

# Q4



Quarterly Report  
30 June 2013  
Carnarvon Petroleum Limited



# Highlights

Production  
Cash Flow  
Growth assets



## \$21 million cash

Cash reserves steady compared with the previous quarter's \$21 million.

## Thailand drilling

The Elite-01 drilling rig commenced drilling the WBEXT-2C appraisal well on 16 July 2013.

## 44,035 bbls produced

Generating net sales revenue of \$4.1 million and positive operating cash flow of \$2.1 million before tax.

## Multi Tcf prospect

Apache completing approvals for drilling Phoenix South well with the Atwood Eagle Rig in WA-435-P NWS.

## New 3D seismic

Processing of new 3D seismic data in Thailand L33/43 concession, targeting new oil pools, is nearly complete.

## Phoenix Oil

New technical work has revealed an additional potential oil play, and stratigraphic gas play that each have the potential to be tested by the Phoenix South well



## Sandstone development

The operator advised that it anticipates commencing water injection in Q3 2013, with anticipated production increase to follow.

## Thailand oil sales contract renewed

PTT renewed the oil sales contract for L44/43 and L33/43 production.

## The Managing Director's comments

As outlined in my last report, Carnarvon is advancing a number of projects in relation to the Phoenix permits in Western Australia together with exploration in Thailand and production in Thailand.

Extensive new technical work on the Phoenix blocks has revealed a potential new oil play and stratigraphic gas play, both in addition to the lower Triassic prospects identified with the Phoenix 3D seismic data. Currently the operator is undertaking a technical review to determine if these plays can be tested with the planned Phoenix South well. These plays extend from the WA-435-P block into the contiguous exploration blocks in which Carnarvon has an interest and success could open up new fairways for exploration within WA-435-P and these adjoining blocks. As outlined on 24 June 2013 the expected spud date for the Phoenix South well is between November 2013 and January 2014 using the contracted Atwood Eagle semisubmersible drilling rig.

In Thailand, drilling has re-commenced in the L44/43 concession. The first well in this short program is the WBEXT-2C well that contains multiple targets in the sandstone and shallow and deep WBEXT igneous reservoirs. The well spud on 16 July 2013 and the results from this well should be known in August. At this time the operator and Carnarvon are taking a prudent approach to the development of the field, in parallel with technical work being undertaken, and the number of wells in this program will be dependent on the results of the WBEXT-2C well.

Carnarvon has also been working with the operator on the processing and interpretation of the 2013 acquired 3D seismic data set that incorporates the L33/43 Production Area. Current plans are to commence drilling on this data late in the fourth quarter of this calendar year.

In the L52/50 and L53/50 exploration concessions in Thailand, the Company continued its technical work and farm out activities as it seeks a partner to drill the onshore Ta Chana oil prospect.

Carnarvon's attributable production during the quarter, in the L44/43 and L33/43 concessions (Wichian Buri) in Thailand, was 44,035 bbls generating positive net operating cash flows of \$2.1 million before tax. This level was lower than the previous quarter due to wells being shut in for work over and natural field declines. Looking forward, production increases are expected from the current drilling program, the water flood program that is ready but awaiting government clearances and the fourth quarter drilling program.

The Company has also maintained its focus on managing cash flows and its cash reserves, and at the end of the quarter cash reserves were around \$21 million with no debt and minimum commitments in the business.

## WA-435-P and WA-437-P permits – Western Australia (NW Shelf)

**(Carnarvon 20%, Finder Exploration 20%, JX Nippon 20%, Apache 40% and Operator)**

Apache, as the operator of the WA-435-P permit in Western Australia, has advised Carnarvon that the Phoenix South well is expected to spud between November 2013 and January 2014, using the Apache-contracted Atwood Eagle semisubmersible drilling rig.

