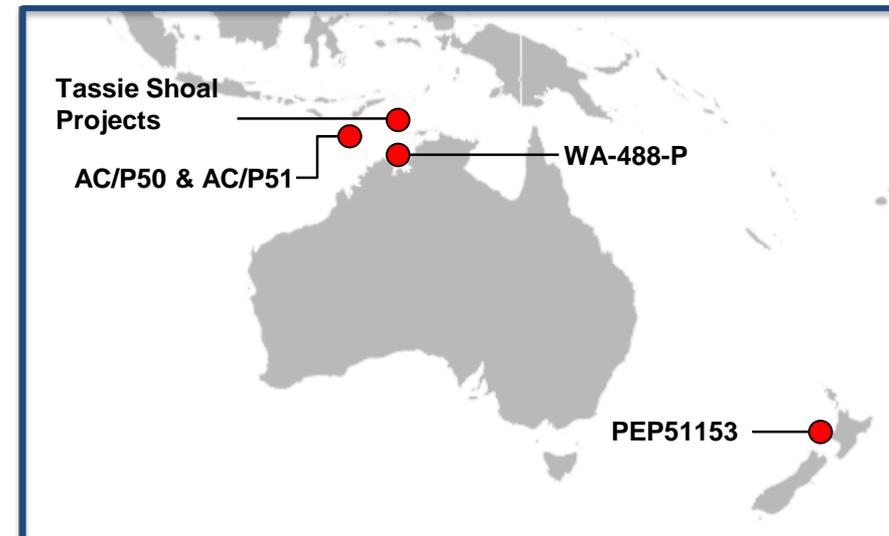
- ✓ Overview of Melbana Energy
- ✓ Cuba oil & gas prospectivity and operating environment
- ✓ Exploration history of Block 9
- ✓ Melbana process for Block 9 so far
- ✓ Identified prospectivity of Block 9
- ✓ Next steps



## Corporate Overview

# Melbana Energy: Company Overview

- Australian listed (ASX: MAY) petroleum exploration company
- Only ASX listed company with Cuban energy industry exposure
- Identified enormous exploration potential in Cuba Block 9
- Seeking early drilling opportunities in Block 9
- Onshore New Zealand high impact drilling of the Pukatea prospect anticipated late 2017
- Portfolio also includes high impact projects offshore in Australia, including Beehive prospect
- Disciplined strategy focused on:
  - Cuba Block 9
  - High-impact, low cost activity from Australia/NZ portfolio
  - Fiscal discipline across all activities



