

# **AGM Presentation**

27<sup>th</sup> November, 2014

# **Investment Highlights**



	> Conventional oil and gas company with principal interest in the Philippines and France			
<b>Diversified Asset Portfolio</b>	> Assets have low exploration risk and operate in geographies with excellent fiscal terms and low sovereign risk			
Philippines with Contingent Oil Resource Requires New Completion Technology	> Malolos-1 Contingent Resource for recoverable oil between 6.8 – 68.1 Million barrels with a best estimate of 20.4 Million barrels			
	> 2014 production test of Malolos-1 established oil reservoirs will require specialist completions – requirement has supported a 2 year contract moratorium application			
	> Test oil production results also supports a broad, low risk exploration program targeting nearby surface anticlines that could replicate the success of Malolos-1 oil discovery			
2014 Work Program	> Production test program conducted in May-June, 2014			
	> Proved that the 7,100 and 7,300 foot sandstones are oil bearing			
	> 100-200 barrel/day short term oil influx rates			
	> Fines migration and sand production impeding longer term production rate			
2015 Work Program	> Farmout – already commenced			
	> Drill either a new Malolos well or deepen Nuevo Malolos-1 and place in oil production			
Big Oil Aspirations in France	> Prolific hydrocarbon province with production of 13 TCF of gas and 450 Million barrels of liquids			
	<ul> <li>New licence applications nearing end of processing; competing bids resolved</li> </ul>			
	> 100% ownership provides funding flexibility for planned seismic and drilling: 12-18 months			
Management with 'skin in the game'	> Leadership team with extensive experience in asset identification, exploration through to appraisal, development, permitting, construction and off-take deals			
	> Ownership of ~34% provides alignment shareholders - not a 'lifestyle' company			
	> All Directors invest their fees to purchase shares in the Company – subject to shareholder approval			

### SC 44: History of Events



#### 2011-2012

- Coiled tubing attempt to clean-out Malolos-1 to access oil bearing sands unsuccessful
- 20 barrels oil recovered, cased hole pulsed neutron log interpretation identifies gas sands

#### 2013

- Rig-2 cleans out Malolos-1 gaining access to oil bearing sands which were perforated for extended production testing
- Wireline unit could not effectively swab test the well cable not strong enough; 30 bbls oil recovered in 2.5 hours (206 bopd) before mechanical failure; testing suspended pending fit for purpose equipment
- Interpreted gas bearing sands perforated and tested but tight and water bearing
- Drilled Jacob-1 and Gumamela-1: dry holes

#### 2014

- DOE recognises Malolos-1 as an "Oil Discovery" 12 month extension (2015) to test well
- Extended production test results in significant oil production (200 bopd) but fines/sand are an impediment to production and damage could not be permanently overcome
- Few remediation options available on existing 1960 well application for 2 year Technical Moratorium to study problem and drill new well approval imminent

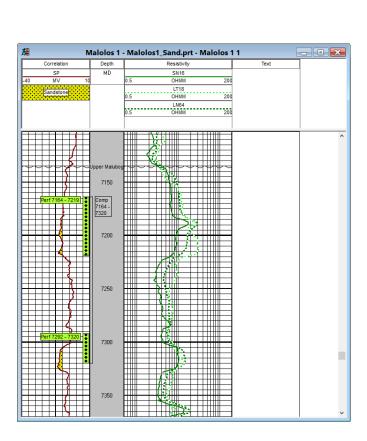
#### SC 44 FORWARD PLAN – 2 YEAR MORATORIUM



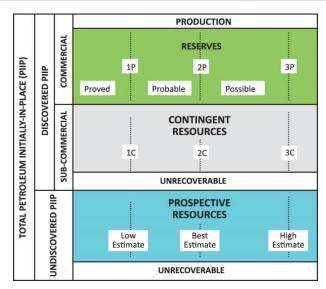
- Malolos-1: research possible enhancement applications to increase oil production
- Malolos-1: implement enhancement ,if it warrants application, in cased-hole
- Malolos-1: continue to test produce
- Design a mud/hydraulics program to minimize open hole formation damage
- If required, conduct new petrophysical analysis on Nuevo Malolos-1, Malubog Formation core
- Collect Malubog Formation outcrop samples and conduct petrophyiscal analysis
- Commence research, in association with industry experts and service contractors, on best completion type for Malubog Formation sandstone reservoirs, incorporating all available data
- Finalise research, in association with industry experts and service contractors, on desired completion type for Malubog Formation sandstone reservoirs incorporating all available petrophysical data
- Finalise open hole well design and completion program, in association with industry experts and service contractors
- Deepen Nuevo Malolos-1 to oil bearing reservoirs, core and record modern open hole electric logs (Option: drill new Malolos well elsewhere in oil field and complete for production)
- Complete well for oil production implementing new technology completion
- Commence extended production test utilizing new technology completion

### **MALOLOS OIL FIELD: Contingent Oil Resources**





Low Estimate Contingent Resources (mmSTBO, recoverable)	6.8
Best Estimate Contingent Resources (mmSTBO, recoverable)	20.4
High Estimate Contingent Resources (mmSTBO, recoverable)	68.1

