

# CVN Corporate Presentation

3 May 2012



## ASX ANNOUNCEMENT

Carnarvon Petroleum Limited ("Carnarvon") (ASX:CVN) is pleased to provide shareholders with the attached CVN Corporate Presentation given by Mr Adrian Cook, Managing Director, Carnarvon Petroleum to shareholders and investors.

For this presentation and further information on the Company please visit the CVN website at: [www.carnarvon.com.au](http://www.carnarvon.com.au)

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Yours faithfully

A handwritten signature in black ink, appearing to be "Adrian Cook".

**Adrian Cook**  
**Managing Director**  
**Carnarvon Petroleum**



# Corporate Presentation

## May 2012

**SOUTH EAST  
ASIA**

**AUSTRALIA**



## Disclaimer

The information in this document, that relates to oil exploration results and reserves, is based on information compiled by the Company's Chief Operating Officer, Mr Philip Huizenga, who is a full-time employee of the Company. Mr Huizenga consents to the inclusion of the reserves and resource statements in the form and context in which they appear.

This presentation contains forward looking statements which involve subjective judgment and analysis and are subject to significant uncertainties, risks and contingencies including those risk factors associated with the oil and gas industry, many of which are outside the control of and may be unknown to Carnarvon Petroleum Limited.

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# Strategic focus

Carnarvon is an oil and gas exploration and production company pursuing material returns from exploration, appraisal, development and production assets, focusing on:

## **1. S.E Asia & Australia**

Asia and Australia contain some of the largest producing basins in the world that reside near exciting frontier exploration opportunities.

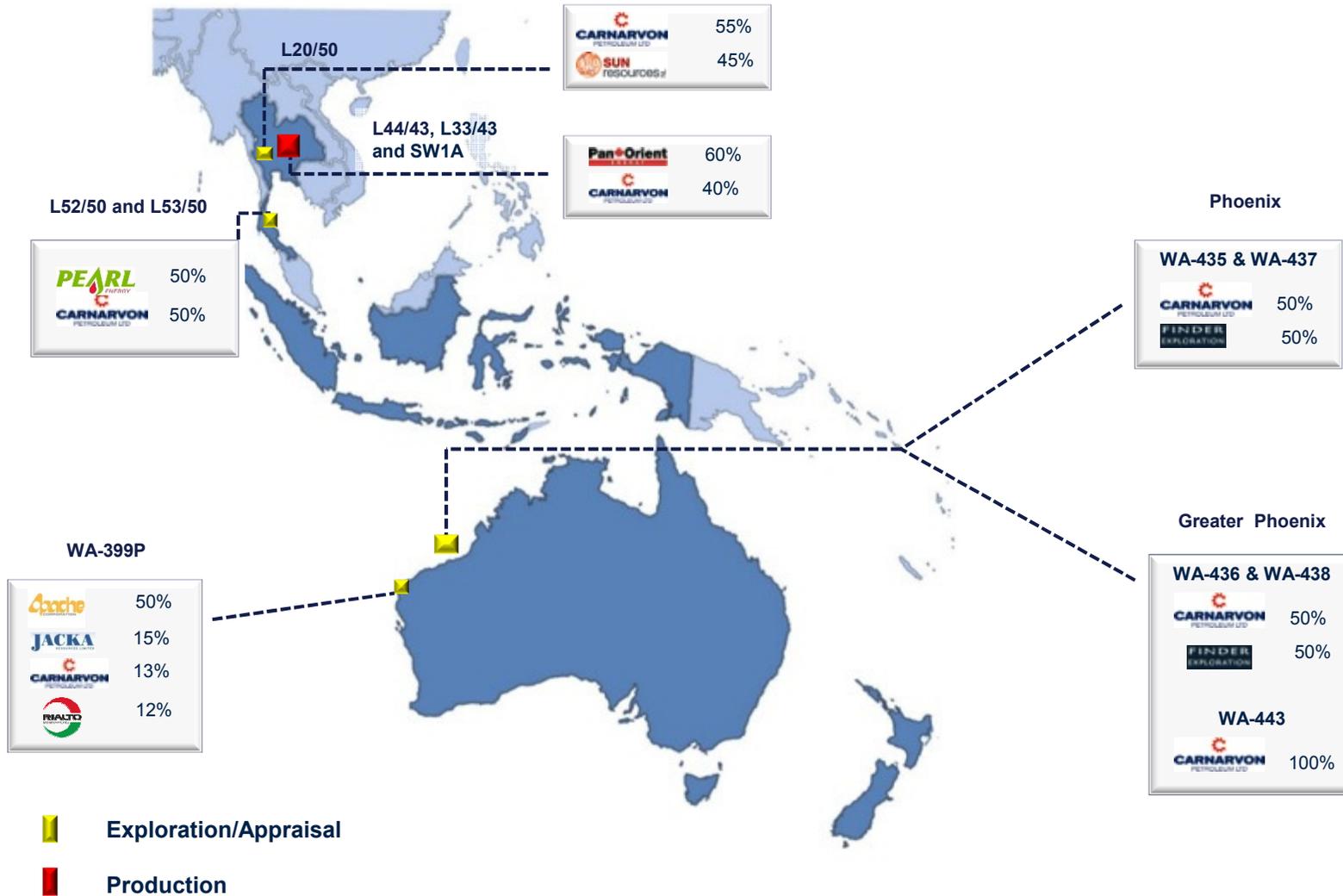
## **2. Onshore & in shallow offshore**

Being in areas where opportunities and costs match the company's capabilities.

## **3. Knowledge and expertise**

Creating value requires management with knowledge and expertise applicable to the target assets of the business.

# Current asset holding



# Why Carnarvon now?

## 1. Current share price underpinned by reserves (\*)

Independently (GCA) certified Proved Reserves (1P) of 3.8mmbbls valued at \$84m (NPV<sub>10</sub>) or \$0.12 per CVN share

- Upside – Probable Reserves of 8.3mmbbls, valued at an additional \$138m
- Upside – Possible Reserves of 10.5mmbbls, valued at an additional \$150m

## 2. Phoenix farmout expected to crystallise a value in Q3, 2012

Independently (ISIS) reviewed Phoenix South and Roc prospects contain mean and upside contingent resources between 1 Tcf to 4 Tcf of recoverable gas

- Carnarvon expects to retain a meaningful ~25% interest post farmout

## 3. Active drilling & exploration program

Exploration in Thailand and Western Australia provides the opportunity for further upside value.

(\*) Key assumptions supporting GCA's valuations were disclosed by the Company in its announcement on 22 March 2012.

# Indicative activity schedule 2012/13

	2012				2013			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Australia</b>								
WA-435-P (CVN 50%)	Farmout				Well planning			Well
WA-437-P (CVN 50%)	Farmout				Well planning			Well
WA-436-P (CVN 50%)	3D Survey		Licence Data	Process 3D	Interpret 3D		Farmout	
WA-443-P (CVN 100%)	3D Survey				Licence Data	Process 3D	Interpret 3D	
WA-438-P (CVN 50%)		Technical Work		Potential 2D				
WA-399-P (CVN 13%)	Process 3D	Interpret 3D		Permit extension decision	Well planning			Well
<b>Thailand</b>								
L44/43 (CVN 40%) L33/43 (CVN 40%) SW1A (CVN 40%)	Wells in volcanic and sandstone reservoirs covering exploration, appraisal and development drilling							
L52/50 (CVN 50%) L53/50 (CVN 50%)	Process 2D	Interpret 2D	Farmout	Well planning		2 x Wells		
L20/50 (CVN 55%)		Farmout	3D Survey	Process 3D	Interpret 3D	Well planning		Well

# Key priorities

Carnarvon's three key priorities in Q2 and Q3, 2012 are:

**1. Commence WBEXT sandstone drilling in Thailand (L44/43)**

- Currently the joint venture is ready to commence an initial circa 10 well programme and is awaiting environmental approval from the government

**2. Farmout an interest in Phoenix (WA-435-P & WA-437-P)**

- The farmout is expected to fund the initial costs of exploration drilling activities

**3. Mature portfolio of leads into drillable prospects**

- Several leads in WA-435-P, WA-436-P and WA-443-P (WA)
  - Covered by new Zeester 3D seismic survey
- Leads in WA-399-P covered by Apache's Gazelle 3D (WA)
- Leads in L20/50, L52/50 and L53/50 (Thailand)

# Corporate overview

## Key capital statistics

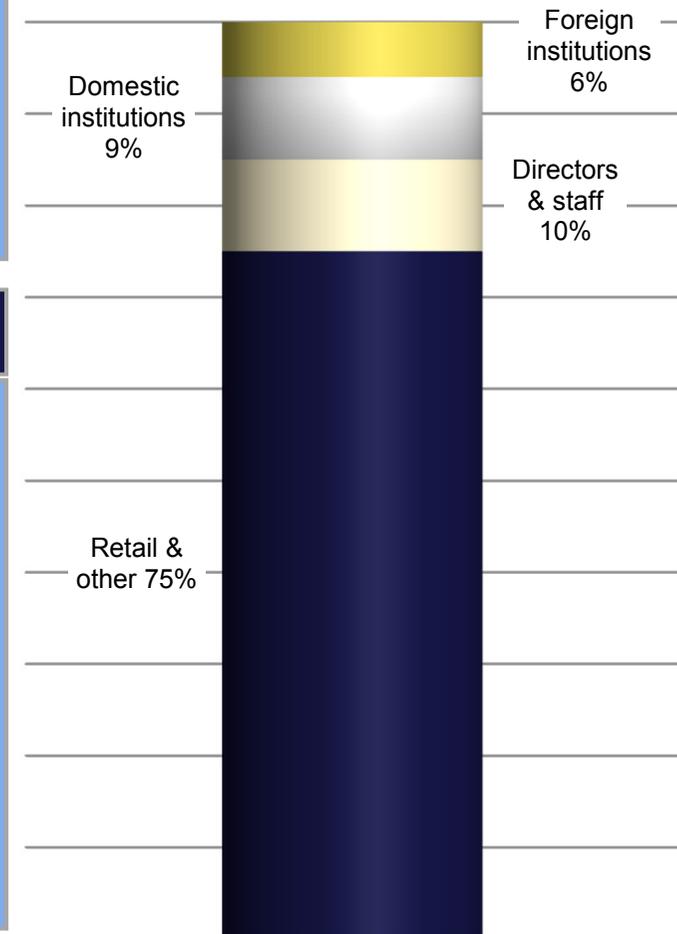
- Shares on issue 693.3 million
  - Held by directors & staff 69.0 million
- Market capitalisation (A\$0.13/share)\* ~\$90 million
- Liquidity (% of stock traded per annum) ~90%