# Experienced Leadership

## Board & Management

### Board of Directors



**Peter Stickland**  
Managing  
Director & CEO



**Andrew Purcell**  
Non-Executive  
Chairman



**Michael Sandy**  
Non-Executive  
Director

### Senior Team



**Colin Naylor**  
CFO &  
Company  
Secretary



**Robert Zammit**  
Exec Manager –  
Commercial &  
BD



**Errol  
Johnstone**  
Chief  
Geoscientist



**Dean  
Johnstone**  
Senior  
Geoscientist



**Dr. Rafael  
Tenreyro**  
Cuba  
Representative

- Melbana staff experienced with Cuban-style geology

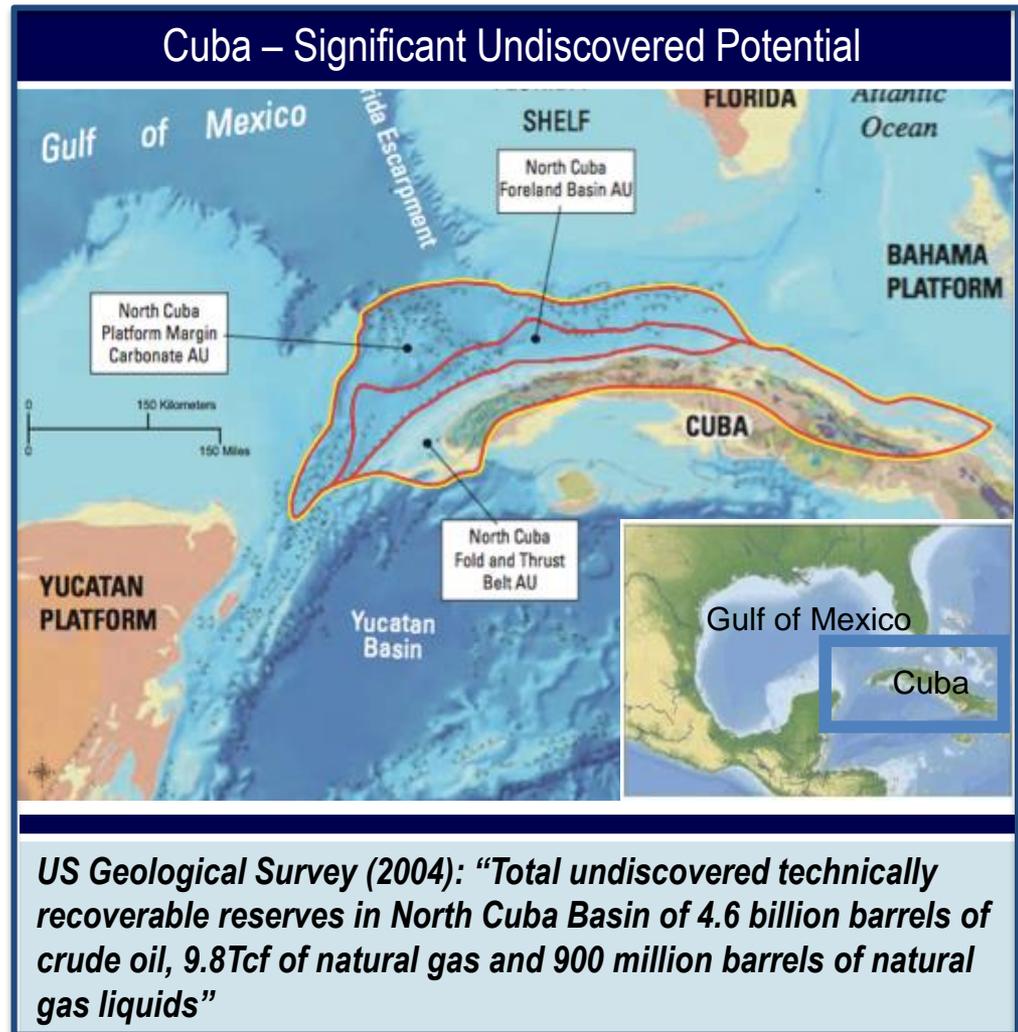


Cuba

# Cuba Oil and Gas Potential

## *Untapped Region of the Gulf of Mexico*

- The Gulf of Mexico is one of the world's great petroleum mega provinces
  - Cuba represents the under-explored south-eastern margin of this province
- US Geological Survey estimates undiscovered technically recoverable reserves of 4.6 billion barrels in North Cuba
  - Largest field - Varadero: >11 billion barrels OOIP
- Cuba currently producing ~45,000 barrels of oil and 3 million cubic metres of gas per day , but seeking to grow production
  - Imports ~50% of oil
  - Local market for oil and gas
- Limited application of modern exploration techniques due to 50+ year US embargo



# Oil and gas industry in Cuba

## Map of acreage holdings in Cuba



- Established international oil industry participation
- Significant areas of Cuba is not yet leased
- International operators reporting globally competitive operating costs in Cuba of ~US\$7/barrel.

# Cuba - Re-emerging as an investment destination

## ***Policy changes having positive impact***

- Cuba has implemented an attractive fiscal regime:
  - New Law of Foreign Investment in 2014, including 8 year profit tax exemption
- Cuba reached a deal with “Paris Club” creditor nations late 2015 - an important step to normalizing relations with international finance community
- Increasing foreign interest in Cuba including Australia, with former Trade Minister Andrew Robb leading first Australian business mission, including Melbana Energy, to Havana in early 2016
- Wider and easier access to internet is a plus for doing business
- US airlines now have direct flights to Cuba



*Melbana Energy's Peter Stickland, with former Australian Trade Minister Andrew Robb and Cuban Foreign Trade Minister Rodrigo Malmierca Diaz (February 2016)*