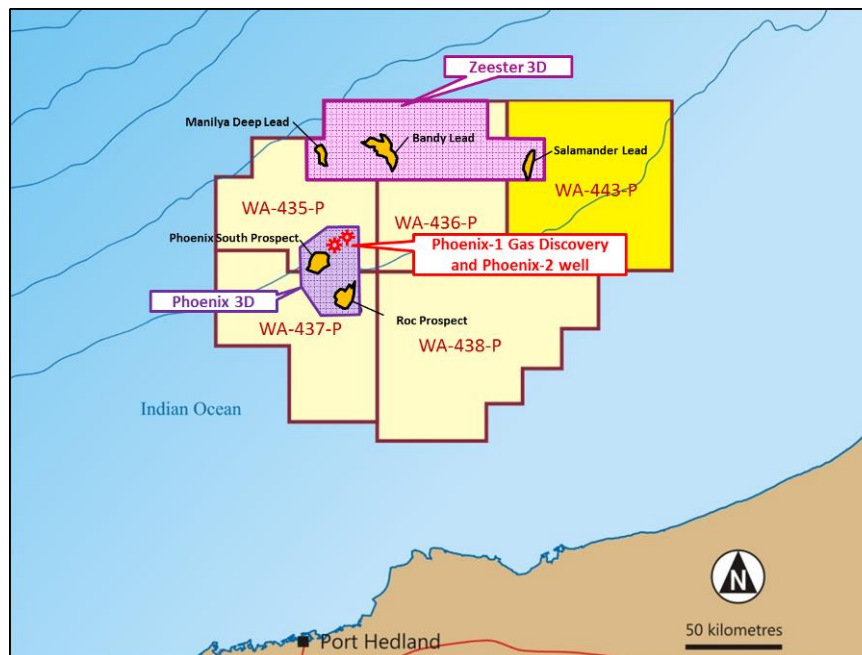
Carnarvon executed agreements with both Apache and JX Nippon in October 2012 that covers the cost, to an agreed cap of \$50 million per well, for drilling of the Phoenix South prospect (firm) in WA-435-P and the Roc prospect (contingent) in WA-437-P.

The Phoenix South and Roc wells both have primary gas targets in lower Triassic reservoirs.

The Phoenix South prospect is assessed by Carnarvon as a multi-TCF prospect that will be drilled on modern 3D seismic data and in proximity to proven gas in lower Triassic reservoirs in the Phoenix-1 well.

Carnarvon recently completed additional technical work within the WA-435-P permit, uncovering a potential new oil prospect and a new stratigraphic gas prospect. Both prospects have the potential to be tested by the Phoenix South well, which is undergoing a technical review by the operator.

If successful, the Phoenix South well has the potential to open up the prospectivity in the region for oil and gas. Importantly Carnarvon holds a significant interest in approximately 28,000 km<sup>2</sup> of contiguous acreage providing a great deal of scope for further exploration.



## **WA-436-P and WA-438-P permits – Western Australia (NW Shelf)**

(Carnarvon 50%, Finder Exploration 50% and Operator)

The WA-436-P and WA-438-P permits are adjacent to the Phoenix blocks (i.e. WA-435-P and WA-437-P) that were farmed out to Apache and JX Nippon in October 2012.

The joint venture will continue with its technical work on these permits, including consideration of the Zeester 3D data once it is available.

Carnarvon's technical work has to date identified an additional play type in these blocks, a stratigraphic play along the margins of the basin, which has the potential to contain significant volumes of gas (or oil). This type of play has been very successful in the North Sea. Further work will be carried out, including the interpretation of the Zeester survey once available, to assess and develop this play type.

## **WA-443-P permit – Western Australia (NW Shelf)**

**(Carnarvon 100% and Operator)**

The multi-client Zeester 3D seismic survey being undertaken across the WA-435-P and WA-437-P permits also extends into a portion of WA-443-P permit. The seismic acquisition covered the Salamander lead, identified in a regional technical review, in the north-western section of this block.

The stratigraphic play concept identified in the adjacent block also has the potential to extend into WA-443-P, and geological and geophysical studies are currently being carried out on this block in conjunction with similar work in the adjacent permits.

## **WA-399-P permit – Western Australia (NW Shelf)**

**(Carnarvon 13%, Apache Energy Limited 60% and Operator, Jacka Resources 15% and Rialto Energy 12%)**

The operator previously presented its technical work undertaken to date, including the interpretation and analysis of the “Gazelle” 3D seismic data. The work supports several prospects and leads in the permit that require further review. The joint venture approved making an application to the Government to defer the drilling commitment by 12 months to allow further technical and commercial work to be undertaken. This will include an assessment of the potential to co-ordinate activities and resources with other permits in the region operated by Apache.

## **L20/50 Concession – Thailand**

**(Siam Moeco Limited 100% - subject to Government approval of recent 100% interest transfer)**

Carnarvon and joint venture partner, Sun Resources, previously assigned 100% of the L20/50 concession to Siam Moeco Limited.

The assignment to Siam Moeco Limited means Carnarvon has no financial exposure to exploration or development costs in this block. However, should commercial production eventuate, Siam Moeco Limited will pay Carnarvon US\$4.7 million and a 2.0% overriding royalty capped at US\$5.5 million.