\* As at 12 April 2012

## Key financial statistics

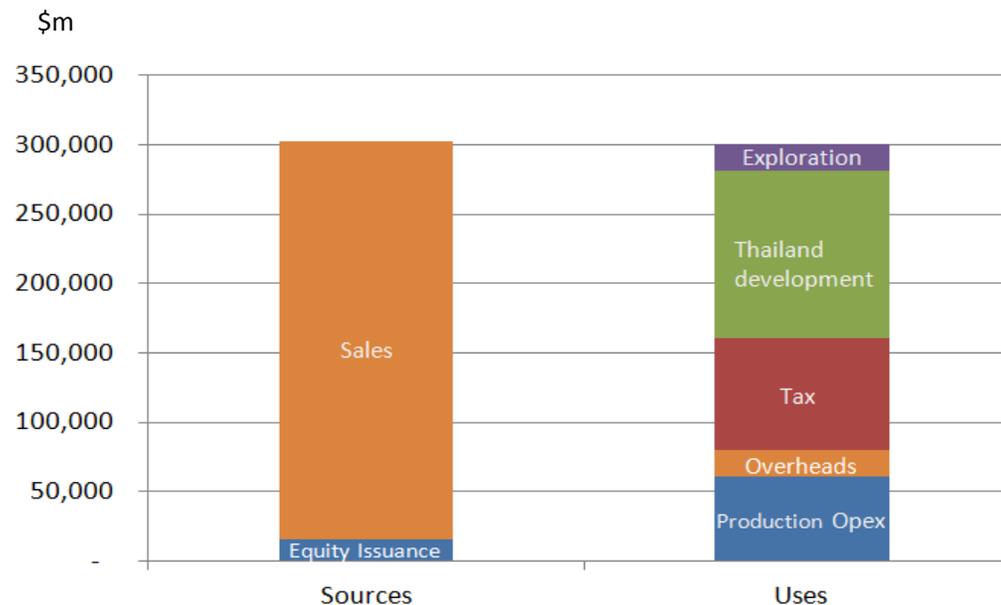
- Cash as at 31 March 2012 A\$10.0 million
- Loss for Half Year ended 31 December 2011 A\$2.5 million
  - Includes exploration write off A\$3.4 million
  - Includes deferred tax expense A\$5.5 million
- Operating Cashflow A\$9.1 million
  - for Half Year ended 31 December 2011
- No Debt

## Shareholder base



# Historical sources and uses of funds

1. **Capital raised** of \$16m in 2007 was used to discover and fund the development of Carnarvon's Thailand oil field (L44/43 & L33/43)
2. **Funds from oil field operations** in Thailand also funded Carnarvon's acquisition and exploration activities in Thailand, Australia, Indonesia and New Zealand
3. **Forward expenditures** are mostly discretionary with minimal permit commitments



*Five year analysis covering the 2007 to 2011 financial years*

# Status of current assets

	Exploration	Appraisal / Development	Production / Revenue
<b>Australia</b>			
WA-435-P (CVN 50%)	Farmout for drilling beside Phoenix-1 discovery & on 3D seismic data		
WA-437-P (CVN 50%)	Farmout for drilling near Phoenix-1 discovery & on 3D seismic data		
WA-436-P (CVN 50%)	New 3D seismic being acquired over leads, next to farmout		
WA-443-P (CVN 100%)	New 3D seismic being acquired for future farmout		
WA-438-P (CVN 50%)	New 2D seismic proposed to explore oil potential		
WA-399-P (CVN 13%)	Sept 12 decision whether to drill on new 3D seismic (Macedon play fairway)		
<b>Thailand</b>			
L44/43 (CVN 40%) L33/43 (CVN 40%) SW1A (CVN 40%)	New 3D seismic & drilling proposed outside of production licences	Appraisal & development drilling of WBEXT SST & volcanic reservoirs on 3D seismic	Oil production funding drilling operations in these Concessions
L52/50 (CVN 50%) L53/50 (CVN 50%)	2D seismic delineating leads for drilling		
L20/50 (CVN 55%)	2D seismic delineating leads for drilling		

## 1. Actively drilling in Thailand in 2012

- Producing volcanic reservoir wells and conventional sandstone development underpinning current share price.
- Success in volcanic reservoir drilling provides upside in the share price.
- WBEXT sandstone drilling will commence upon receipt of Thai Government environmental approvals.

## 2. Aggressively preparing to realise value in Phoenix in 2012

- The farmout of WA-435-P and WA-437-P is well progressed and expected to be complete in Q3, 2012, followed by drilling of high impact well(s).
- A farmout could also result in a secondary transaction for a minority interest and crystallise further value in these two permits.
- A substantial new 3D seismic acquisition is underway that is expected to result in follow on farmouts to fund drilling for further high impact wells.

## 3. Exploring existing portfolio and new ventures

- Portfolio recently rationalised and farmout programs are in progress
- Corporate activities and new ventures being actively assessed to add value for shareholders.



# Appendix 1. Directors & Management

# 1.1 - Directors and Management



**Peter J Leonhardt – Chairman** FCA, FAICD (Life)

Peter is an independent company director and adviser with extensive business, financial and corporate experience. He is a Chartered Accountant, former Senior Partner with PricewaterhouseCoopers and Managing Partner of Coopers & Lybrand in Western Australia. His professional career with the firm spanned 35 years in Australia and overseas and included six years as a member of the national governing body of Coopers & Lybrand.

Peter was Chairman of Voyager Energy Ltd prior to its merger with ARC Energy Ltd and is a director of CTI Logistics Ltd. He is also a director of the Western Australian Institute for Medical Research and the Cancer Research Trust.



**Adrian Cook - Managing Director, Chief Executive Officer** B Bus, CA, MAppFin

Adrian has 25 years experience in commercial and financial management, primarily in the petroleum industry. Immediately prior to joining Carnarvon, Adrian was the Managing Director of Buru Energy Limited, an ASX listed oil and gas exploration and production company with interests in the Canning Basin in Western Australia. Adrian has also held senior executive positions within Clough Limited's oil and gas construction business and was on the executive committee at ARC Energy Limited, an ASX listed mid cap oil and gas exploration and production company.



**Philip Huizenga - Chief Operating Officer** – BE (Engineering)

Philip joined Carnarvon in early 2007 as Principal Petroleum Engineer and was promoted to Chief Operating Officer. Philip has an extensive engineering background with nearly 20 years in the oil and gas industry encompassing many years of experience on rigs offshore and in remote locations and several years of reservoir engineering. Philip has worked internationally in Asia and the Americas in a number of engineering and management roles. Philip is a member of the Society of Petroleum Engineers and sits on the Industry Advisory Council to the Dept of Petroleum Engineering at Curtin University.

# 1.2 - Directors and Management



**Ted Jacobson** - Non-Executive Director - BSc (Hons Geology)

Ted is a petroleum geophysicist with 44 years experience in petroleum exploration principally in the European North Sea, South East Asia, South America and Australia. Prior to joining Carnarvon Petroleum Ted was co-founder of Discovery Petroleum and more recently since 1996, co-founder and technical director of Tap Oil Limited which grew to a market capitalisation of over \$400 million under his technical leadership.

Ted was appointed Chief Executive Officer on 19 December 2005 and became a non-executive director following his retirement as Managing Director and Chief Executive Officer on 30 June 2011.



**Neil Fearis** - Non-Executive Director - Bachelor of Laws (Hons)

Mr Fearis has 32 years' experience as a commercial lawyer in the UK and Australia.

During the past three years Mr Fearis has served as a director of the following listed companies: Kresta Holdings Limited (from 1997), Perseus Mining Limited (from 2004) and Magma Metals Limited.

Mr Fearis is also a member of several professional bodies associated with commerce and law.



**William (Bill) Foster** - Non-Executive Director - BE (Chemical)

Bill is an engineer with extensive technical, commercial and managerial experience in the energy industry over a 40 year period. He has been an advisor to a major Japanese trading company for the last 20 years in the development of their global E&P and LNG activities and has worked internationally in the development of a number of energy companies.

Bill was a former independent director of Tap Oil Ltd and of the E&P companies that were formed through his advisory services to the Japanese trading company.