# Melbana Progress On Block 9 So Far

## ***PSC (2,380 km<sup>2</sup> or 588,000 acres) located onshore and close to infrastructure***

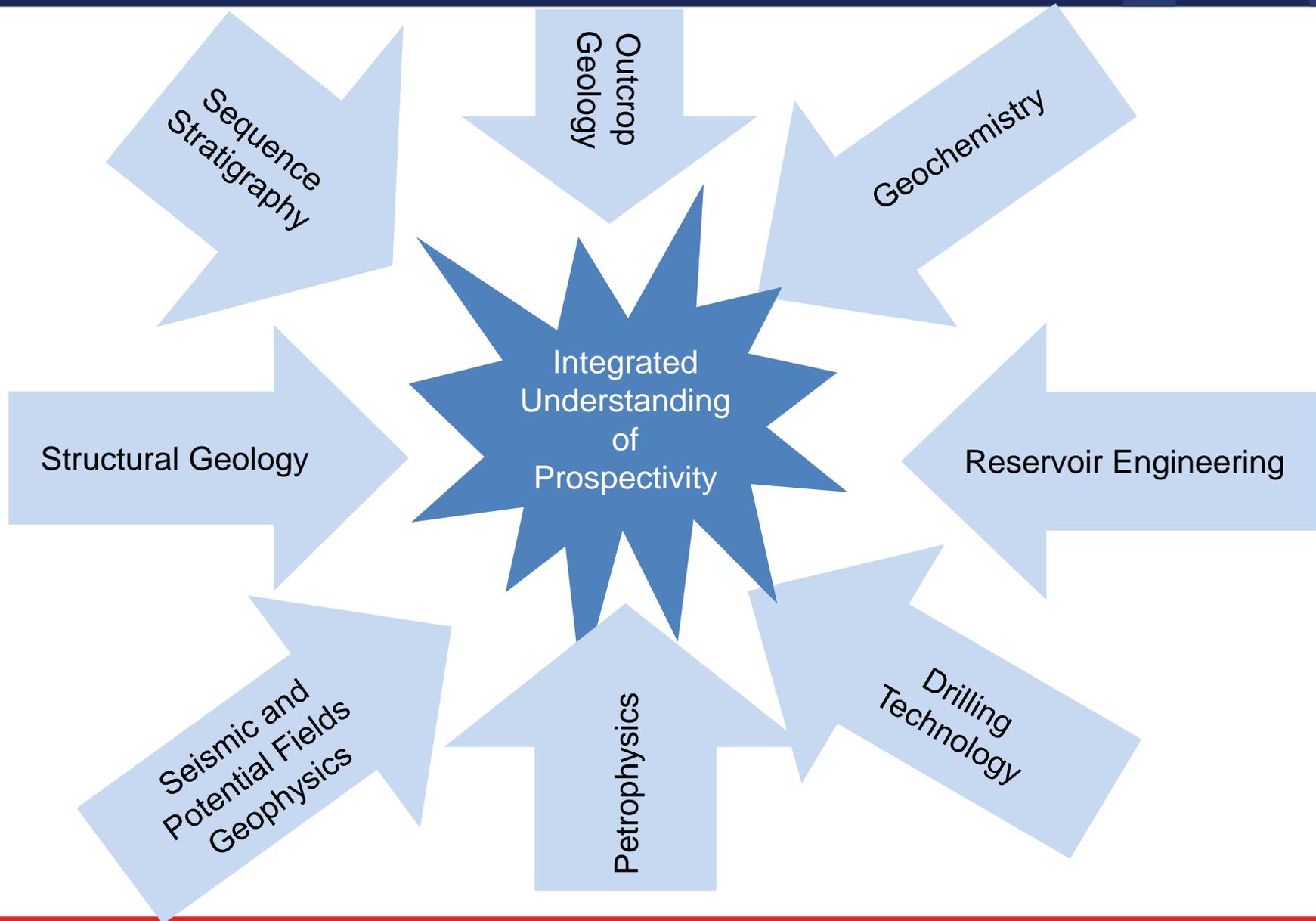
- Commenced pre-qualification in 2012
- Prequalified as Operator early 2013
- Identified Block 9 as preferred opportunity
- Commenced direct negotiations with Cupet for Block 9 PSC
- September 2015 Melbana Energy (100%\*) awarded Block 9 PSC in for 25 year term



- 8 ½ year Exploration Period divided into four sub-periods, with withdrawal options at the end of each sub-period
- Low first Exploration sub-period commitment consisting of studies and seismic reprocessing
- Mid 2016 opened Havana office and appointed experienced, high calibre in country representative to facilitate accelerated activity
- Substantial data aggregation and integration work undertaken to provide a block wide stratigraphic interpretation

\*Subject to Petro Australis conditional option to back in for 40%, no later than Sept 2017. See ASX announcement dated 3 Sept 2015