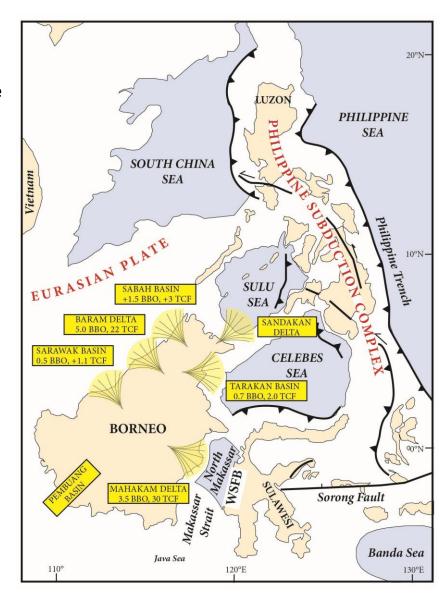


# **Philippines – Tectonic Elements**



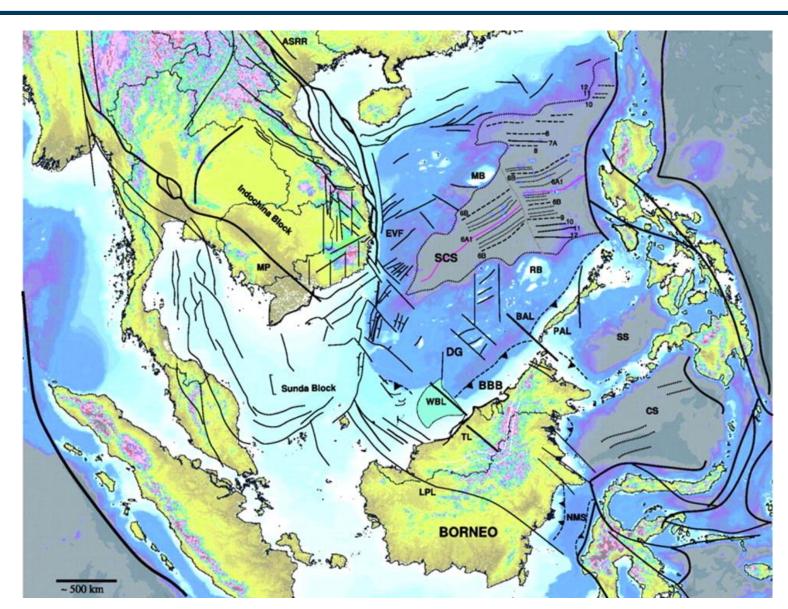
"The major problem in the Philippines with respect to petroleum exploration seems to be finding the presence and/or the location of good reservoir beds. This problem arises because portions of the Northern and Central Philippines contain typical island arc environments along with continental fragments (Karig, 1982)."

This long held, industry wide conclusion is not true. The Philippine islands form part of the rifted eastern continental margin of the South China Sea with very similar Oligocene-Miocene age geology to that of Indonesia, Malaysia, Thailand, Vietnam and southeastern China. The Philippines forms the northern extension of Borneo with a very similar geological history. Late Oligocene - Early Miocene carbonates and Early – Mid Miocene quartz sandstone comprise very attractive exploration targets.



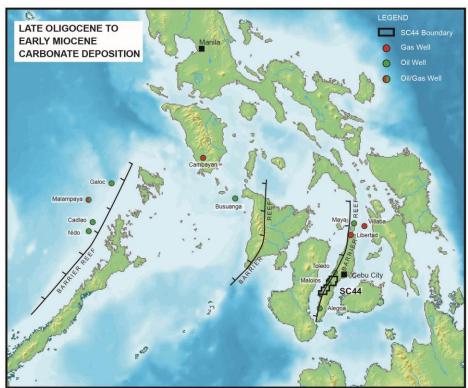
# **South China Sea – Tertiary Pull Apart**





### Late Oligocene to Mid-Miocene Depositional Settings

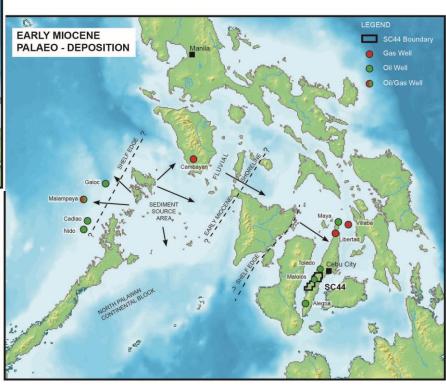




- Uplifted blocks are provenance area for Visayan Basin Miocene clastics
- Fluvial, lower delta plain, near-shore marine and deeper water tubidites
- Good quality quartz sandstone and conglomerate reservoirs



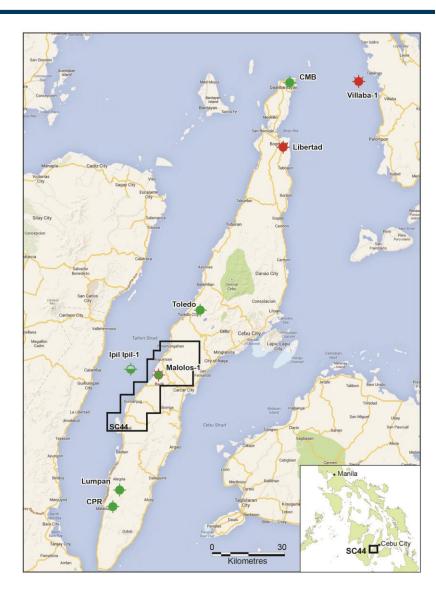
- Rifted Eastern Side Palawan Continental Block
- Mid-Late Miocene Plate Collision and
- Philippine Fault development folding



### **Philippines – Petroleum Discoveries**



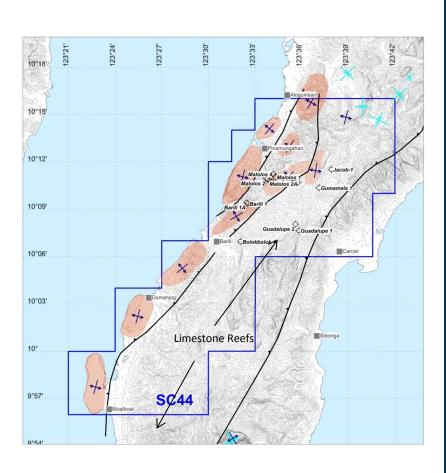
- Producing petroleum region with oil and gas production since the 1960s.
- > Shell, Total, Chevron still active.
- > Exploration focus on targets in SC44 near previous oil and discoveries.
- > Miocene age limestone reef fields.
  - > Malampaya Gas Field, 4.3 TCF, 1992
  - > Libertad Gas Field, Cebu Island
  - > Villaba gas field
  - > Nido & Matinloc oil fields
- > Miocene age marine sandstone fields.
  - > Toledo , Maya, Alegria oil fields, Cebu
  - > Galoc Oil Field, Palawan Basin
- > Strategy to convert gas discoveries into electricity for local sale.