## Appendix 2. Australian asset overview

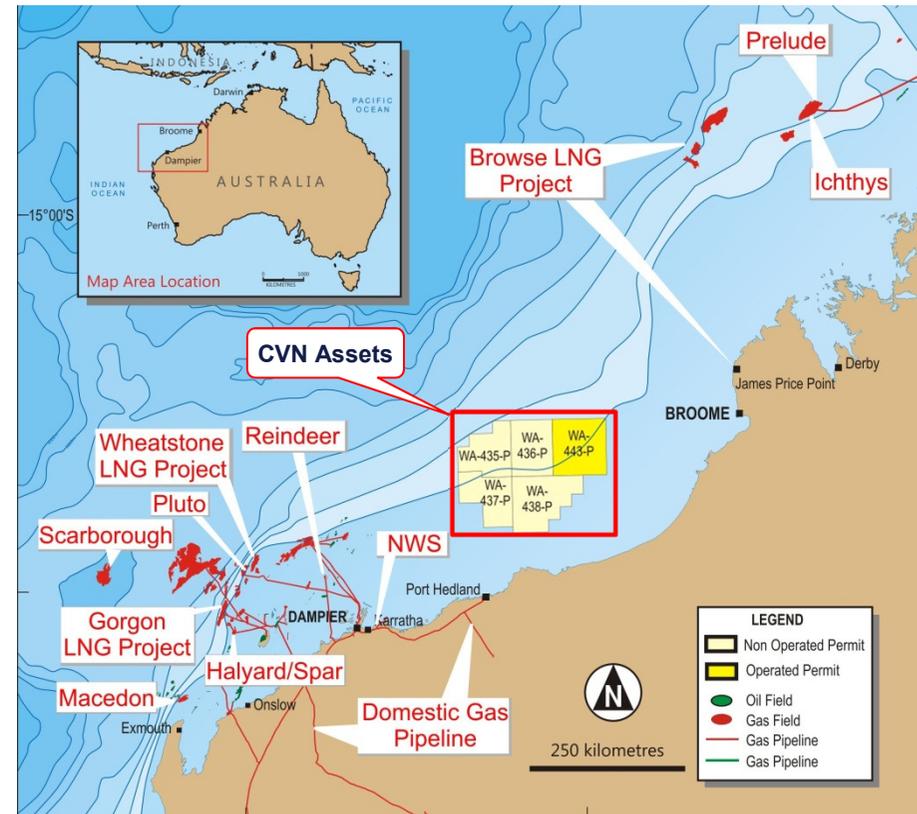


# **2.1 - Phoenix**

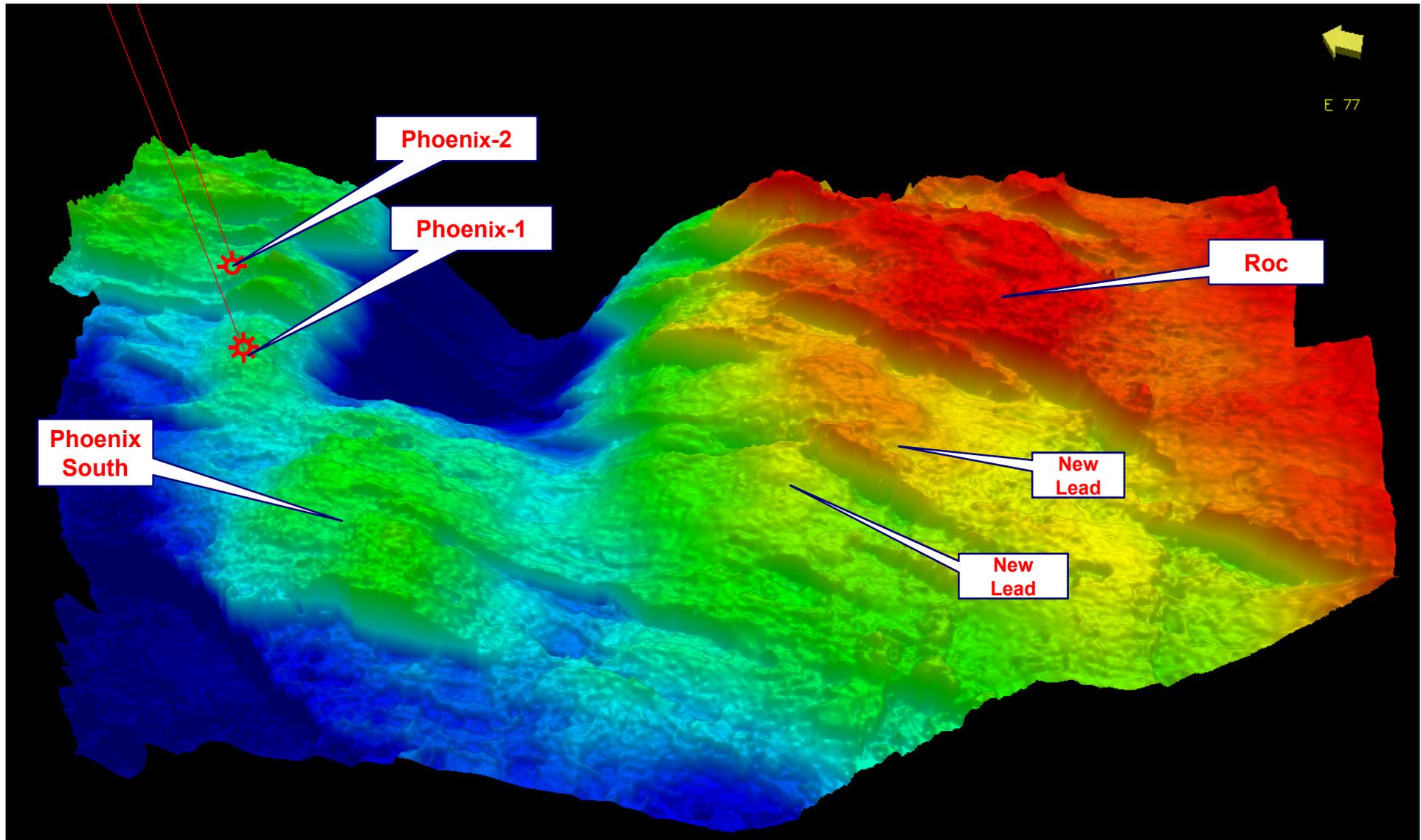
## **(WA-435-P & WA-437-P)**

## 2.2 - Phoenix South & Roc Prospects

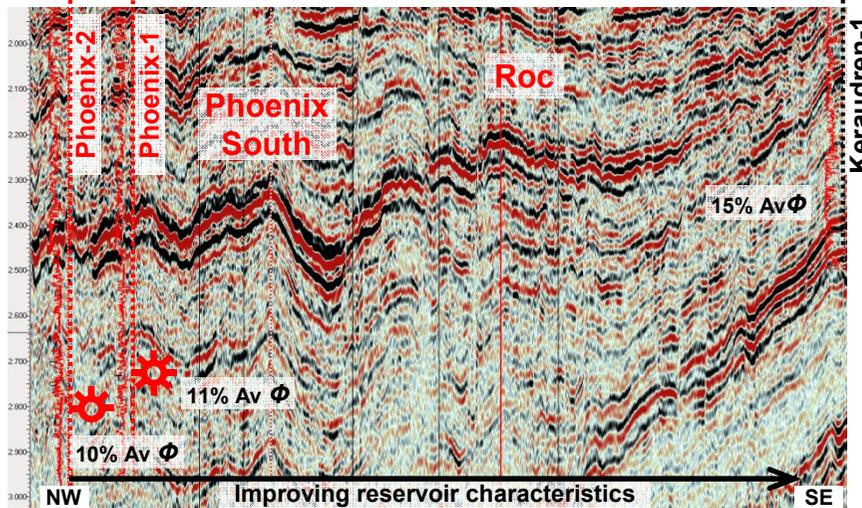
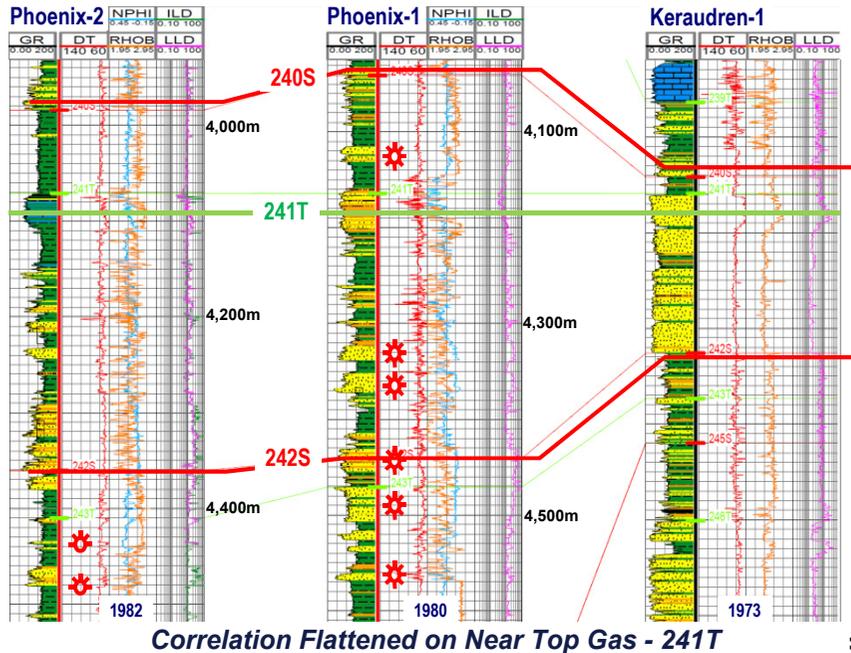
1. **Working petroleum system** proven by the Phoenix-1 discovery.
2. **3D and 2D seismic data** acquired in late 2010 and early 2011 provided greater detail around the Phoenix 1 and 2 wells and contributed to our understanding of the surrounding geology.
3. **Rigorous technical work** has produced two robust prospects at Phoenix South and Roc, and additional leads with follow up potential.