# Melbana Exploration philosophy: Integration is the key



# Brief Exploration History of Block 9

*Lightly explored, natural oil seeps and several small oil discoveries*

## Pre 1959:

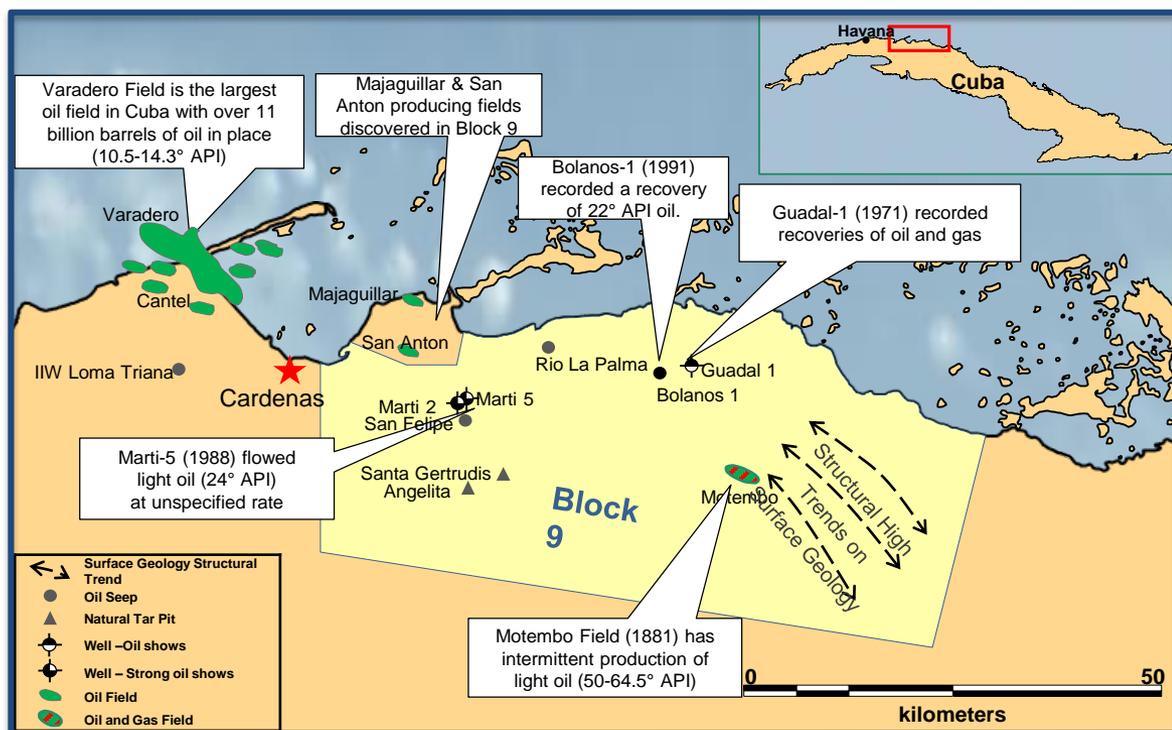
- Asphalt mined from surface deposits
- Motembo discovery – light oil, shallow, produced 5+ mmstb
- Numerous other shallow wells, many with oil shows/recoveries

## 1959-1991:

- Some early seismic acquisition
- Number of wells drilled with oil recoveries (some located pre-seismic)

## 1991-2006:

- First international PSC for Block 9
- Shallow drilling, but results in two producing discoveries (now excised from Block 9)



# Block 9: Geological Characteristics

## *Multiple plays in large compressional fold belt*

### Lower Sheet

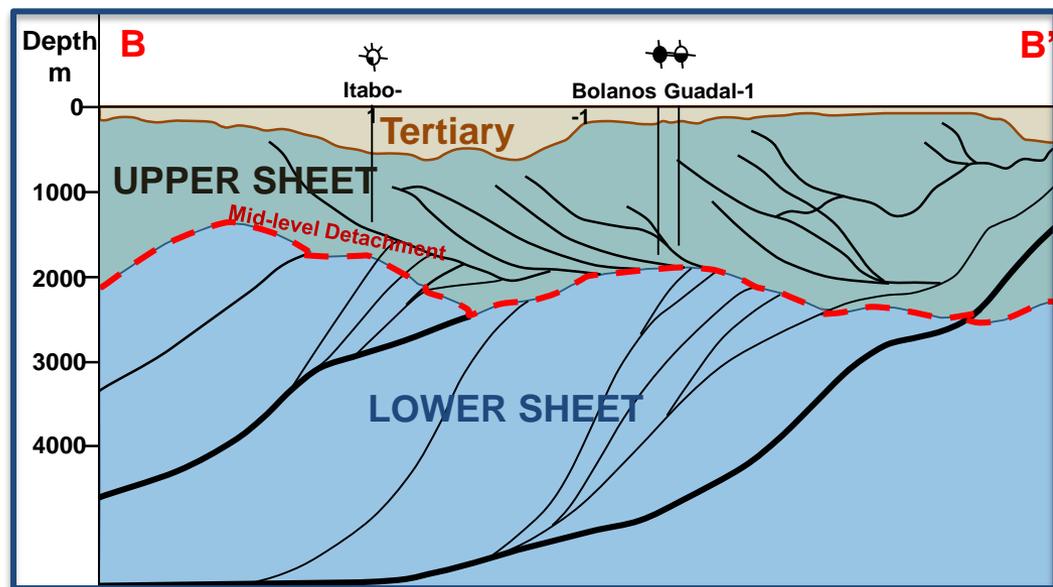
- Reservoir
  - Predominantly of fine grained, fractured carbonates
  - Targeting same main productive zone in existing fields in Cuba – Varadero wells have initial rates up to ~3000 barrels/day per well
- Structure
  - Large scale, broad thrust anticlines
  - Definable on current coarse 2D seismic data grid

### Upper Sheet

- Numerous smaller scale structures
- However, prospects hard to define on coarse 2D seismic data grid
- Multiple oil recoveries to date