Siam Moeco have now completed 3D seismic data and are planning for exploration drilling in the concession in 2014.

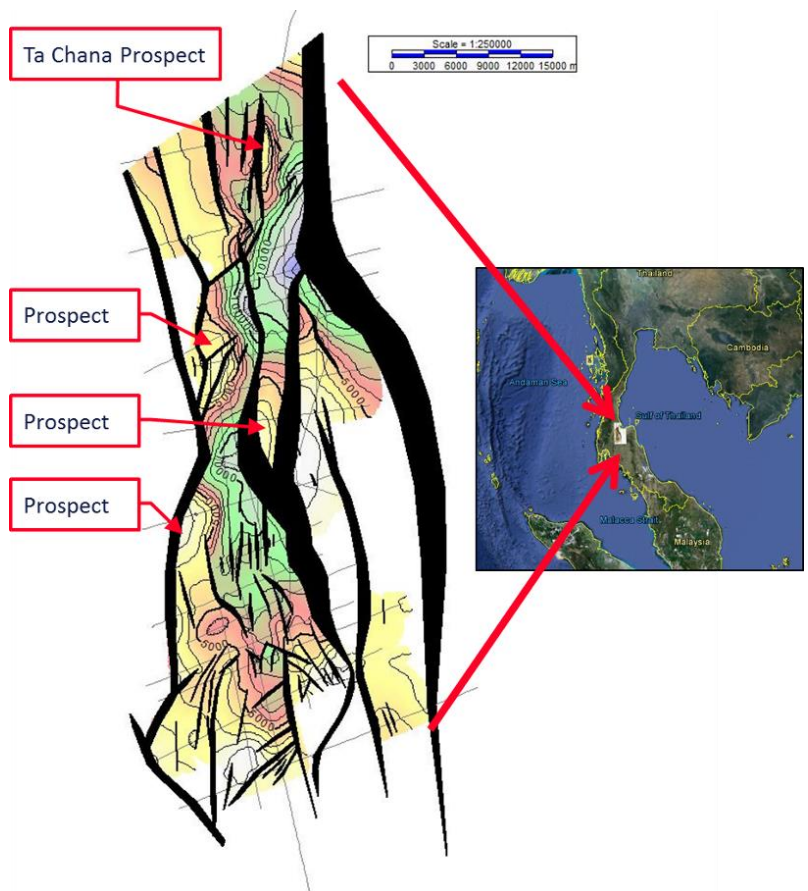
**L52/50 & L53/50 Concessions - Thailand**

**(Carnarvon 100% and Operator - subject to Government approval of recent 50% interest transfer)**

The L52/50 and L53/50 concessions cover the Khian Sa Basin in Southern Thailand and are adjacent to a number offshore oil-producing basins in the Gulf of Thailand, including the Chumphon Basin.

Since being awarded the L52/50 and L53/50 concessions in 2010, the Company has acquired 314 km of 2D seismic data. The interpretation of this data has identified a number of prospects including the Ta Chana prospect which has an internally assessed mean potential of 80 million barrels of recoverable oil.

Carnarvon continued its technical work on the block and the seeking of a partner to join the Company in drilling the Ta Chana prospect.



*Location and Prospectivity of the L52/50 and L53/50 Blocks; showing the Ta Chana Prospect. (Locality map courtesy of Google Earth)*

**L33/43 concession - Thailand**

**(Carnarvon 40% and Towngas 60% and Operator)**

Only six wells have previously been drilled in the 450 km<sup>2</sup> L33/43 block on sparse 2D seismic data.

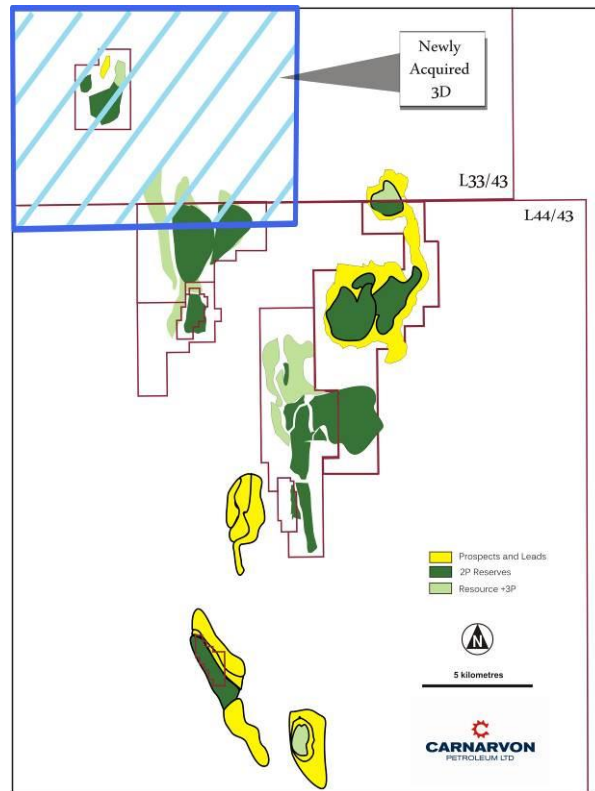
In 2007-2008, two wildcat exploration wells were drilled significantly north of the producing Wichian Buri fields and were unsuccessful.