## 2.3 - 3D visualisation of the Phoenix 3D seismic survey near top gas depth surface (241T)



# 2.4 - Proven gas in place in Phoenix 1 & 2 wells



2010 Phoenix 3D/2D seismic data – courtesy of Fugro

## Phoenix-1 well, drilled by BP in 1980

1. Intersected a gross 767m gas column in Mid-Late Triassic sandstones (4113-4880m) with gas influx as TD.
2. Phoenix-2 encountered poorer reservoir quality out of closure to the north of Phoenix-1, while Keraudren-1 intersected excellent porosity to south east.

## Extracts from BP's Phoenix-1 well reports

“Thicker sandstones below 4,113m yielded **significant gas shows**”, “**All sandstones below 4,113m are gas bearing**” and “**Net gas-bearing pay is estimated to be 110.5 m**”;

“Drilling was suspended (at total depth 4,880m) without testing when it was deemed unsafe to continue operations with available pressure control equipment” – due to gas influx.

“*Geological Completion Report*” (July 1980),  
 “*Drilling Completion Report*” (July 1980) “*Evaluation Report*” (November 1980)

## 2.5 - Phoenix South & Roc prospects

### 1. Drillable prospects in Phoenix South and Roc

- Supported by 3D seismic data and Phoenix-1 gas discovery. The key objective is to find the proven gas in better quality reservoir.

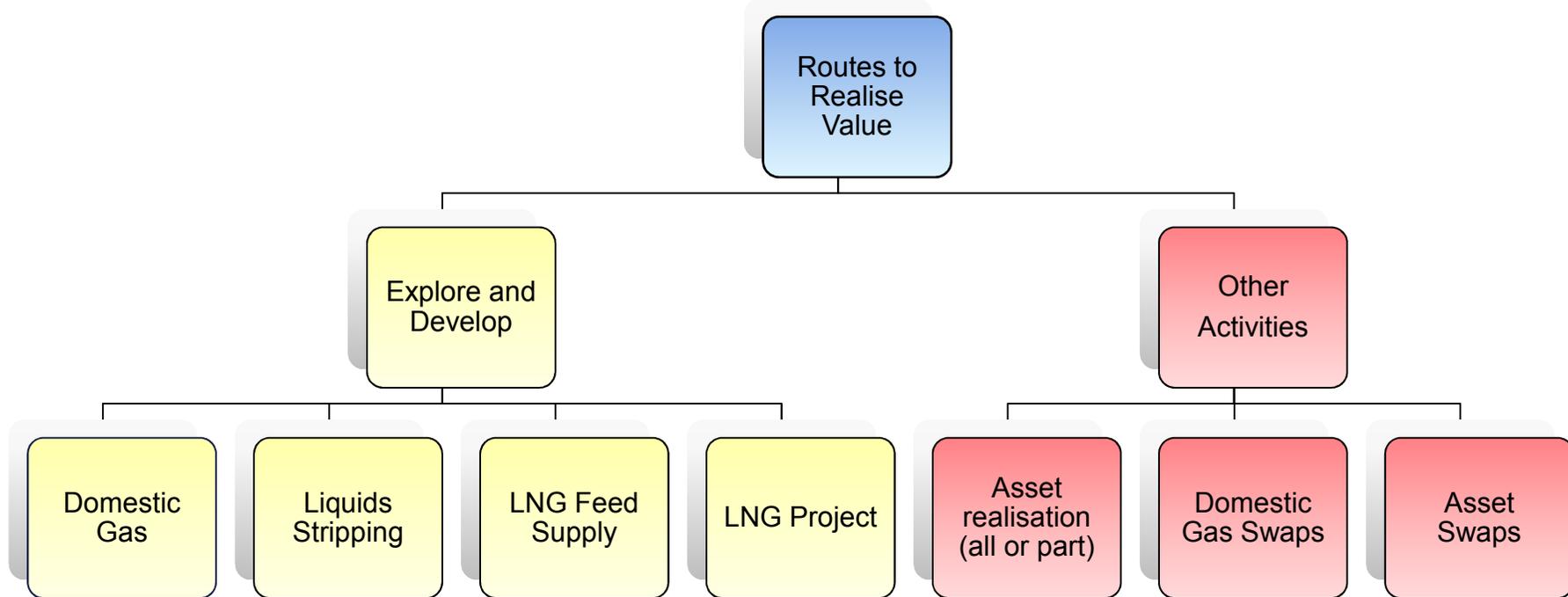
### 2. Material volumes independently assessed

- **1 to 2 Tcf mean** recoverable potential in each prospect, as assessed by the Joint Venture and confirmed by independent consultant ISIS.
- **2 to 4 Tcf upside** recoverable potential in each prospect, as assessed by the Joint Venture and confirmed by independent consultant ISIS.

### 3. Significant value potential

- **Farmout** underway, expect agreement Q3, 2012.
- **Domgas & LNG** market alternatives exist depending on success volume.
- **Unlocking the hydrocarbon system** could realise substantial additional volume and value in the surrounding acreage.

## 2.6 - Routes to realise value



- Significant volume potential
- Nearby infrastructure
- Shallow water depths
- Multiple development options

- Interest in farmout includes major international companies
- Recent NWS gas asset transaction history is significant
- Potential for early transaction