### Tertiary

- Younger carbonate and clastic reservoirs
- Only mild structural deformation
- Heavy oils – may require enhanced recovery methods

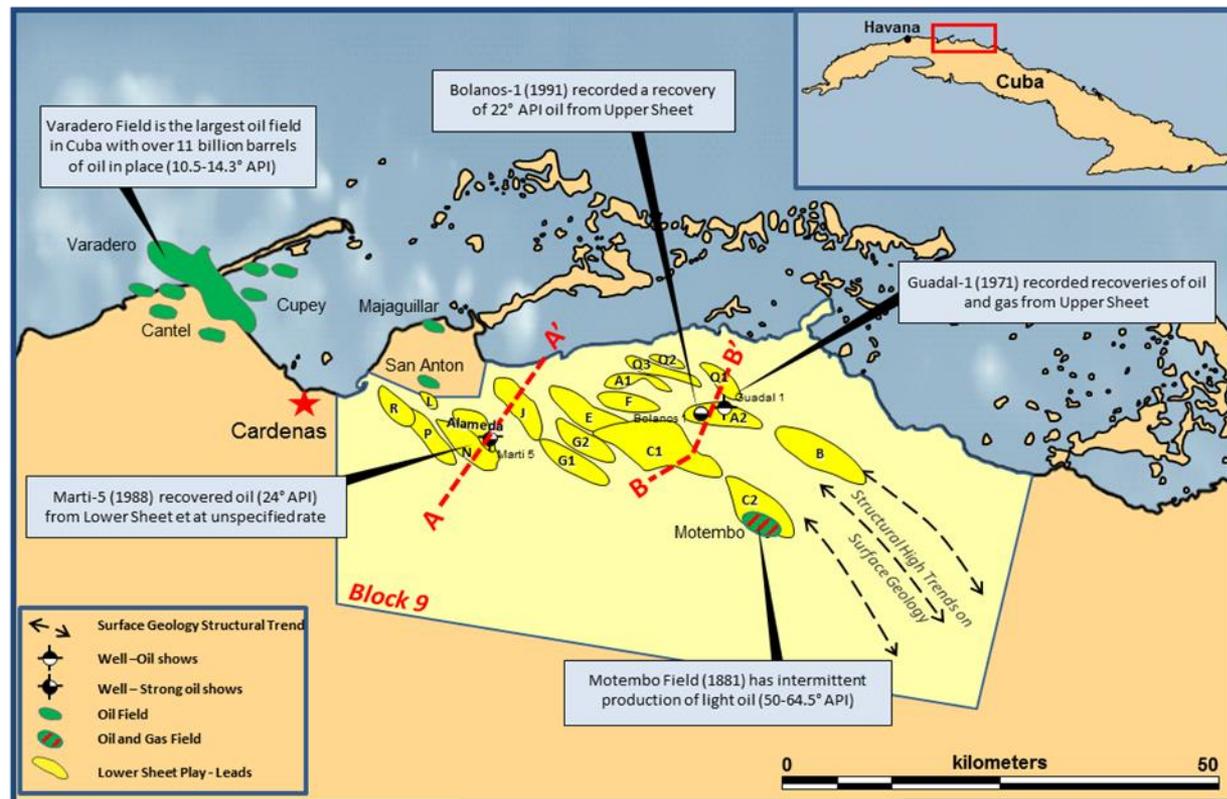


# Cuba Block 9 – Exploration Resource Potential

## *Multi-billion barrel oil in place exploration potential identified*

### Lower Sheet Play

- Exploration potential for over 12 billion barrels of oil-in-place with Prospective Resources of ~600 million barrels (unrisked Best Estimate, 100% basis)\*
- 18 individual leads identified in conventional “Lower Sheet Play”
- Depths between 2,000 and 3,500 metres
- High potential Alameda prospect identified close to historical oil recoveries
- Recoverable volumes conservatively estimated using the historical 5% recovery factor for nearby Cuban fields
- Potential for higher quality light crude oil suggested by historical oil recoveries