# **SC44: Summary**

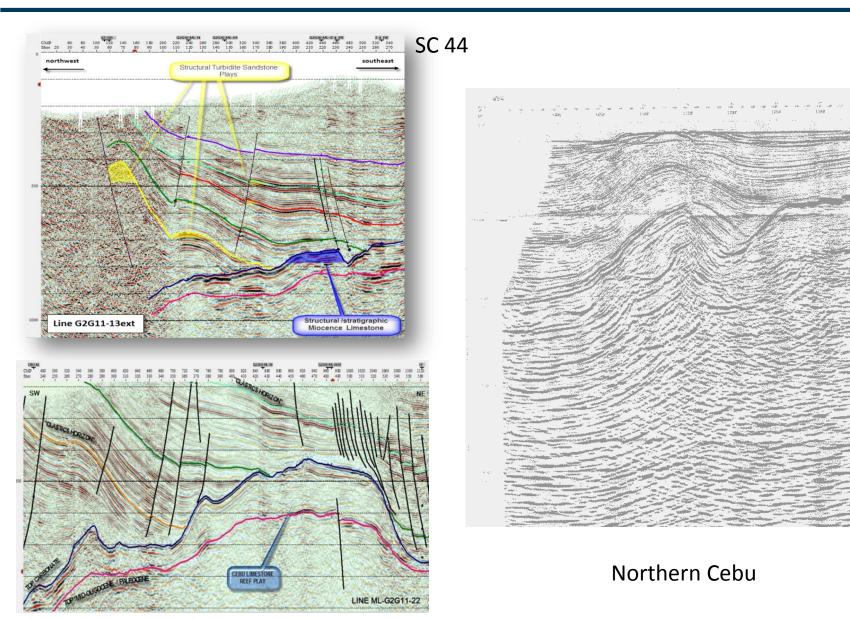


- Numerous surface anticlines mapped Malolos anticline confirms oil bearing intervals in quartz sandstone reservoirs which will likely be replicated in other anticlines across SC 44
- > Malolos Oil Field "Contingent Resource" Recoverable Oil announced June, 2013:
  - > 1C: 6.8 MMbbls
  - > 2C: 20.4 MMbbls "Best Estimate"
  - > 3C: 68.1 MMbbls
- Oil discoveries made adjacent to SC 44 Polyard ,SC 49, located immediately south of SC 44, currently drilling an oil/gas well
- > SC 44 production test program completed.
- > 2 year Moratorium request to determine and implement optimum drilling/completion technology
- Oil sales achievable within months of establishing commercial production with logistic and transport solutions to market.



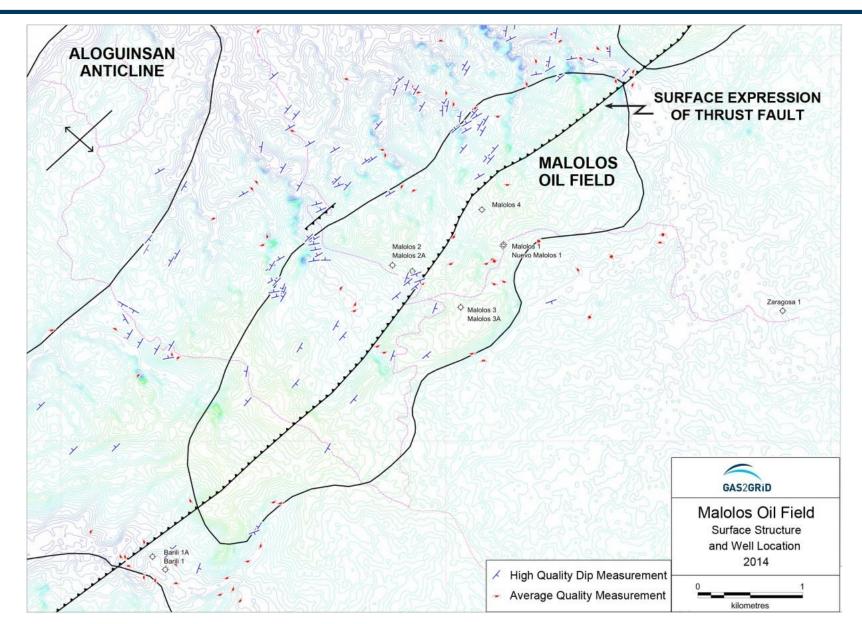
# SC 44: Western Reef Edge and Anticlines