In 2010, based on older 2D seismic data, two successful exploration wells were drilled, L33-1 and L33-2, resulting in commercial production at initial rates over one thousand barrels of oil per day, and leading to the delineation of a production area ("L33 PA"). There was limited success with further sidetrack and appraisal drilling, based on the available sparse 2D seismic, and currently only two wells are producing in the area.

Earlier in 2013 a 100 km<sup>2</sup> 3D seismic acquisition was completed over the south-western portion of the L33/43 concession.

While the processing of this seismic is still ongoing, initial analysis suggests that the successful wells in the L33 PA are producing from two shallow igneous horizons. The new seismic indicates that further potential exists from intervals that are related to the main WBEXT WBV1 and WBV2 igneous reservoirs, where significant volumes of oil have been produced from around 5km to the south. These horizons will be targeted in the drilling campaign that is expected to commence in the fourth quarter of this calendar year.

The recently acquired 3D data is in the final stages of processing, with a number of prospective areas having already been identified. Eight well pad locations have been identified and are the subject of EIA applications ahead of the final interpretation. EIA approval is anticipate to be granted, and thereafter drilling is expected to commence, in the fourth quarter of this year.



*Oil fields, prospects and leads in the L44/43 and L33/43 concessions in Thailand and new 3D area over the L33-1 and L33-2 discoveries and the extension of the WBEXT sandstone and igneous reservoirs*

**L44/43 concession - Thailand**

(Carnarvon 40% and Towngas 60% and Operator)

**PRODUCTION**

Carnarvon’s share of production during the quarter was 44,035 bbls at an average net rate of 484 bopd (1,209 bopd gross).

The decline in production from the previous quarter was due to wells being temporarily shut in for work over, four ALRO wells coming off flush production and natural field decline.

Work is in progress in relation to increasing production through the WBEXT- 1B fault block water flood project, new drilling programs commencing in the current and fourth quarters of 2013, ongoing workover programs and the resumption of the remaining six wells shut in as part of the ALRO process.

### **SANDSTONE OIL DEVELOPMENT**

Drilling of the development wells of the WBEXT-1B fault block was completed in late 2012, and final well testing and workover activities were completed last quarter.

Carnarvon has been working with the operator on a water flood project in the WBEXT “D” and “E” sand reservoirs initially in the WBEXT-1B fault block. The water flood will help sweep the oil to improve overall recovery and restore reservoir pressure to increase flow rates.

After a successful implementation of the water flood project in this fault block, further water flood programs will be initiated in the surrounding areas, including the original Wichian Buri sands that have been producing since 1996.

The Operator is currently awaiting final government approvals to commence the program. Once received the equipment will be installed in a relatively short period of time.

### **RE-INTRODUCTION OF SHUT-IN PRODUCTION WELLS**

Ten wells in the Bo Rang North area were shut in on 2 May 2012 while clarification was sought from the Thai Agricultural Land Reform Office (ALRO) regarding development approvals for these wells. Four of these wells were brought back online on 26 December 2012.

At this stage there is no further information with regard to the re-commencement of the remaining shut-in production by the ALRO. Approximately 200 bopd (gross) remains shut in awaiting regulatory approvals.

### **IGNEOUS WELLS**

No wells targeting igneous reservoirs were drilled during the quarter.

Final testing of wells drilled during the March 2013 quarter resulted in sub-commercial flows of oil.

On 16 July 2013 the operator accepted the Elite-01 drilling rig and proceeded to spud the WBEXT-2C deviated appraisal well at 5:40 pm that day.

The WBEXT-2C well is planned to penetrate the Wichian Buri I and II fractured igneous reservoirs in a three way dip closed structure bounded by a major north / south fault.