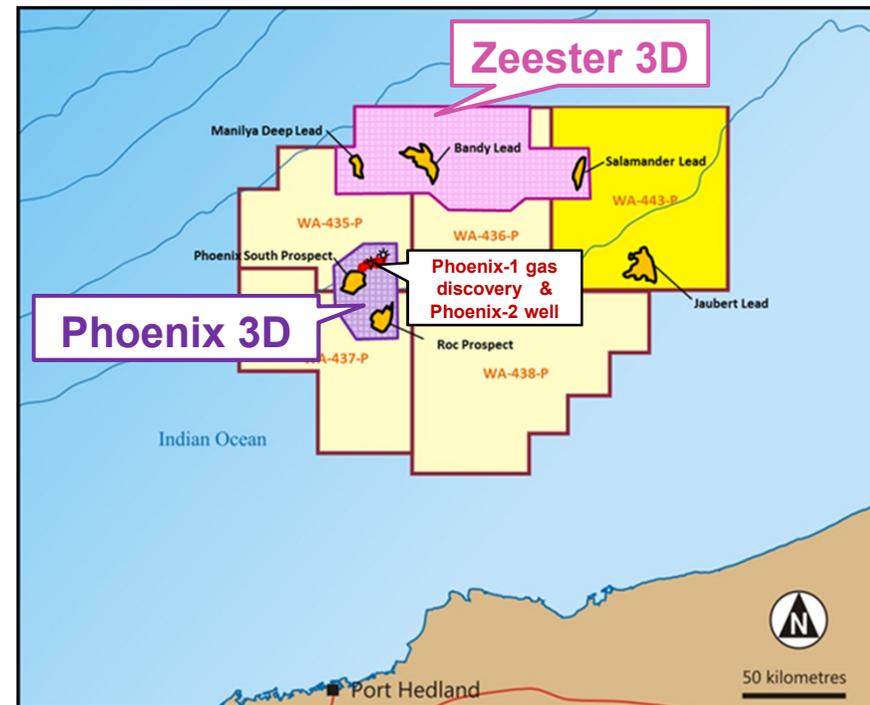


## **2.7 - Greater Phoenix**

**(WA-436-P, WA-438-P & WA-443-P)**

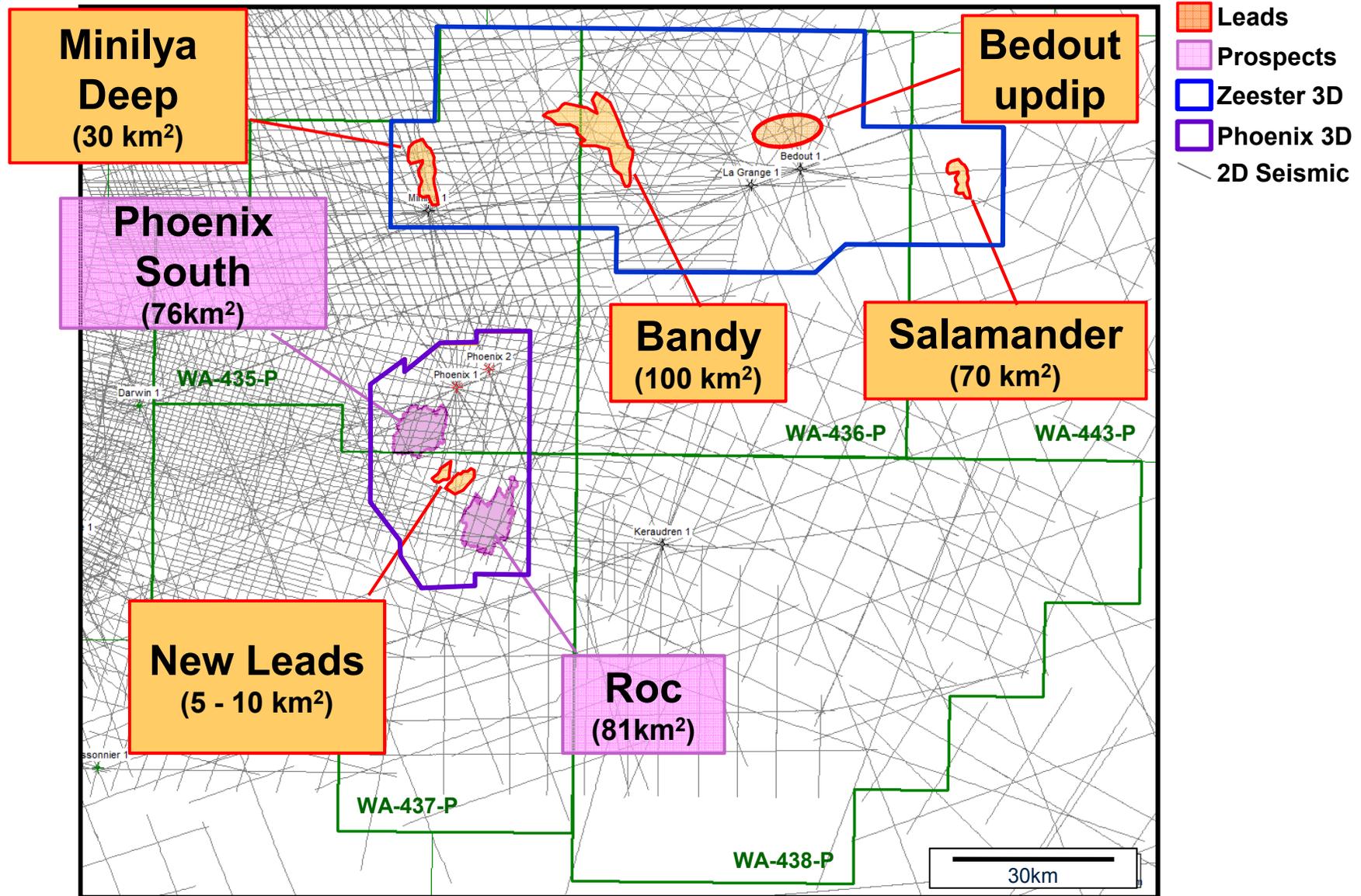
## 2.8 - New Zeester 3D seismic survey

- 1. Strategic timing of survey,** Zeester 3D data expected to be available late Q4, 2012. The multi client survey is currently being conducted by Fugro. It is 76% complete and is expected to be finished in June 2012.
- 2. Substantial ~4,289 km<sup>2</sup>** program will complement the 1,100km<sup>2</sup> Phoenix 3D survey acquired by Fugro in 2010/2011.
- 3. Several material leads** identified from the vintage 2D seismic data will be covered in the Zeester 3D seismic.

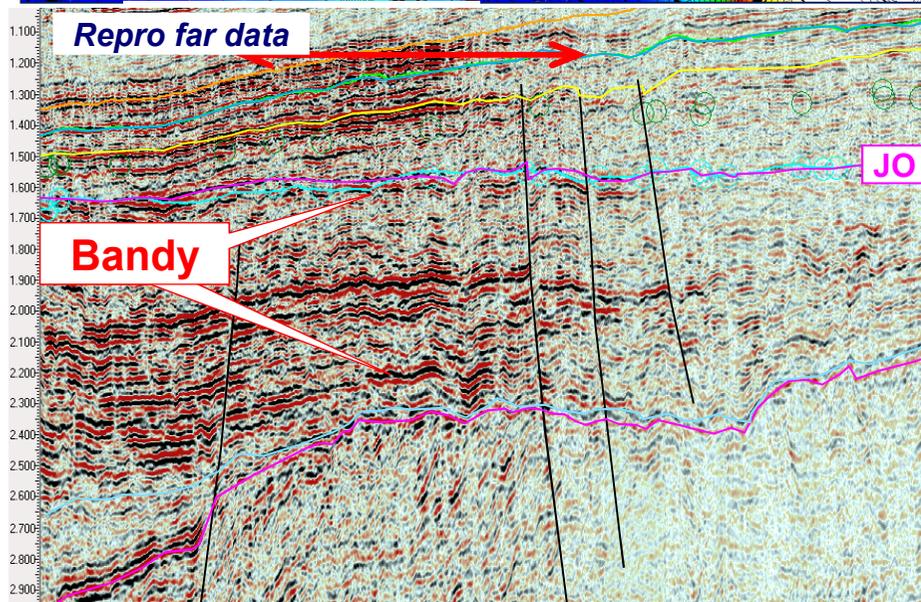
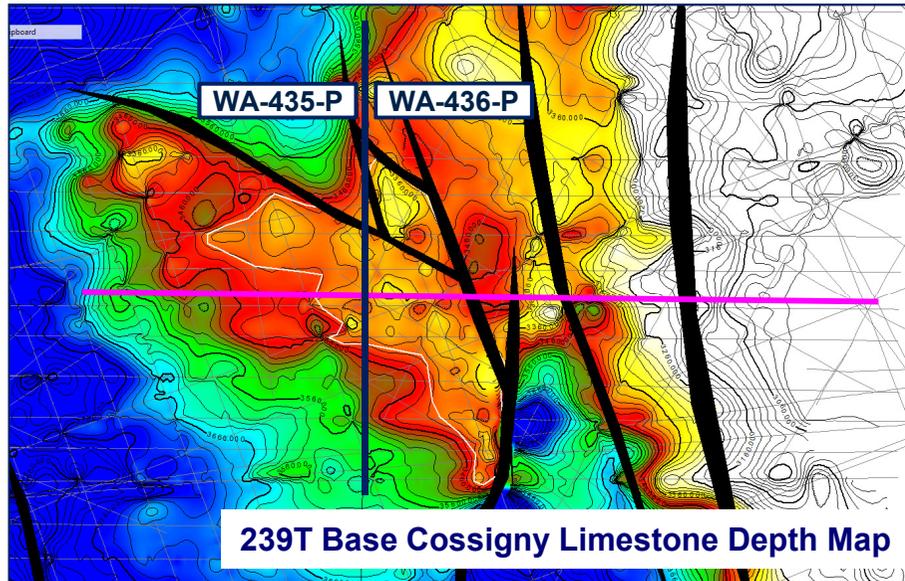


*Phoenix acreage showing Phoenix and Zeester 3D survey outlines*

# 2.9 - Upside Potential – Leads covered by 3D



## 2.10 - Bandy lead



1. **Woodside** identified the Bandy lead as a potential multi Tcf resource. Reprocessing of the 2D data in 2011 improved the quality and provided greater confidence in this lead.
2. **Zeester 3D seismic** is expected to be complete in June 2012 and will cover this lead.
3. **Volumetrically significant** structure covering a substantial  $\sim 100\text{km}^2$ .