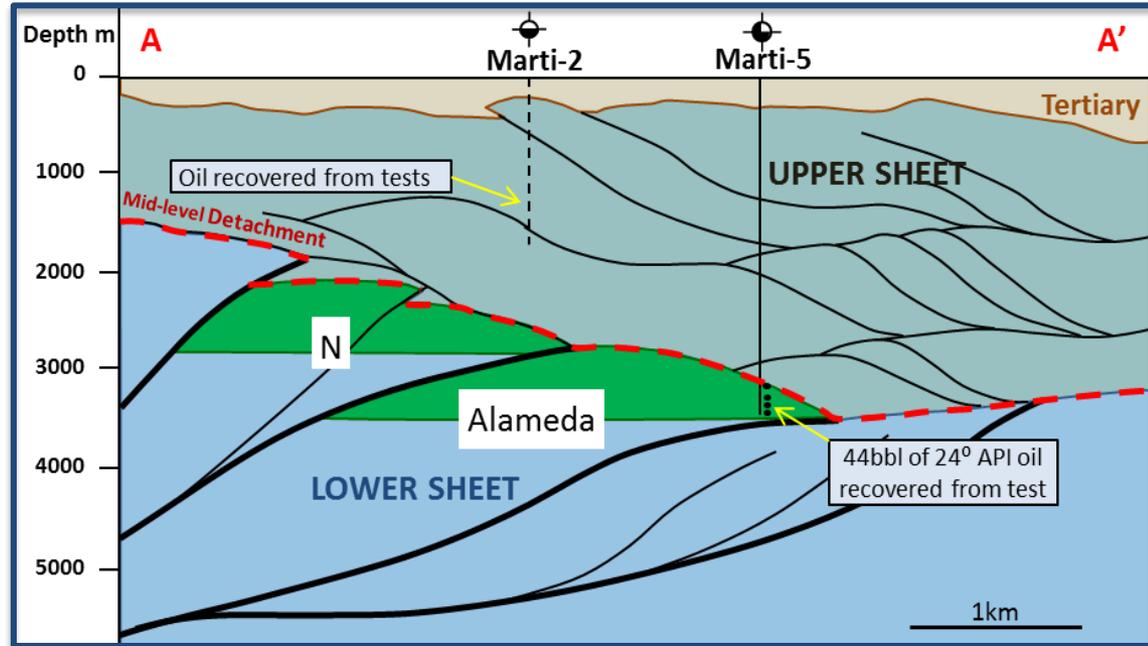


\*See Prospective Resources Cautionary Statement on page 16

# Alameda prospect: close to historical oil recoveries

## High impact prospect, currently designing well for potential 2018 drilling

- Large structure in western part of Block 9
- Primary objective in depth range from 3,000 to 3,700 metres
- Marti-5 (drilled 1988) recovered lighter oil (24° API) and had oil shows over a 850 metre gross interval from the Lower Sheet
- Potential for shallow secondary objectives
- Currently designing well to test Alameda with potential for drilling early in 2018



### Prospective Resources (MMstb)

Alameda Prospect	CoS*	Low	Best	High	Mean
Oil in Place (100%)	32%	62	1,293	4,278	1,829
Prospective Resource (100%)		3	65	214	91
Prospective Resource (NEI**)		2	44	144	61

**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.

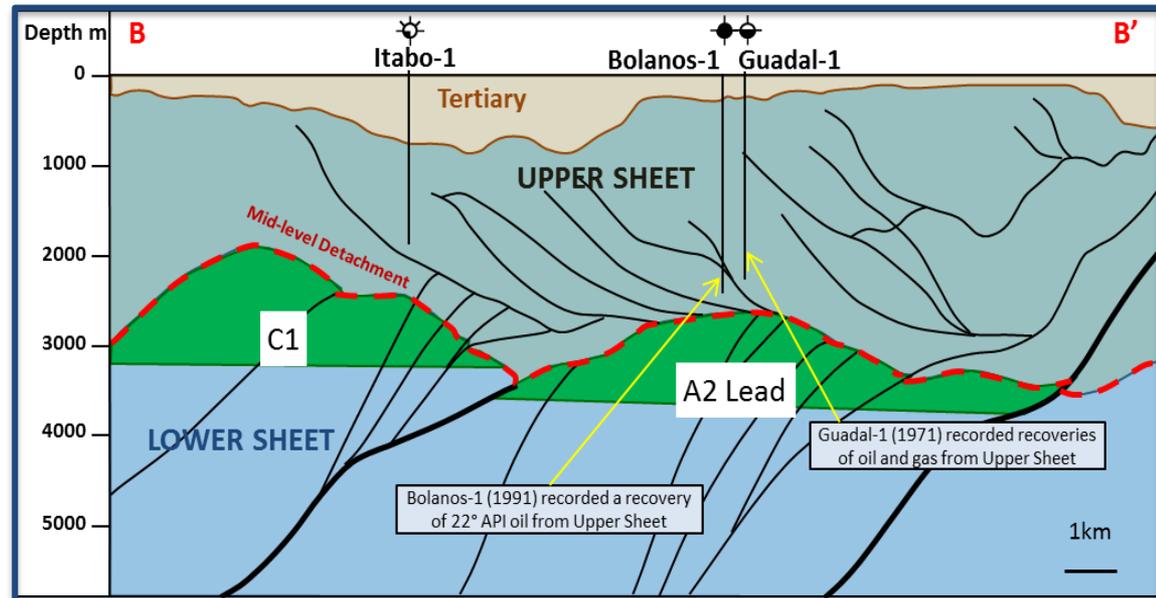
\*Chance of Success

\*\*Net Entitlement Interest based on Production Sharing Contract

# Central Area: High Potential A2 and C1 Leads

## Multiple structures with hundred million barrel exploration potential

- A2 is a large structure supported by two nearby shallow wells that recovered oil from the upper sheet above the deeper A2 lower sheet target
- C1 lead is also a large structure
- C1 lead is only 13km from the historical Motembo oil field which has produced very light oil.
- Assessing A2 and C1 leads for early drilling in Q1 2018