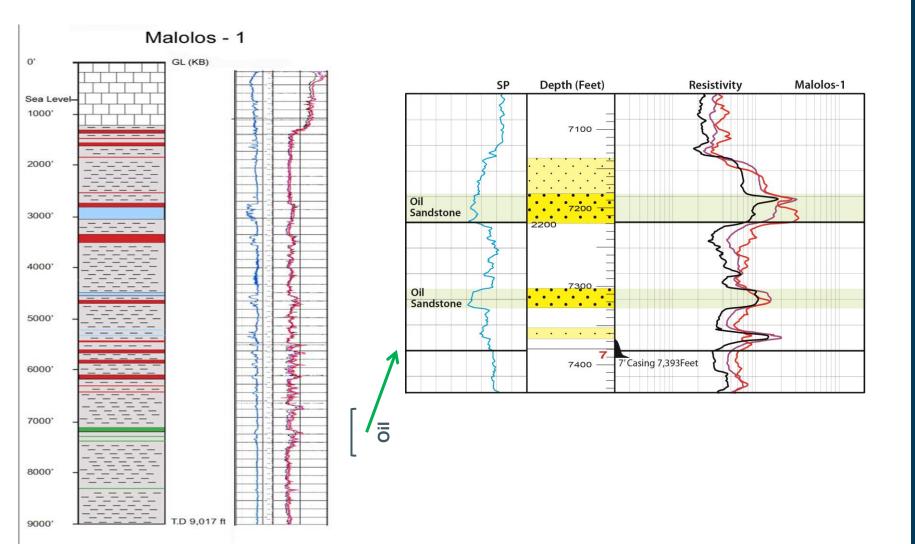
### SC 44: Malolos Anticline





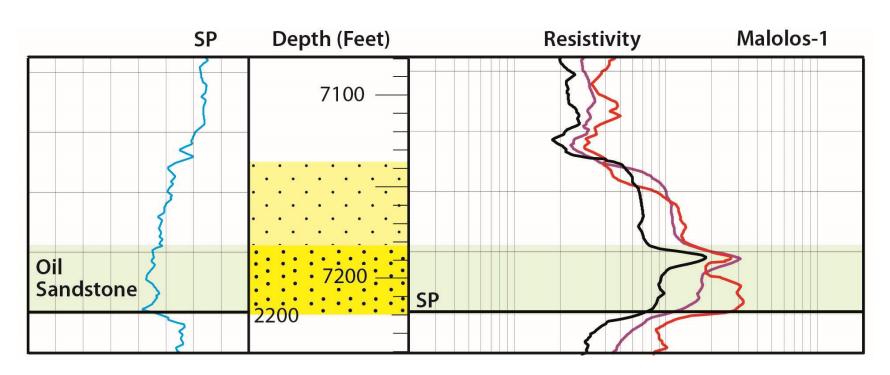
### **Malolos-1: Oil Intervals**





# **MALOLOS-1: Upper Oil Bearing Interval**



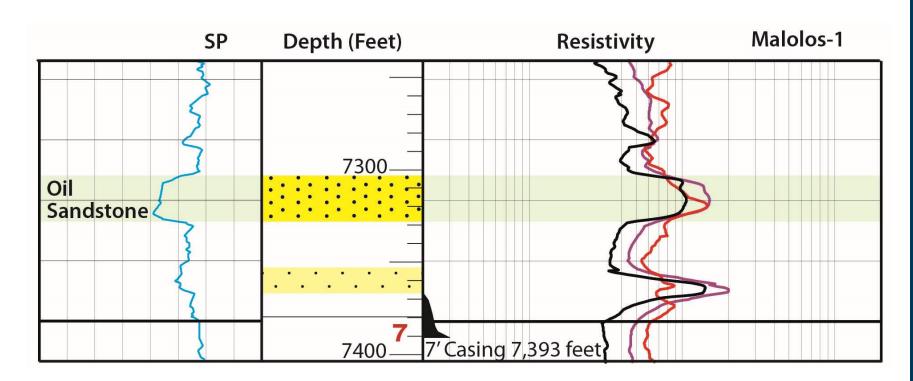


#### **Upper Oil Sandstone:**

- ✓ 2013: swabbed 30 bbls clean oil in 2.5 hours
- √ 2014: swabbed 200 bopd for short period
- √ Fines migration problem
- √ 37.2° API oil
- √ 6.7m net sandstone reservoir; oil currently at surface

# **MALOLOS-1: Lower Oil Bearing Interval**



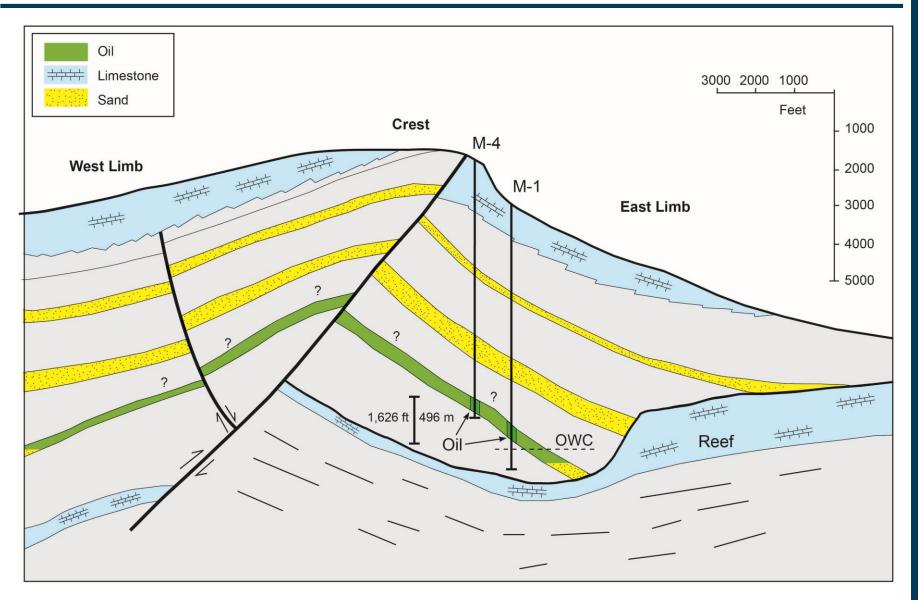


#### **Lower Oil Sandstone:**

- √ Flowed to 22 metres below surface
- ✓ Swabbed clean oil
- ✓ Final stage water recovered at high rates indicate near Oil-Water Contact
- ✓ 39° API oil
- √ 3.4m net sandstone reservoir

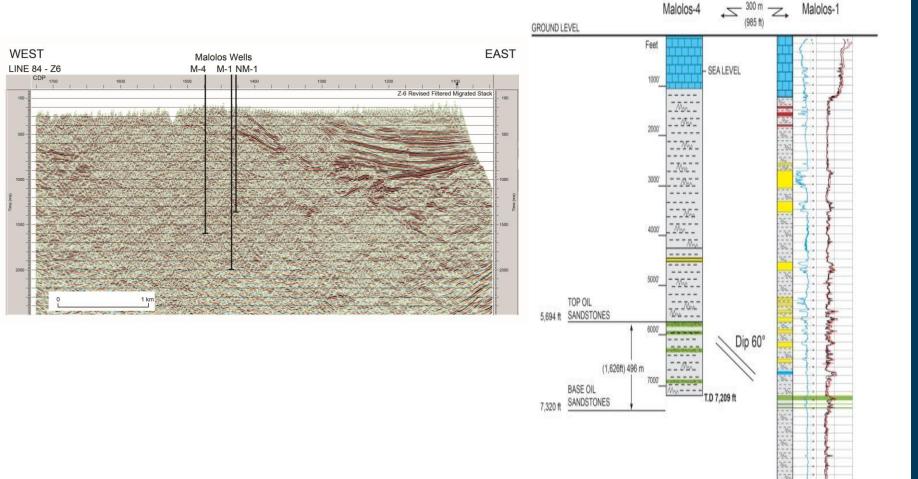
### **MALOLOS OIL FIELD: Cross-Section**