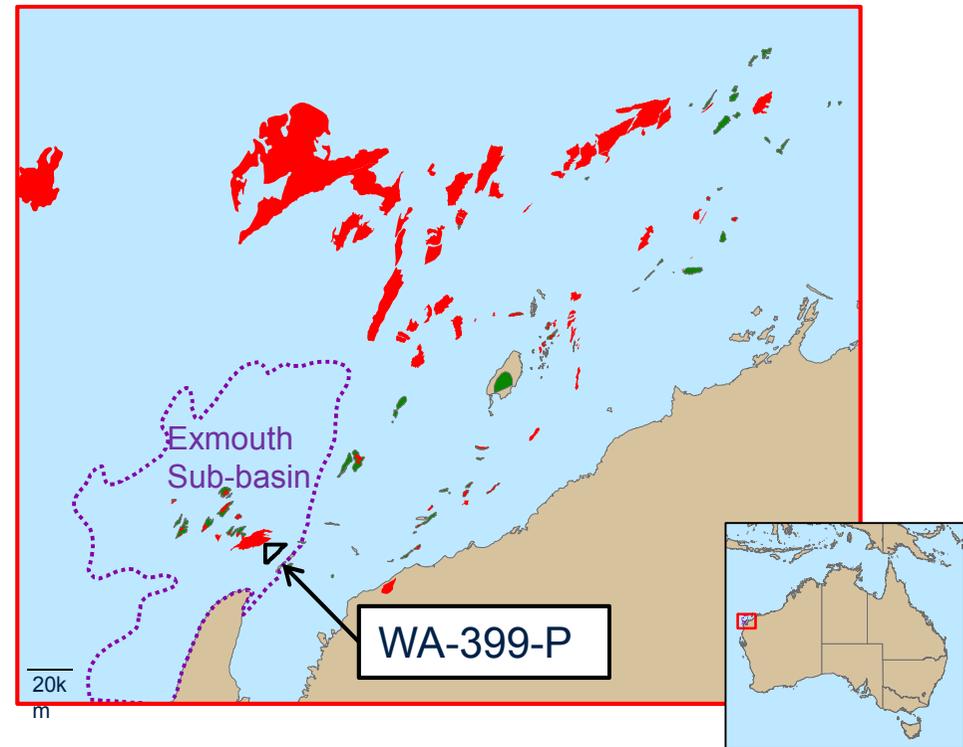


## **2.11 - Gazelle**

### **(WA-399-P)**

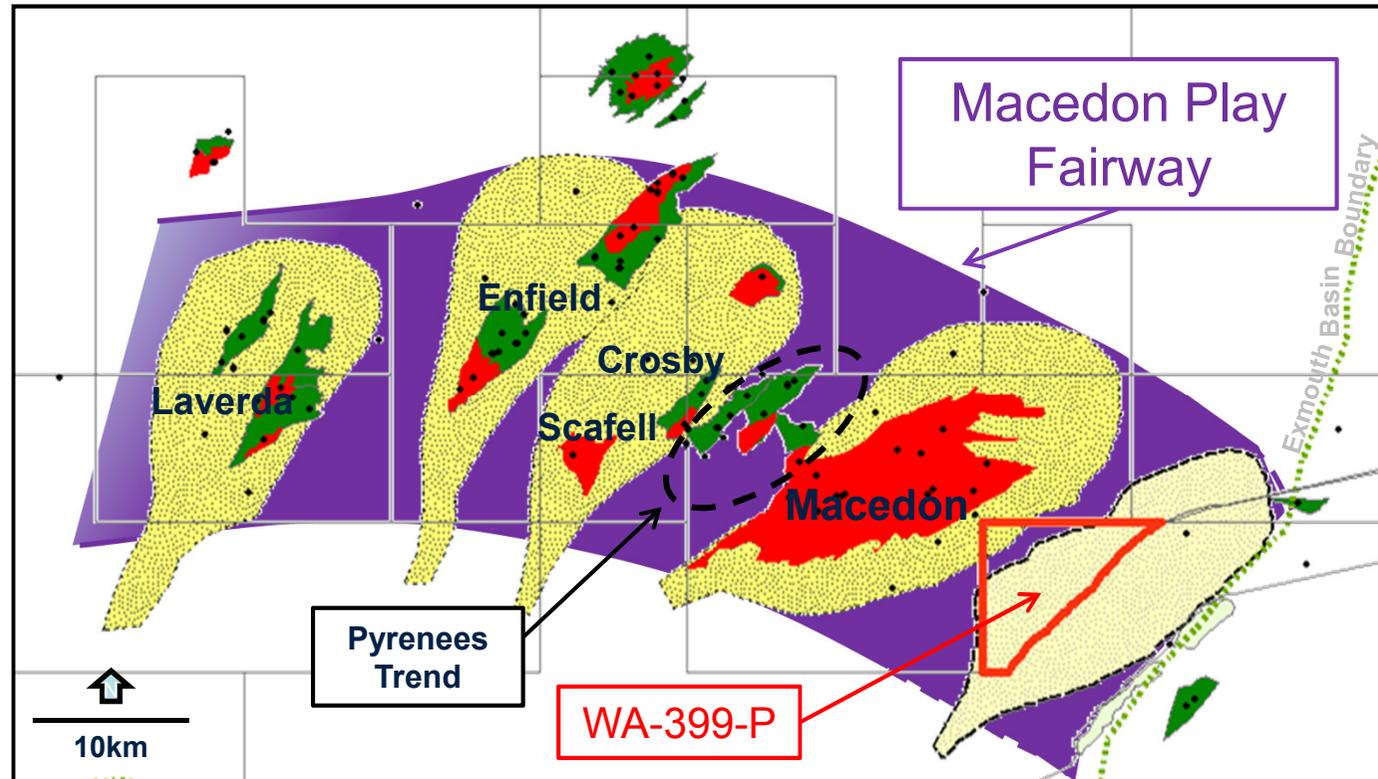
## 2.12 - WA-399-P

- 1. Exploration success** in the Exmouth Sub-basin has resulted in numerous material oil and gas fields.
- 2. Apache's** new Gazelle 3D seismic survey covers the entire permit. Final processing is now ~91% complete.
- 3. Technical interpretation** and analysis of the new 3D seismic will determine if joint venture will enter into a drilling commitment year prior to September 2012.



*WA-399-P permit is in the Exmouth sub-basin of the Carnarvon Basin, offshore Western Australia*

## 2.13 - Macedon fan play fairway



1. **Macedon play fairway** is well established in the area and seismic mapping suggests extension of the play into WA-399-P.
2. **High quality 3D seismic** has been acquired to define structural/stratigraphic traps in the Macedon unit, effective in nearby fields.



## Appendix 3. Thailand asset overview

# 3.1 - Positives of Thailand

1. **Proven, producing petroleum basins** present onshore and in shallow water offshore.
2. **Low cost** operating and drilling environment, coupled with stable fiscal terms result in high margin operations.
3. **Operating environment** is world class with regulatory system comparable to Australia.



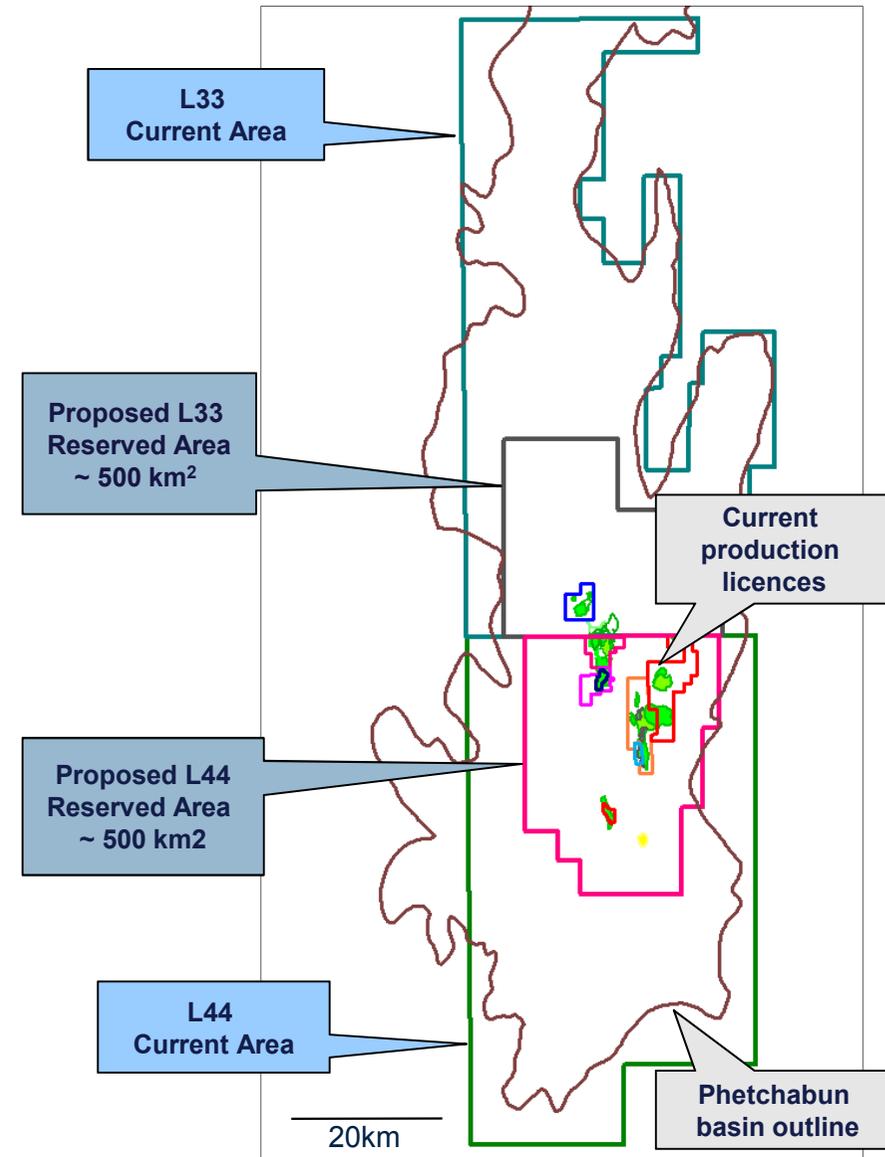


## **3.2 Oil Fields**

### **(L44/43 & L33/43)**

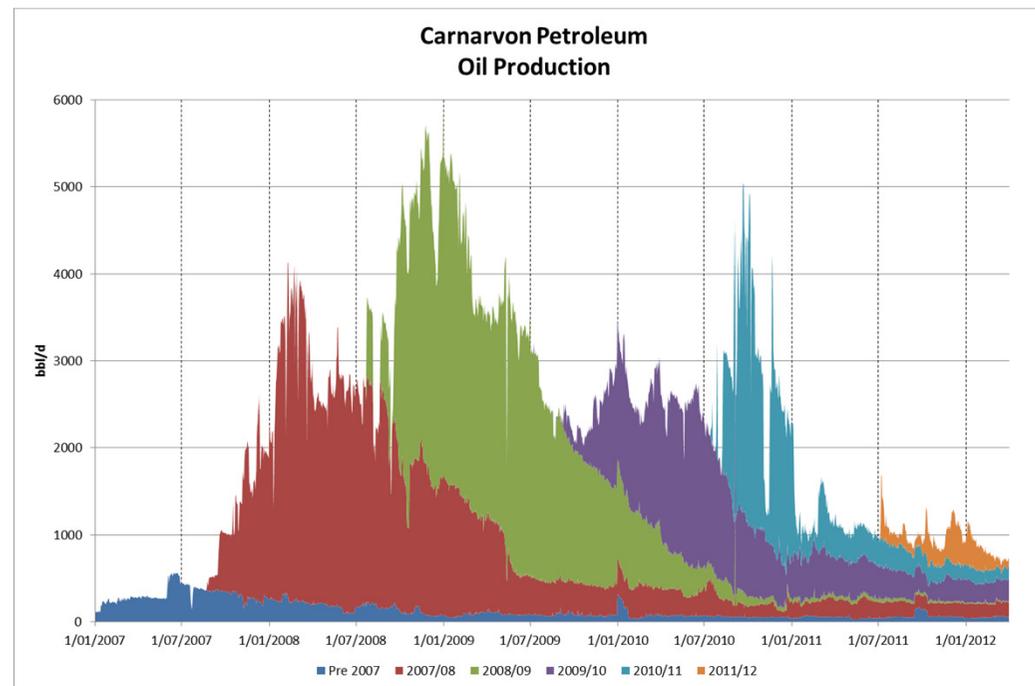
## 3.3 - Background

- 1. Active exploration and development since 2005** included:
  - **580 km<sup>2</sup> of 3D seismic**
  - **11 wells** in L33/43
  - **164 wells** in L44/43.
- 2. Nine new oil fields discovered** which have produced 11 mmbbls to date (gross).
- 3. Proposal to reserve** new exploration areas totaling around 1,000 km<sup>2</sup> in the central basin area is in progress as part of the exploration permit relinquishment cycle.