### Prospective Resource (100%, MMstb)

	CoS*	Low	Best	High	Mean
A2 Lead	21%	9	69	213	93
C1 Lead	25%	5	71	297	118

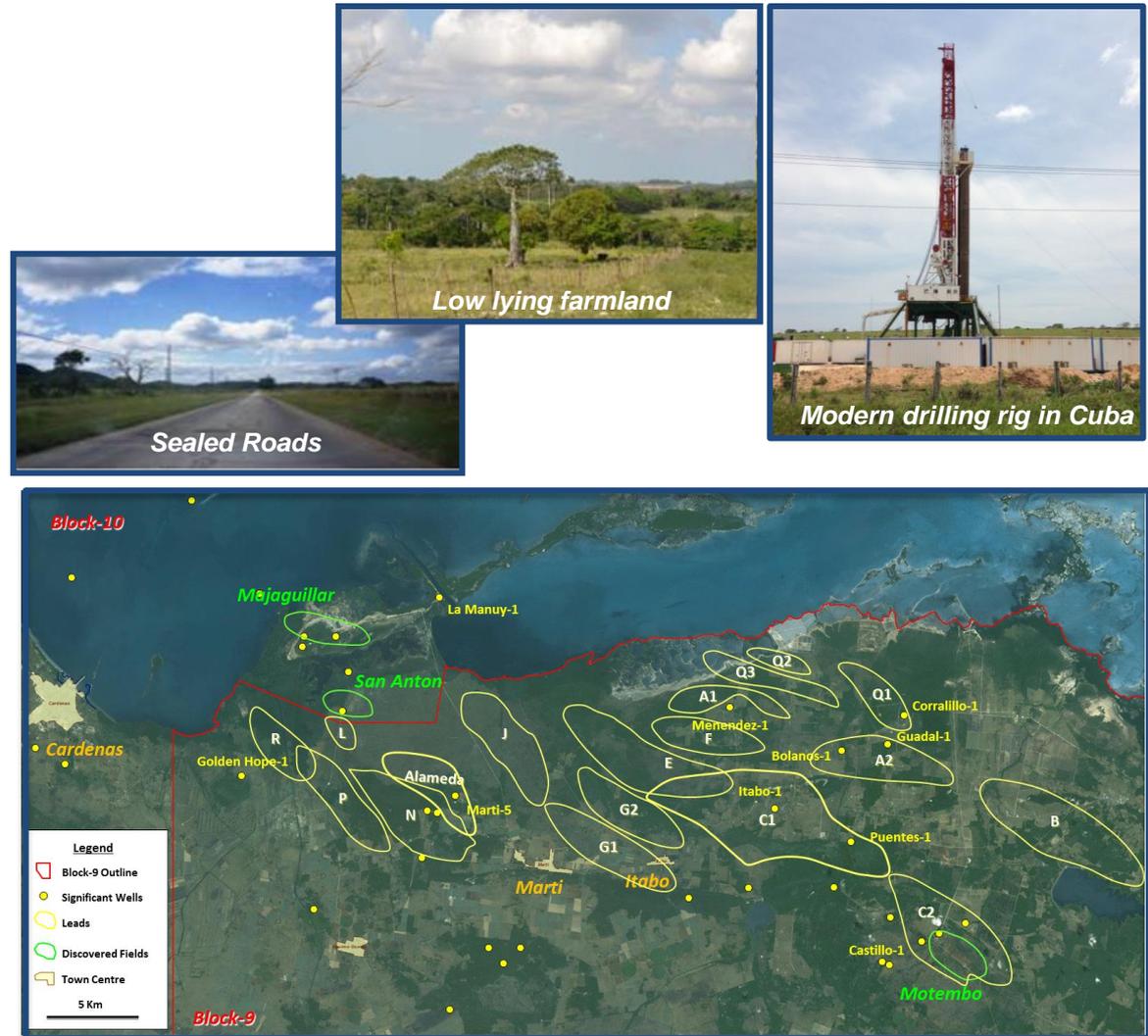
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# Cuba Block-9 Operating Environment