### **MALOLOS OIL FIELD: Geology & Seismic Data**





T.D 9,017 ft

# **MALOLOS ANTICLINE: Outcrop**



Main Thrust Fault



Steeply Dipping Barili Formation – East Limb



Antithetic Thrust Fault – near main thrust

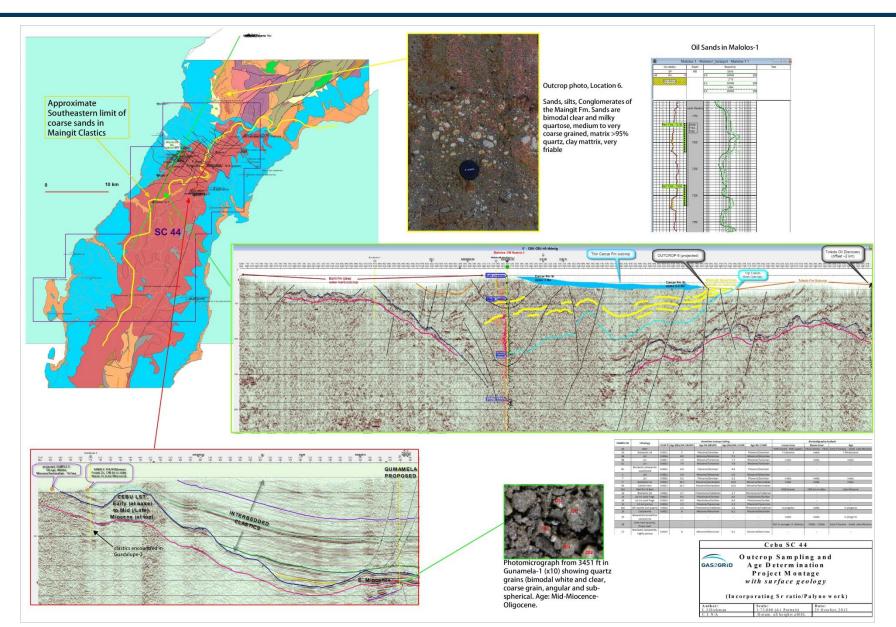


Steeply Dipping East Limb



### **MALUBOG FPRMATION: Outcrop and Leads**





# MALUBOG FORMATION: Outcrop of Marine Sandstone Reservoirs GAS2GRID









#### **MALUBOG FORMATION: Conglomerate & Sandstone Reservoirs**











#### **MALUBOG FORMATION: SC 44: Outcrop of Oil Source Rocks**









# Malolos-1: Wellsite – May, 2014









# **Malolos-1: Oil Testing – Fines Migration**









#### **MALOLOS-1: 2014 Test Results**



#### **TEST RESULTS**

- Proved that the 7,100 and 7,300 foot sandstones are oil bearing
- 100-200 barrel/day short term oil influx rates
- Fines migration and sand production impeding longer term production rate
- Established close proximity to an oil-water contact in lower sandstone
- Malolos-1 drilled and completed in 1960 with few remedial options mini-frac

#### **TECHNICAL REVIEW**

- Open hole drilling fluid program to be determined to minimise formation damage
- Production completions will likely require screens, gravel pack or frac-pack completions to manage reservoir fines and sand production
- Deepen Nuevo Malolos-1 to implement drilling and completion program
- Place well into extended oil production

### **Open Hole Sand Control: Screens**



#### **Screens**

This completion is selected where the liner is required to mechanically hold back the movement of formation sand. There are many variants of open hole sand control, the three popular choices being stand-alone screens, open hole gravel packs (also known as external gravel packs, where a sized sand 'gravel' is placed as an annulus around the sand control screen) and expandable screens. Screen designs are mainly wire-wrap or premium; wire-wrap screens use spiral-welded corrosion-resistant wire wrapped around a drilled base pipe to provide a consistent small helical gap (such as 0.012-inch (0.30 mm), termed 12 gauge). Premium screens use a woven metal cloth wrapped around a base pipe. Expandable screens are run to depth before being mechanically swaged to a larger diameter. Ideally, expandable screens will be swaged until they contact the wellbore wall.



### **Gravel Pack**



A gravel pack is simply a downhole filter designed to prevent the production of unwanted formation sand. The formation sand is held in place by properly sized gravel pack sand that, in turn, is held in place with a properly-sized screen. To determine what size gravel-pack sand is required, samples of the formation sand must be evaluated to determine the median grain size diameter and grain size distribution.[1] The quality of the sand used is as important as the proper sizing.

The first step in gravel-pack design is to obtain a representative sample of the formation. Failure to analyze a representative sample can lead to gravel packs that fail because of plugging or the production of sand. Because the formation sand size is so important, the technique used to obtain a formation sample requires attention. With knowledge of the different sampling techniques, compensation can be made in the gravel-pack sand size selection, if necessary.



#### Frac-Pack



Gravel packs are placed in the screen-casing annulus across perforated intervals and in perforation tunnels to prevent the production of formation fines and sand. Frac Packs combine gravel packing with fracturing, creating wide, highly conductive fractures connecting the reservoir to the wellbore.