The well has a projected total measured depth of around 1,280 meters, with the Wichian Buri I igneous interval being interpreted at 750 meters (true vertical depth) and the Wichian Buri II igneous interval being interpreted at 970 meters (true vertical depth).

The WBEXT-2C well is located within the existing Wichian Buri Extension production licence and is projected to take around 12 days to drill on a trouble free basis.

A further drilling program is being planned for the fourth quarter of calendar 2013.

### **RESERVES**

In relation to the annual reserves assessment, the operator requested an extension from the Thailand authorities to submit the report. The request was made to enable the operator to complete additional technical work. The report, which will state the reserves position as at 31 December 2012, is expected to be provided to Carnarvon in early August.



## CORPORATE / FINANCIAL

The Company's cash reserves at the end of the quarter were \$20.9 million, compared to \$21.1 million at the end of the previous quarter. These balances include cash held as security in relation to bank guarantees and minimum cash holding requirements by Thailand authorities.

Net revenue for the quarter was \$4.1 million on 44,035 bbls of oil sold, generating a positive operating cash flow before tax of \$2.1 million from the L44/33 and L33/43 concessions in Thailand.

Included in net revenue for the quarter, but not the cash at the end of June 2013, is \$1.4m representing May 2013 oil sales that were received on 2 July 2013.

Separate from the above, \$1.3 million was spent on work over, water flooding and seismic acquisition activities in the L44/43 and L33/43 concessions in Thailand and \$1.2 million on technical work, new ventures and corporate costs.

The company holds a significant portion of its cash balance in Thai Baht and United States Dollars. Therefore, the Company experienced a foreign currency gain of \$1.6m due to the significant depreciation of the Australian Dollar during the quarter.

Key Statistics	Units	Current quarter	Previous quarter
<b>Capital</b>			
Share price	¢/share	4.0	4.8
Market capitalisation	\$'m	37	45
Cash	\$'m	20.9	21.1
Debt	\$'m	None	None
Hedging	\$'m	None	None
<b>Production</b>			
Oil produced (net to Carnarvon)	bbls	44,035	51,498
Average oil produced (gross field)	bopd	1,209	1,431
Average sale price	\$/bbl	93.94	94.66
<b>Cash flows</b>			
Net sales revenue	\$'m	4.1 <sup>1</sup>	4.9
Production operating costs	\$'m	(2.0)	(2.2)
Taxes	\$'m	-	-
<b>Subtotal</b>	\$'m	2.1	2.7
Technical, new ventures and corporate costs	\$'m	(1.2)	(1.2)
Exploration and development costs (including drilling)	\$'m	(1.3)	(5.5)
Cash received from joint venture partners	\$'m	-	4.7
Foreign currency gain	\$'m	1.6	-
<b>Net cash flow</b>	\$'m	1.2	3.4

<sup>1</sup> Note \$1.4m of May sales revenue was received on 2 July 2013 and is not included in total cash of \$20.9m

### Abbreviations

<b>API</b>	American Petroleum Institute gravity measure
<b>A\$</b>	Australian dollars
<b>AVO</b>	Amplitude Versus Offset (geophysics)
<b>Bopd</b>	Barrels of oil per day
<b>Bwpd</b>	Barrels of water per day
<b>Bbls</b>	Barrels of oil
<b>CVN</b>	Carnarvon Petroleum Limited
<b>DMF</b>	Department of Mineral Fuels Thailand
<b>JV</b>	Joint Venture
<b>Km</b>	Kilometres
<b>Km2</b>	Square kilometres
<b>m</b>	Millions
<b>Qtr</b>	Quarter
<b>TVD</b>	True vertical depth
<b>Tcf</b>	Trillion cubic feet (gas)
<b>2D</b>	Two dimension seismic data
<b>3D</b>	Three dimensional seismic data
<b>WBEXT</b>	Wichian Buri field extension area
<b>NS</b>	Na Sanun field area
<b>NSE</b>	Na Sanun East field area
<b>NSE-F1</b>	Extension of NSE
<b>NSW</b>	Na Sanun West field area
<b>WBV</b>	Wichian Buri igneous reservoir in which there is three key igneous zones
<b>L33</b>	L33/43 exploration Concession which is to the north of the L44/43 exploration Concession
<b>ST</b>	Sidetrack well
<b>SW1A</b>	This is a small exploration Concession within the larger L44/43 exploration Concession
<b>Tcf</b>	Trillion Cubic Feet