## *Onshore accessible area in close proximity to active oil industry*

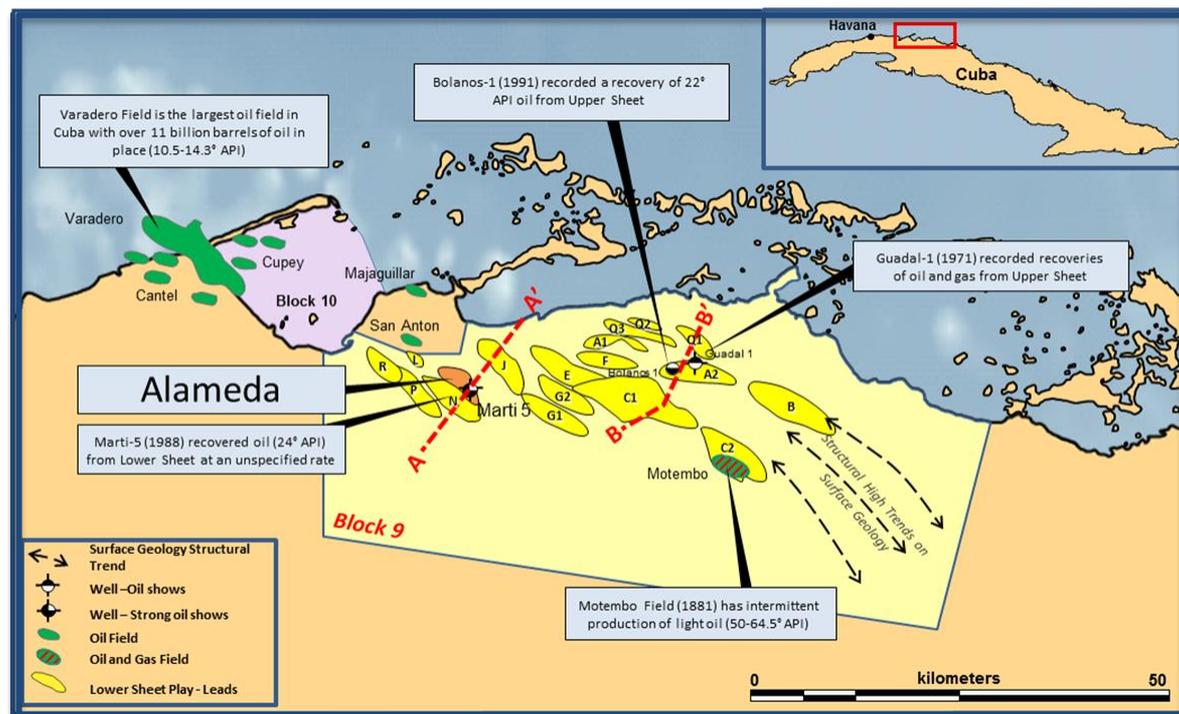
- Block 9 consists largely of low-lying farm land
- A number of sealed roads cross Block 9
- Largest nearby city is Cardenas (population ~100,000) approximately 5km west of Block 9
- ~40km from international airport
- ~75km from deep water port with oil terminal
- ~160km east of Havana
- There are a number of modern land drilling rigs currently operating in Cuba
- Preliminary discussions held with drill rig owners and equipment providers



# Cuba Block 9 – Near Term Activities

## *Integrate data and investigate potential for early drilling in 2018*

- Continue to integrate data to provide a comprehensive picture of the geology of Block 9
- Develop drilling program for possible accelerated drilling in Block 9 to test the exploration potential of the Lower Sheet Play
- Potential drilling in Q1 2018
- Investigate merits of additional seismic data acquisition
- Monitor drilling of high impact exploration well currently drilling in Block 10, operated by Sherritt, adjacent (and on trend) to Block 9.



\*Subject to Petro Australis conditional option to back in for 40%, no later than Sept 2017. See ASX announcement dated 3 September 2015

# Melbana Energy - Indicative Activity Pipeline

## *Key upcoming activities in Cuba, NZ and Australia*

### **CUBA BLOCK 9 PSC**

- Priority lower sheet drill targets identified
- Ongoing assessment of Block 9 prospectivity
- Up to two wells to be drilled in early 2018
- Drill program planning underway

### **NEW ZEALAND PEP51153**

- Pukatea-1 targeting drilling in Q3/Q4 2017
- Drill program planning underway

### **AUSTRALIA WA-488-P**

- Farmout process ongoing
- If farmout successful, potential drilling of Beehive in 2018

# Summary and Conclusions

- ✓ Melbana strategy to target projects with appropriate risk reward profile
- ✓ Building a portfolio of high impact drilling opportunities in Cuba and Australia/NZ
- ✓ Cuba has excellent oil & gas prospectivity and demonstrated modest operating costs
- ✓ Existing fields, oil recoveries and seeps demonstrate a high quality active petroleum system in Block 9
- ✓ Melbana's technical assessment has demonstrated world class, large scale exploration potential of Block 9
- ✓ High quality prospects support potential to accelerate drilling in Block 9



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