## 3.4 - Historical production

1. **Significant resources** have been invested to understand these complex volcanic fields.
2. **High Initial flow-rates** realised significant cash flows. Subsequent appraisal and development has proven more challenging.
3. **Forward drilling** activities will be focused on the WBEXT sandstone play as well production from volcanic reserves.



## 3.5 - Dec 2011 GCA Reserves

1. **1P reserves valued at \$84m** (by GCA on an NPV<sub>10</sub> basis) requiring ~25 wells in 2012.\*
2. **2P reserves valued at \$222m** (by GCA on an NPV<sub>10</sub> basis).\*
3. **WBEXT sandstone development** to be a focus in 2012 because sandstone reservoirs provide more predictable flow rates and steadier decline rates compared to volcanic reservoirs.

Net CVN GCA Reserves			
	1P	2P	3P
<b>Volcanic</b>			
L33	0.1	0.4	1.4
NSE	1.1	3.4	6.4
Bo Rang	1.7	3.9	5.7
WBExt	0.1	0.9	1.7
Na Sanun	0.0	0.1	0.3
Total	3.1	8.7	15.5
<b>Sandstone</b>			
Wichian Buri	0.1	1.1	1.6
WBExt	0.4	1.7	4.9
POE 6	0.1	0.2	0.3
Si Thep	0.0	0.5	0.6
NSE	0.0	0.0	0.1
Total	0.6	3.5	7.4
Total	3.8	12.1	22.7

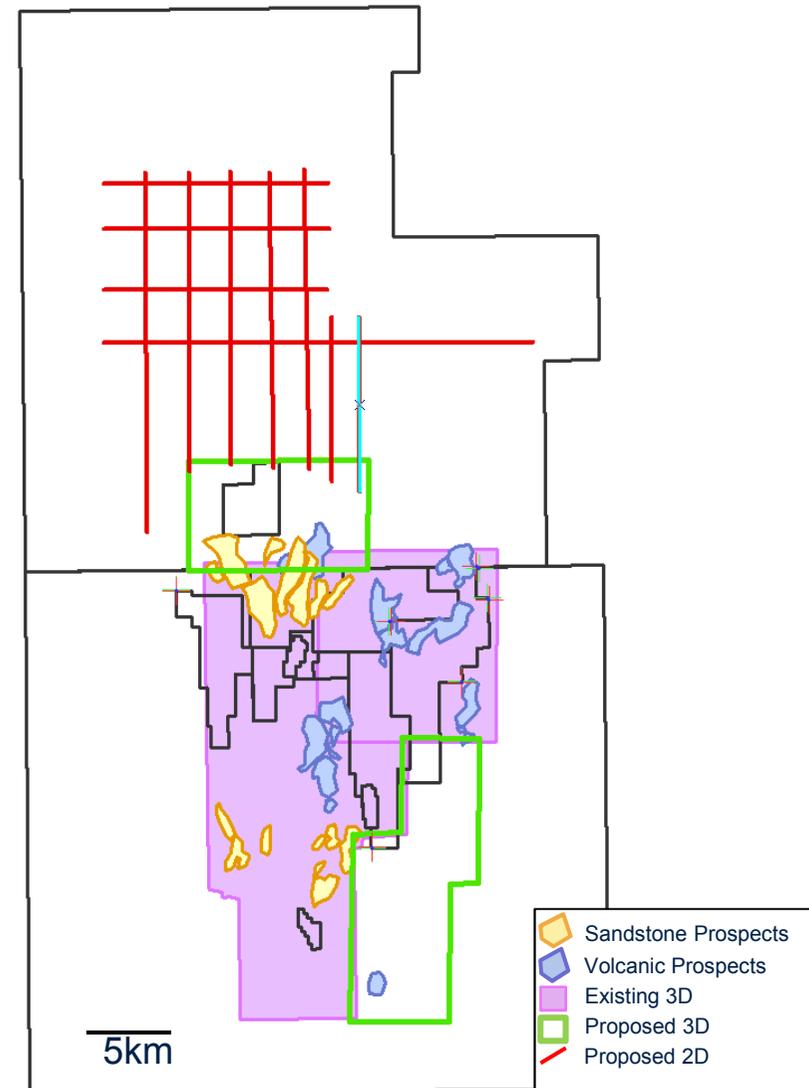
*Note: totals may not add due to rounding*

\* Key assumptions supporting GCA's valuation were disclosed by the Company in its announcement on 22 March 2012.

## 3.6 - Proposed exploration program

The proposed 5 year exploration program incorporates:

- 1. 100-200 km<sup>2</sup> 3D seismic data** acquisition across L33/43 and L44/43
  - To enhance prospectivity of currently mapped leads
- 2. 200km 2D seismic data** acquisition in the northern area in L33/43
  - Virtually unexplored area with sparse data.
- 3. Minimum 8 commitment wells** outside the production licenses
  - Historically the JV has drilled more than the minimum Concession commitments.



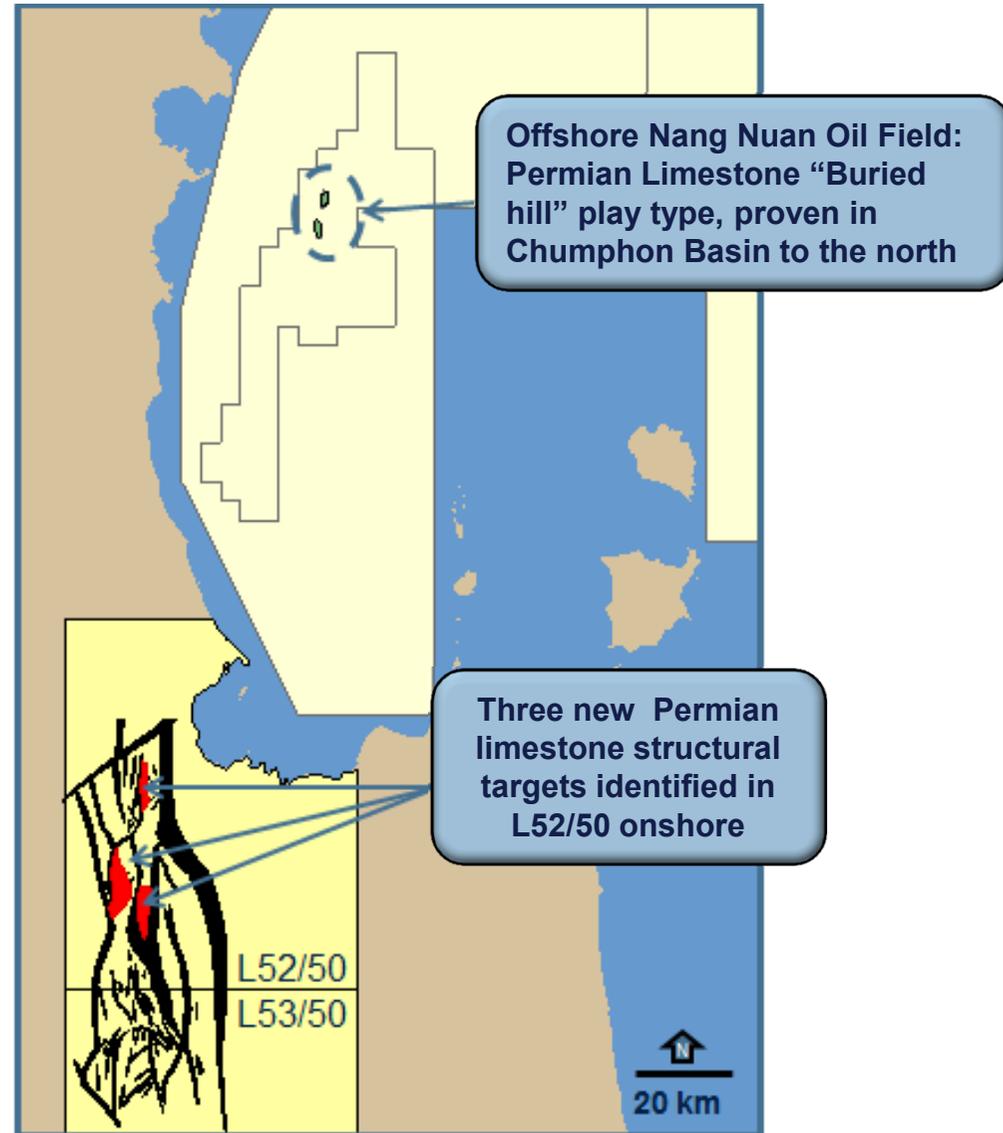


## **3.7 - Surat-Khiensa basin**

**(L52/50 & L53/50)**

## 3.8 - Exploring carbonate plays

1. **Large structures** have been interpreted in the new 2D seismic data
2. **Carbonate plays** akin to offshore basins hold potential for material volumes of oil with some gas potential
3. **Drilling 2 wells** planned for 2013