#### **TECHICAL MORATORIUM**



#### **PROBLEMS**

- Previous exploration wells in Cebu have encountered problems in the open hole with washouts and poor hole conditions
- Previous wells completed for production from sandstone reservoirs in Cebu have encountered problems with sand production limiting oil production
- Fines migration and sand production common problem with most Tertiary age oil fields producing from sandstone in the World eg. Indonesia, Malaysia, Thailand, China, West Africa, Gulf Coast (USA), Australia

#### **RESEARCH**

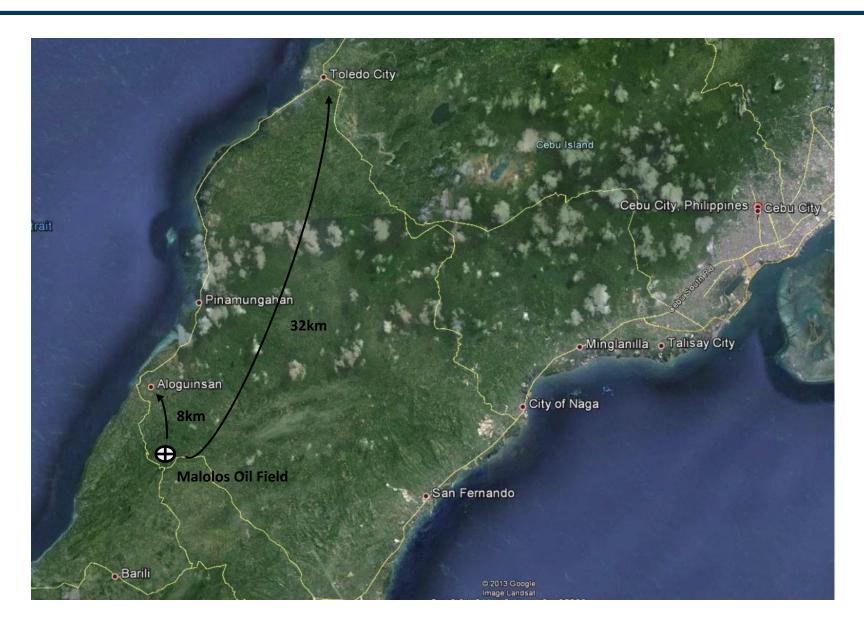
- Engage drilling fluids service providers to design optimum drilling fluid and hydraulics program
- Industry standard sand and fines migration preventative completions are either installation of screens, gravel packs or frac-packs
- Engage service providers to assess existing data and new analysis of Malubog Formation sandstone reservoirs with the aim of determining an optimum completion technology

#### **IMPLEMENTATION**

 Deepen Nuevo Malolos-1 (or drill new well) using optimum drilling fluid program and complete for production with selected technology and place into trial production

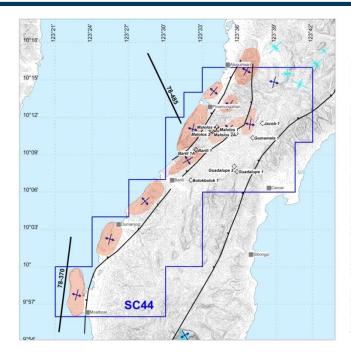
# **Malolos Oil Field - Transportation**

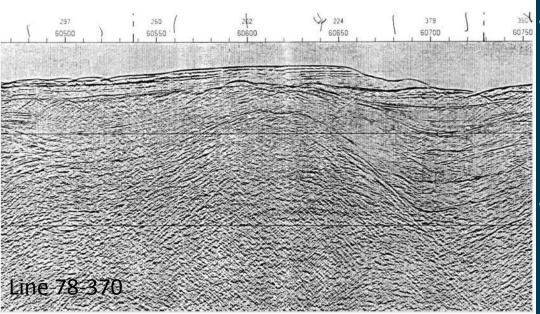




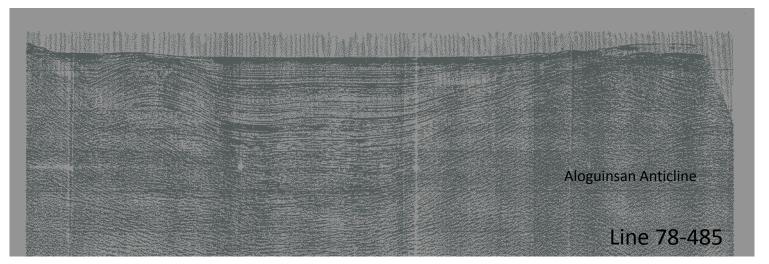
# **PROSPECTS:** Large





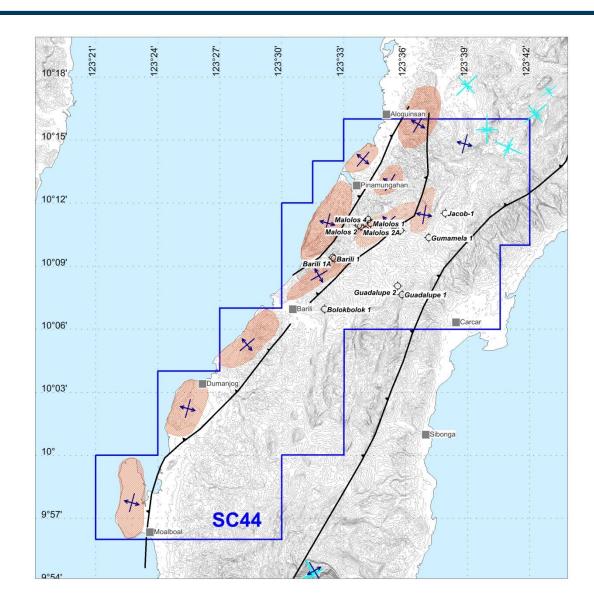


Moalboal Anticline



### SC 44: Area Revision





### **Drilling Rigs: Company Owned and Operated**



#### **Gardner Denver 500 Drilling Rig**

- > 800 HP; SCR (electric).
- > Capacity to drill to 2,740m with 4 ½" drill pipe
- > 3,650 m with 3 ½" drill pipe.



#### **Brewster 200 Workover Rig**

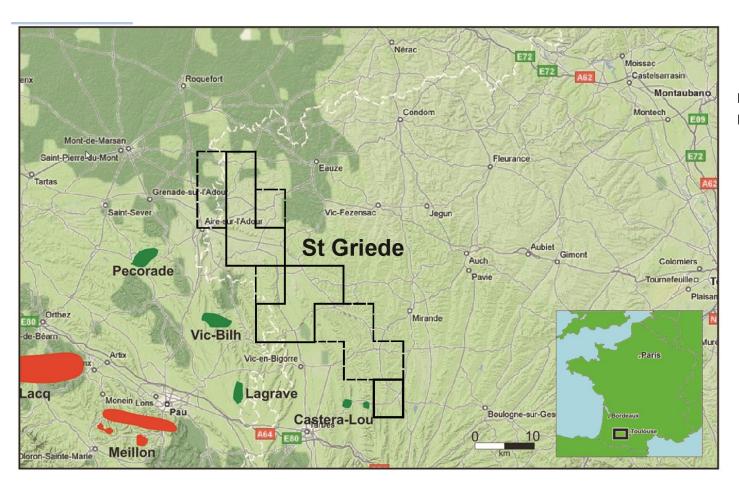
- Capable of work-over and flow testing
- > Set surface conductor and surface casing.



# St. Griede Licence, Aquitaine Basin



- > Aquitaine Basin is a prolific hydrocarbon province with over 13 TCF of gas and 450 million barrels of liquid hydrocarbons having been produced from the basin and currently producing.
- > Under-utilised oil and gas infrastructure within 20km of licence area.
- > Undergoing renewal and partial relinquishment 619sq km licence area with 100% to GGX & Operator .



### Neighbouring Oil & Gas Fields:

- Pecorade (Total):21 MMbbl & 38bcf gas
- Vic Bilh (Total): 32
   MMbbl & 40 bcf
   gas
- Lagrave (Total):24 MMbl
- Castera-Lou

### St. GRIEDE – Big Oil Potential



#### **History**

- > Aquitaine Basin is a prolific hydrocarbon province with over 13 TCF of gas and 450 million barrels of liquid hydrocarbons having been produced from the basin and currently producing.
- > Markets and infrastructure are well developed for a commercial discovery.
- > Little activity in past decade as French majors went international.
- > Gas prices in Europe continue to trade at highs (~\$12/GJ) roughly 3-4 times East Coast Australia.
- > 100% working interest provides flexibility in funding forward work program for exploration drilling.

#### **Work Program**

- 2015: new Seismic data acquisition.
- Late 2015-2016: drill one well.

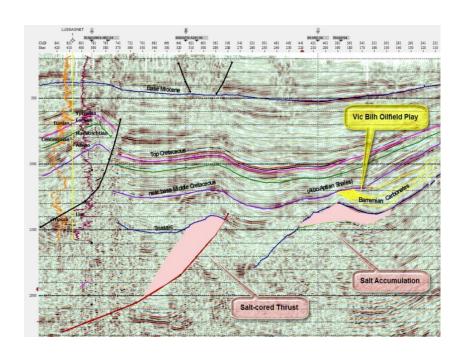
#### **Attractive Fiscal Terms**

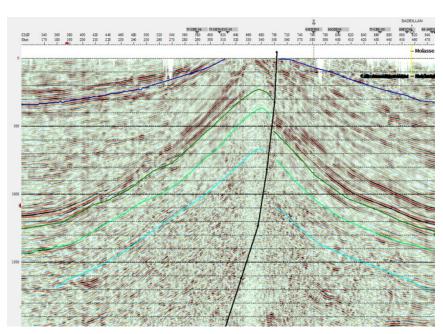
- Oil royalty system with royalty and taxes based on annual field production.
- Royalty progresses from 0-12% from <50,000 to >300,000 metric tonnes.
- Oil taxes: Communities €213/100t production; Department €271/t.
- Gas royalties progress from 0-5% for <300mcf to > 300 mcm.
- Gas taxes: Communities €61.7/mcm; Department €78/mcm.

# St. Griede Prospects are Very Large



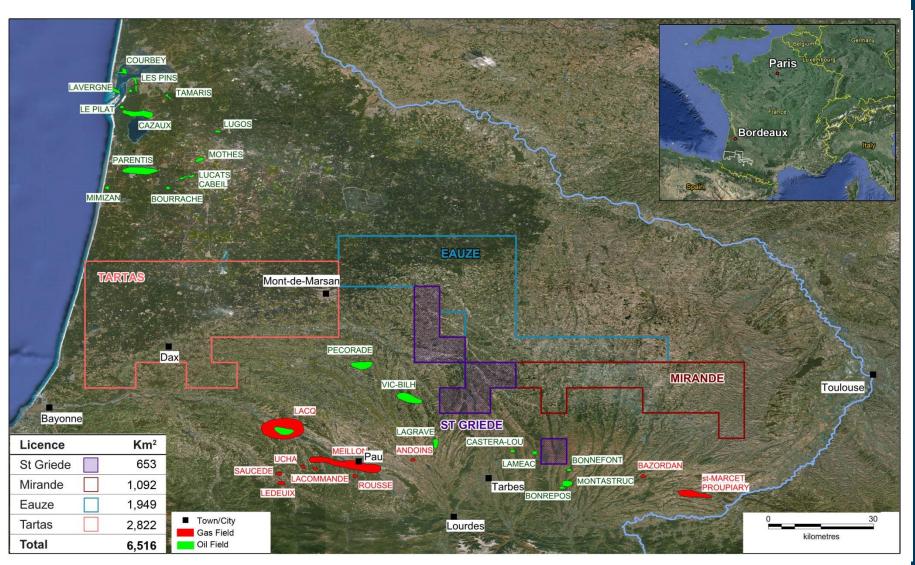
- > Historical seismic interpretation, aero-gravity survey and available petroleum well data combined to identify very large prospects.
- > New seismic data to be acquired to confirm the first of many drill ready prospects.