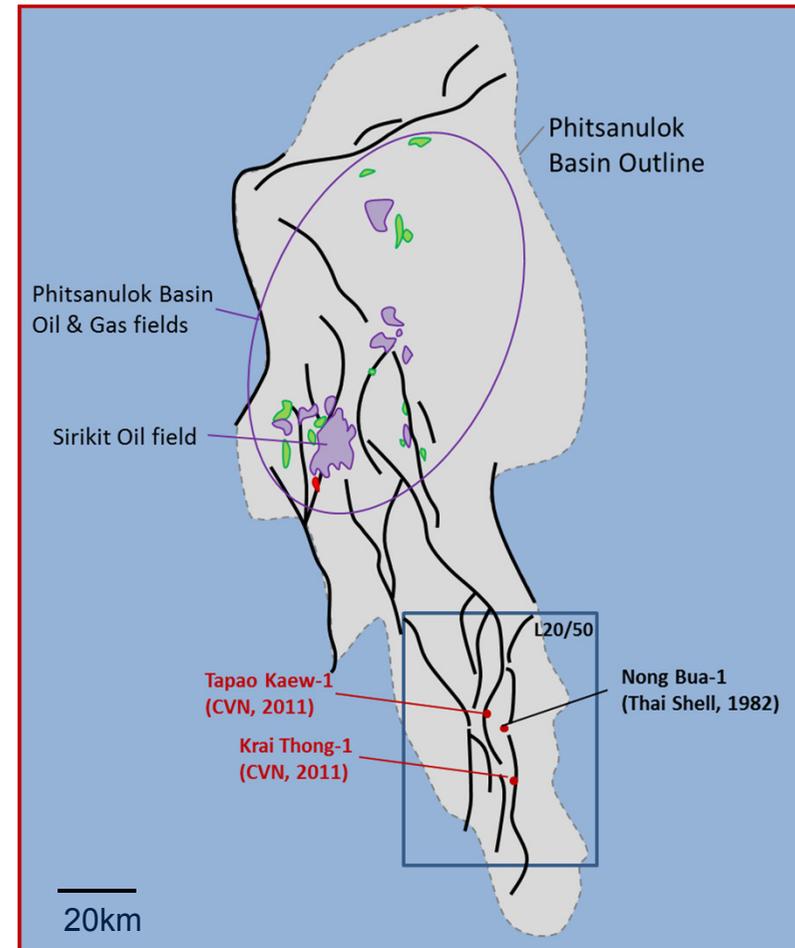


## **3.9 - Phitsanulok basin**

### **(L20/50)**

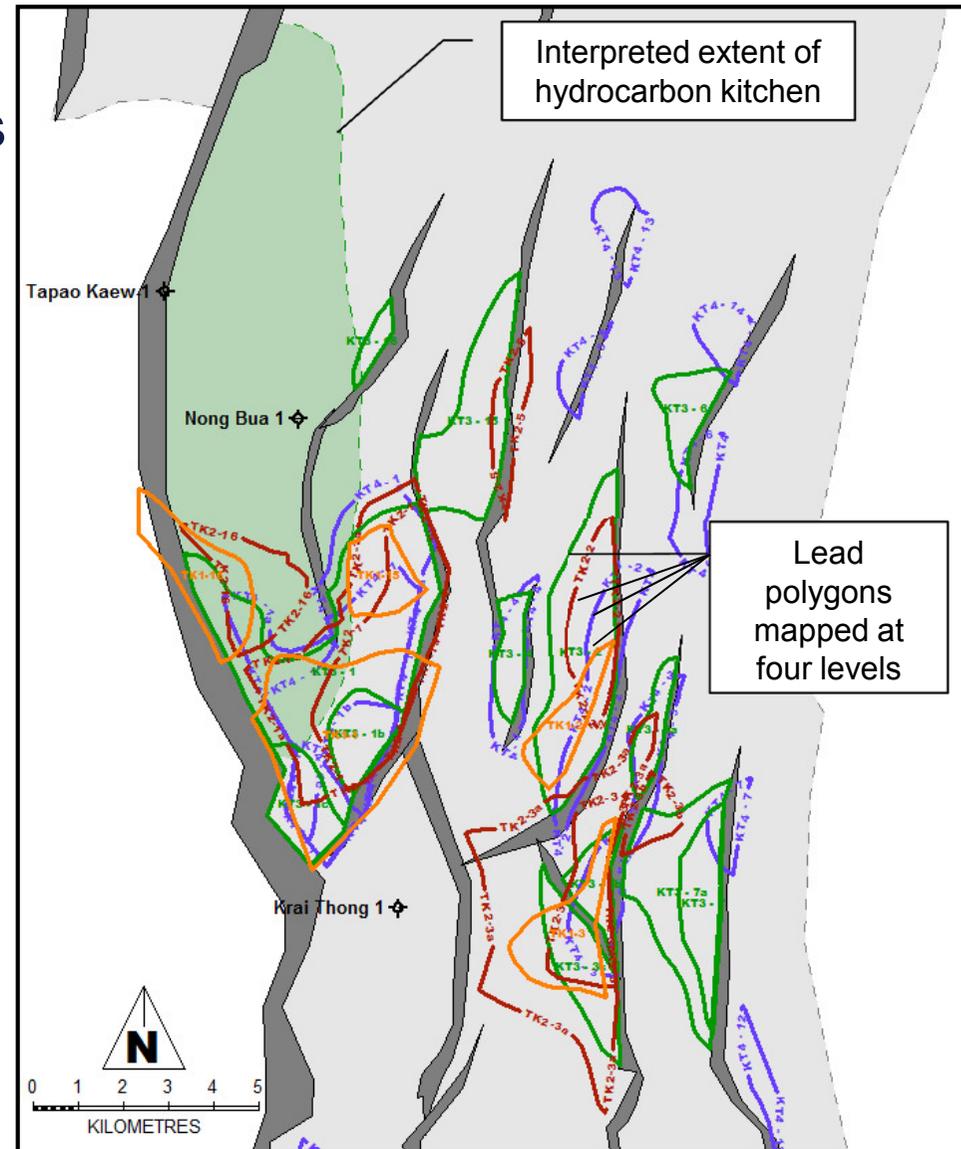
## 3.10 - Exploring for on trend oil

- 1. 200 mmbbl Sirikit Oil Field**, which has produced over 150 mmbbls and still producing ~25,000bopd, is analogous to L20/50.
- 2. Shell drilled Nong Bua-1 well** in 1982 with oil shows and potential oil column in sandstone.
- 3. Carnarvon as Operator** acquired 550 km of 2D seismic data in 2009 and drilled two wells (Krai Thong and Tapao Kaew) in 2011. Carnarvon has the knowledge and capacity to facilitate rapid development and commercialisation.

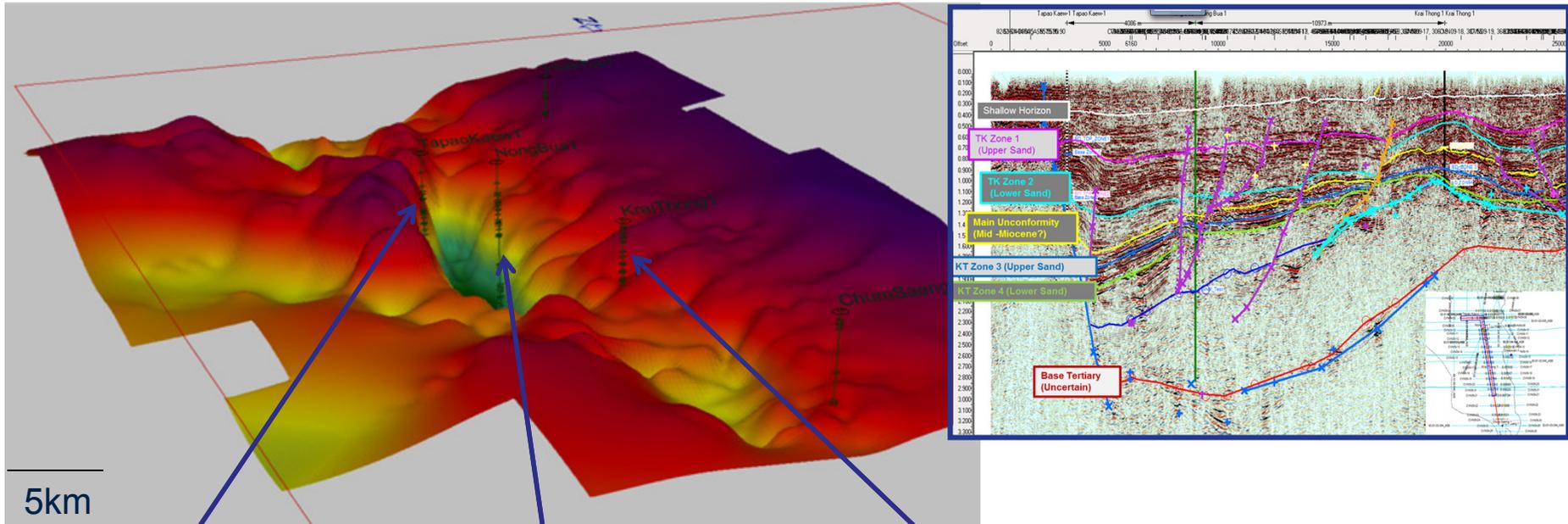


# 3.11 - Current status

- 1. Post well technical work** completed with matured leads supporting material volumes of oil.
  - ~40 structural features
  - Individual leads up to 70 mmbbls OOIP.
- 2. Stacked reservoir potential** in leads identified on up to 4 mapped horizon levels.
- 3. Plans** to mature 1-2 leads for drilling following further technical work and/or seismic acquisition.



# 3.12 - Reservoir



~13m net sand penetrated in Krai Thong-1, with porosities ranging from 11-27%

Petrophysics on Nong Bua (Crocker, 2009) identified several potential reservoir sands at various levels from 2-5m thick, and with porosities ranging from 16-20%.

>100m net sand identified from Tapao Kaew petrophysics with porosities ranging from 14-27%

Reservoir quality sands were penetrated in all wells drilled into the Nong-Bua Graben.



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