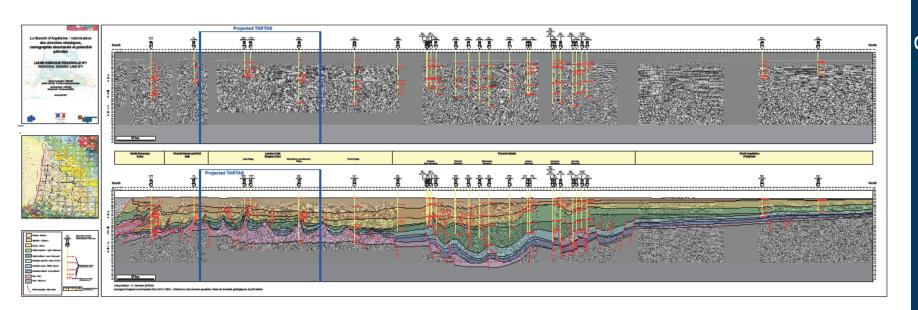
# Licence Applications: Aquitaine Basin





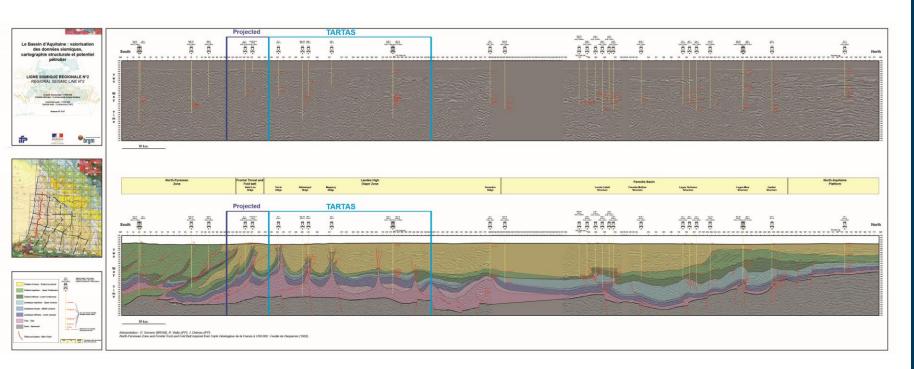
# **AQUITAINE BASIN: Regional Seismic Line**





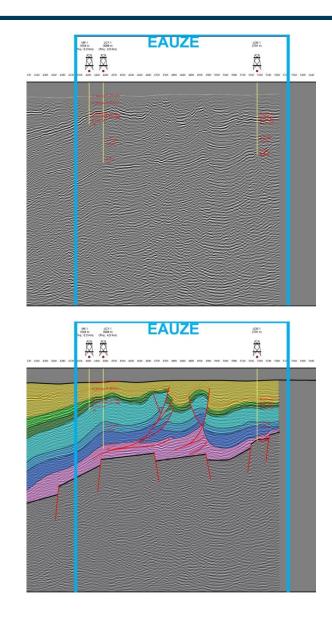
# **AQUITAINE BASIN: Regional Seismic Line**

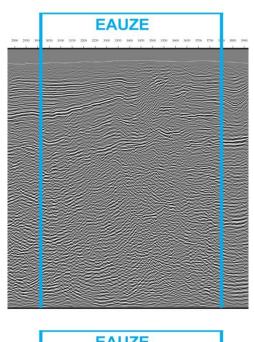


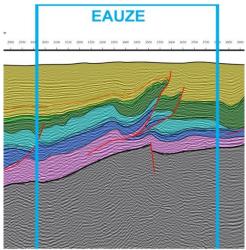


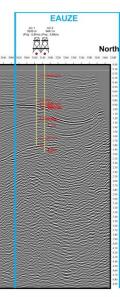
### **EAUZE: Seismic Data**

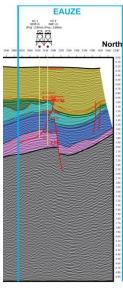






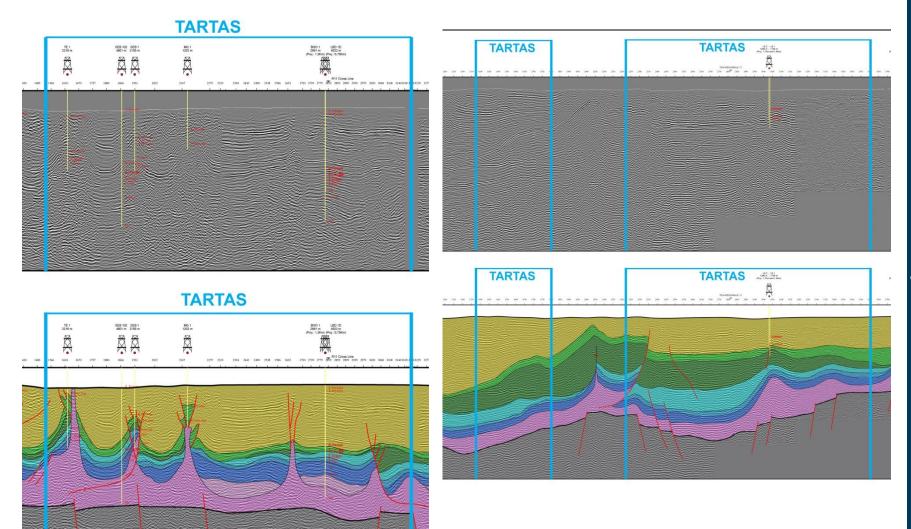






### **TARTAS: Seismic Data**





# **Corporate Overview**

**Darren Reeder** 

**Patrick Sam Yue** 



Corporate Profile		Asset Portfolio	
ASX Code	GGX.AU		Onshore, Central Cebu Island, <b>Philippine</b> s
Shares on Issue	757 million	SC 44 (100%)	2013 Drilling & Development
Share Price	\$0.012	St. Griede (100%)	Onshore, Aquitaine Basin, <b>France</b>
Market Capitalisation	\$9 million		2014 Drilling
Cash*	\$0.1 million		Onshore, Aquitaine Basin, <b>France</b>
War Charabalda a	Directors 34%	France (100%)	Tartas Application
Key Shareholders	Top 20 - 50%		Mirande Application
* As at 30 September 2014 – unaudited and approximate			Eauze Application
Board & Mana	agement		
David Munns	Non-Exec Chairman		
Dennis Morton	Managing Director		

Non-Exec director

**Executive Director** 

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- Involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements; and
- May include, among other things, statements regarding targets, estimates and assumptions in respect of production, prices, operating costs, results, capital expenditures, reserves and resources and anticipated flow rates, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions.

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